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AUTHOR Aquino, John, Comp.
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ABSTRACT

This document is a compilation of articles, extracts of books or articles, and abstracts of material on performance based teacher education (PBTE). It is divided into four sections. The first section contains background material and provides definitions, rationales, and historical contexts for PBTE. The second section has material on program design, evaluation and assessment, personalization and individualization, and field-based support systems for PBTE. The third section is divided into the following headings: general implications, staff development, governance, accountability, state agencies, and accreditation issues in PBTE. The fourth section presents a critique of PBTE from the standpoint of the American Federation of Teachers and another from a general standpoint. The document also includes names of the jury members who chose the documents for inclusion in the source book, the list of the original documents from which these were selected, and information about AACTE and ERIC. (CD)

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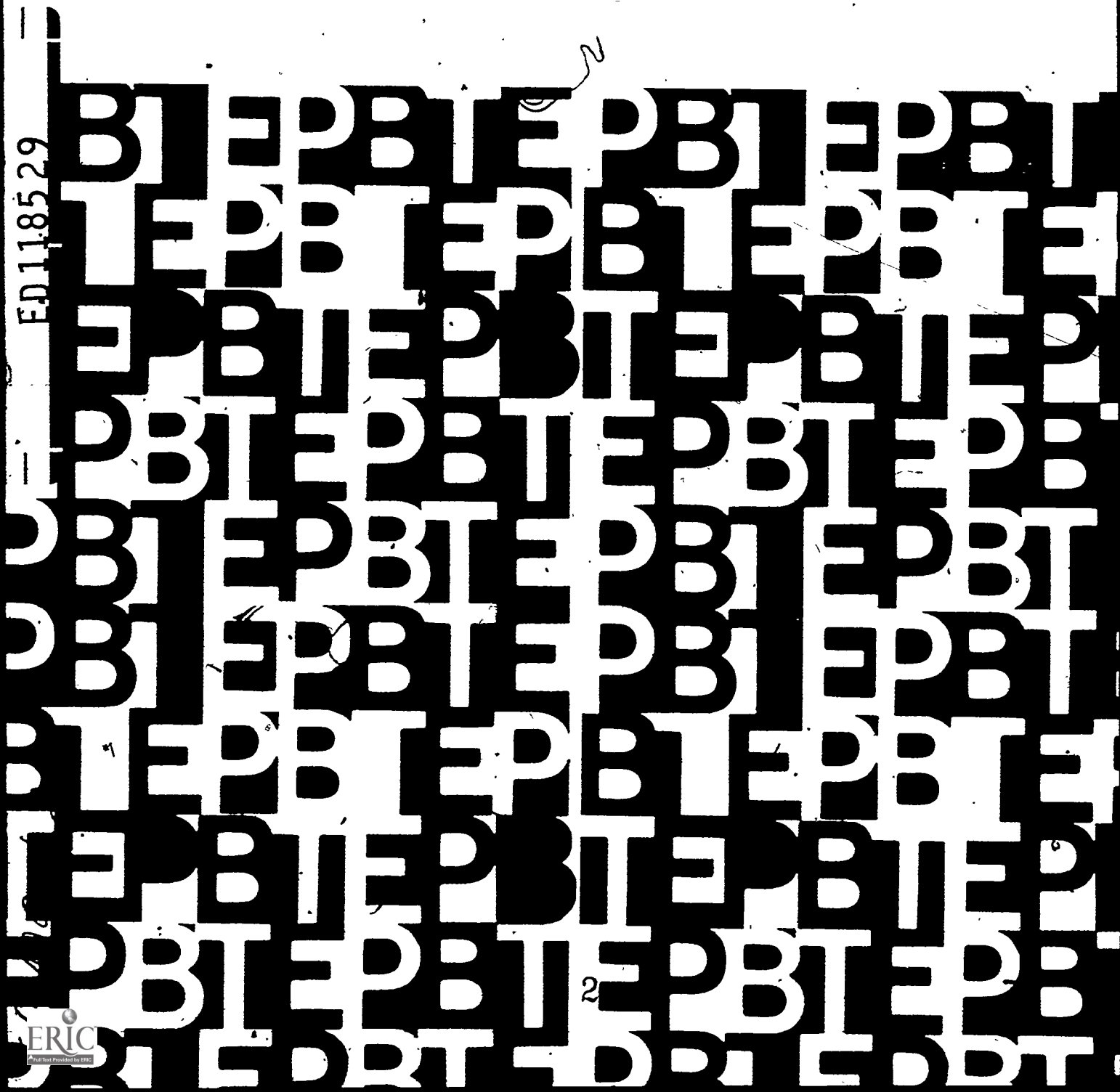

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Mr. Wayne Van Huss
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Physical Education Department
Director, Human Energy Research Laboratory
Michigan State University
East Lansing, Michigan 48824

Performance-Based Teacher Education: A Source Book

Compiled and Edited

by

John Aquino
ERIC Clearinghouse on Teacher Education

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TABLE OF CONTENTS

Foreword

This publication represents a collaboration between the ERIC Clearinghouse on Teacher Education and the Performance-Based Teacher Education Project of the American Association of Colleges for Teacher Education (AACTE/PBTE). It is not the first such collaboration. Together, the Clearinghouse and AACTE/PBTE have published Performance-Based Teacher Education: An Annotated Bibliography (1972) and Competency-Based Education: The State of the Scene (1973). This current publication represents an attempt to produce a book that would serve both as an introduction to performance-based teacher education (PBTE) for the educational decision-maker and practitioner unfamiliar with PBTE and at the same time as a handy reference for those experienced in PBTE. The Source Book can be used as a personal reference or in study groups for administrators, faculty, students and community groups.

The Source Book is a compilation of articles, extracts of books or articles, and abstracts of material on performance-based teacher education. The selections were not randomly chosen. A jury was selected of accepted authorities on performance-based teacher education. This jury was then sent a list of 50 titles as the first cycle of the jury procedure. The jurors were asked to indicate whether or not they thought each selection should appear in the Source Book and to suggest alternate and additional titles. The responses were tabulated and 29 titles survived for second-cycle consideration. The jurors were then asked to recommend whether each title should be a) reproduced in full, b) excerpted, c) abstracted, or d) annotated. The responses of the jury have been the basis for the selections in the Source Book.

The selections are meant to be representative and not comprehensive. It should be noted that the quantity of significant literature on performance-based teacher education has continued to grow since the original list was distributed to the jury. Several recent and valuable works, such as the AACTE/PBTE Committee's 1975 Commentary and the NEA/AFT paper on PBTE, were not available for the jury and are, therefore, not included here.

As far as the format of the Source Book is concerned, editorial comments have occasionally been provided in italics to summarize omitted passages or to provide historical background. But the tendency has been to let the selections speak for themselves. The Source Book has been divided into four topical sections: I--Background and Definitions of Performance-Based Teacher Education; II--Aspects of Performance-Based Teacher Education; III--Implications of Performance-Based Teacher Education; and IV--Critiques of Performance-Based Teacher Education. Documents not reprinted in full are clearly marked as to whether they have been excerpted or abstracted.

The Clearinghouse recognizes that there is still contention as to whether the term should be "performance-based teacher education (PBTE)" or "competency-based teacher education (CBTE)." For the Source Book, the terms are used interchangeably. In the editorial comments, the choice of terms was determined by the term used in the particular selection.

It is the hope of the ERIC Clearinghouse on Teacher Education and the PBTE Project of the American Association of Colleges for Teacher Education that the Source Book will prove both useful and interesting.

Joost Yff
Director
ERIC Clearinghouse on Teacher Education

ACKNOWLEDGEMENTS

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SECTION ONE

BACKGROUND AND DEFINITIONS OF PERFORMANCE-BASED TEACHER EDUCATION

If one wants to come to an understanding of any particular thing, a good start is to find out what it's supposed to be, why it's supposed to be, and how it came about. This section attempts to provide the reader with such an understanding. Presented are several definitions of PBTE, two rationales, and two discussions of its historical background.

A. DEFINITIONS OF PERFORMANCE-BASED TEACHER EDUCATION

1. Stanley Elam, Performance-Based Teacher Education: What Is the State of the Art? (Washington, D.C.: American Association of Colleges for Teacher Education, 1971). Extract: pp.5-11.

(This report was the first of the PBTE series developed for the AACTE Committee on Performance-Based Teacher Education. The report deals with questions of background, definitions, implications, and problems of performance-based teacher education. The following extract is from the section that describes and defines PBTE.)

A Description of Performance-Based Teacher Education

Performance-Based or Competency-Based?

No entirely satisfactory description of PBTE has been framed to date...in fact, the term itself is a focus of disagreement. Some authorities prefer "competency-based teacher education," suggesting that it is a more comprehensive concept. In determining competency, according to Weber and Cooper, three types of criteria may be used: 1) knowledge criteria, to assess the cognitive understandings of the student; 2) performance criteria, to assess the teaching behavior of the student; and 3) product criteria, to assess the student's ability to teach by examining the achievement of pupils taught by the student.* The term "performance-based" tends to focus attention on criterion #2, although proponents of PBTE do not mean so to limit the concept.

The AACTE Committee on Performance-Based Teacher Education has chosen to retain the term "performance-based" in the belief that the adjective itself is relatively unimportant if there is concensus on what elements are essential to distinguish performance- or competency-based programs from other programs.

Essential Elements

There now appears to be general agreement that a teacher education program is performance-based if:

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*/ Wilford C. Weber, James Cooper and Charles Johnson, "A Competency-Based Systems Approach to Education." First chapter of Designing Competency-Based Teacher Education Programs: A Systems Approach, unpublished manuscript, 1971.

1. Competencies (knowledge, skills, behaviors) to be demonstrated by the student* are

   . derived from explicit conceptions of teacher roles,

   . stated so as to make possible assessment of a student's behavior in relation to specific competencies, and

   . made public in advance;

2. Criteria to be employed in assessing competencies are

   . based upon, and in harmony with, specified competencies,

   . explicit in stating expected levels of mastery under specified conditions, and

   . made public in advance;

3. Assessment of the student's competency

   . uses his performance as the primary source of evidence,

   . takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behavior, and

   . strives for objectivity;

4. The student's rate of progress through the program is determined by demonstrated competency rather than by time of course completion;

5. The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified.

These are generic, essential elements. Only professional training programs that include *all* of them fall within the AACTE Committee's definition of PBTE.

There is another, longer list of elements that may accompany performance-based programs and often do. They should be thought of either as implied or as related and desirable, as in the accompanying diagram. (See page 4.) The categorization as "implied" or "related-desirable" is empirically rather than theoretically based and represents observer perceptions of PBTE in action.

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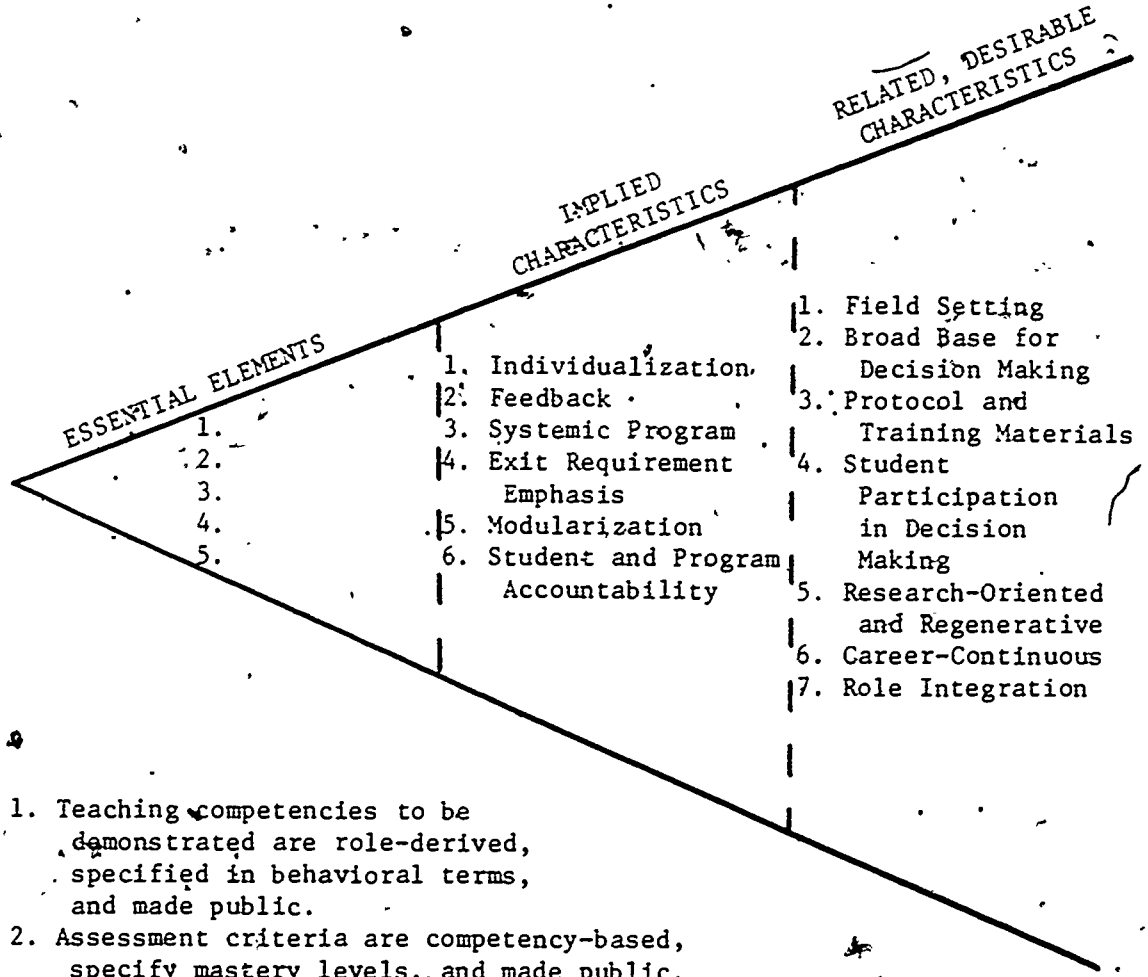
*/ We have used "student" to mean the person completing the preparation program. In-service teachers are not excluded from consideration, but the emphasis is on preservice or prospective teachers.

Conceptual Model of Performance-Based Teacher Education



1. Teaching competencies to be demonstrated are role-derived, specified in behavioral terms, and made public.
2. Assessment criteria are competency-based, specify mastery levels, and made public.
3. Assessment requires performance as prime evidence, takes student knowledge into account.
4. Student's progress rate depends on demonstrated competency.
5. Instructional program facilitates development and evaluation of specific competencies.

Implied Characteristics

1. Instruction is individualized and personalized. Because time is a variable, not a constant, and because students may enter with widely differing backgrounds and purposes, instruction is likely to be highly person- and situation-specific; but these are only two in a web of interrelated contributing factors.

2. The learning experience of the individual is guided by feedback. This consists of having a person see, hear, or feel how others react to his performance; or it can be self-evaluative, as when a student observes a videotape of his own teaching or reads about what is wrong with his choice of responses. It permits both trainer and trainee to initiate and become involved in the program. Thus this element is closely related to the individualization feature of PBTE. The feedback loop enables the trainer and trainee to modify the program and meet the needs of the individual. Among its implications are these: a) there is no one right way to achieve any particular performance objective, b) real choices among means are made available to the individual.

3. The program as a whole is systemic, as the essential elements require. A system, according to Barnathy, is a collection of interrelated and interacting components which work in an integrated fashion to attain predetermined purposes. Purpose determines the nature of the process used, and the process implies which components will make up the system. The application of such a systematic strategy to any human process is called the systems approach. Most systems are product-oriented; they operate in order to produce or accomplish something. How accurately these products reflect the system's purpose is the critical measure by which we judge the system's operation.*

4. The emphasis is on exit, not on entrance, requirements. Traditional teacher education has tended to establish certain requirements which must be met before the candidate is admitted to a program, after which only passing course grades are required, plus the successful completion of a student teaching experience or internship.

5. Instruction is modularized. A module is a set of learning activities (with objectives, prerequisites, pre-assessment, instructional activities, post-assessment, and remediation) intended to facilitate the student's acquisition and demonstration of a particular competency. Modularization increases possibilities for self-pacing, individualization, personalization, independent study, and alternative means of instruction. It also permits accurate targeting on the development of specific competencies.

6. The student is held accountable for performance, completing the preparation program when, and only when, he demonstrates the competencies that have been identified as requisite for a particular professional role.

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*/ Bela Barnathy, Instructional Systems (Palo Alto: Fearon Publishers, 1968), p.4.

Related and Desirable Characteristics

1. The program is field-centered. Because of the heavy emphasis upon performance in the teacher role and assessment in real settings involving pupils, much performance-based preparation is conducted in the field.

2. There is a broad base for decision making (including such groups as college/university faculty, students, and public school personnel). Some of the same factors that produce field-centered PBTE programs contribute also to a generally multi-institutional pattern of organization and method of decision making.

3. The materials and experiences provided to students focus upon concepts, skills, knowledges (usually in units called modules; see Implied Characteristics, above), which can be learned in a specific instructional setting.

   These materials are sometimes called protocol and training materials. Protocol materials are used to help the student recognize and understand a teaching concept. For example, a protocol film might show a teacher engaged in "probing" or "reinforcing" activities in a classroom. The film is designed to enable the student to recognize the behavioral referents of such a concept and to identify it. Although the dividing line between protocol and training materials is somewhat fuzzy, training materials are generally thought of as teaching materials enabling the student to reproduce or put into action a sequence of activities or procedures required by a teaching concept. The distinction assumes that there is a difference between the mastery levels in concept recognition and concept utilization.

   Training materials include new technology and techniques, such as microteaching, computer-assisted instruction, simulation, gaming, and role playing; but the full arsenal of instructional techniques is available, including lecture, discussion, laboratory exercises, problem solving, independent study, etc.

4. Both the teachers and the students (i.e., prospective teachers) are designers of the instructional system. If the learner is to be a classroom teacher, he must begin making decisions in his training. Thus it is important that he gain practice in guiding his own instruction and in helping to set, at least in part, his own educational goals. This means that the system must not be a completely closed affair in which the student simply goes through the motions as required by those who designed it. There must be sufficient alternatives and options to provide challenge and opportunity for adaptation by the learner during the learning process. There must be opportunity for him to discover how his particular constellation of habits and skills, both cognitive and interpersonal, can be made maximally effective in teaching.

5. Because PBTE is systemic and because it depends upon feedback for the correction of error and for the improvement of efficiency, it is likely to have a research component; it is open and regenerative.

6. Preparation for a professional role is viewed as continuing throughout the career of the professional rather than being merely preservice in character.

7. After the student has an adequate conception of the goals of teaching, instruction moves from mastery of specific techniques toward diagnosis and selective utilization of such techniques in combination. That is, role integration takes place as the prospective teacher gains an increasingly comprehensive perception of teaching problems.//

2. AACTE Committee on Performance-Based Teacher Education, Achieving the Potential of Performance-Based Teacher Education: Recommendations (Washington, D.C.: American Association of Colleges for Teacher Education, 1974). Extract: pp.32-33. (Appendix A).

(In 1974, the AACTE Committee published this collection of recommendations. Included was an update of the defining characteristics of PBTE that had appeared in the Elam state of the art paper.)

ESSENTIAL DEFINING CHARACTERISTICS OF PBTE
AS VIEWED BY THE AACTE COMMITTEE

In the State of the Art Publication December 1971	In This Publication February 1974
A teacher education program is performance-based if	
1. Competencies to be demonstrated by the student are	1. Competencies to be demonstrated by the student are
.derived from explicit conceptions of teacher roles,	.derived from explicit conceptions of teacher roles *in achieving school goals,*
	.supported by research, curriculum and job analysis, and/or experienced teacher judgment,
.stated so as to make possible assessment of a student's behavior in relation to specific competencies, and	.stated so as to make possible assessment of a student's behavior in relation to specific competencies, and
.made public in advance.	.made public in advance.
2. Criteria to be employed in assessing competencies are	2. Criteria to be employed in assessing competencies are

.based upon, and in harmony with, specified competencies,	.based upon, and in harmony with, specified competencies,
.explicit in stating expected levels of mastery under specified conditions, and	.explicit in stating expected levels of mastery under specified conditions, and
.made public in advance.	.made public in advance.
3. Assessment of the student's competency	4. Assessment of the student's competency
.uses his performance as a primary source of evidence,	.uses his performance as a primary source of evidence,
.takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, evaluating situations or behavior, and	.takes into account evidence of the student's knowledge relevant to planning for, analyzing, interpreting, or evaluating situations or behavior,
.strives for objectivity.	.strives for objectivity, and
	.facilitates future studies of the relation between instruction, competency attainment and achievement of school goals.
4. The student's rate of progress through the program is determined by demonstrated competency *rather than by time or course completion.*	5. The student's rate of progress through the program is determined by demonstrated competency.
5. The instructional program is intended to facilitate the development and evaluation of the student's achievement of competencies specified.	3. The instructional program provides for the development and evaluation of the student's achievement of each of the competencies specified.

Note: Italics are used to cite differences in the two analyses.

COMMENTARY ON APPENDIX A TABLE

Only three changes merit explanation (the renumbering is simply to put the items in a somewhat more logical order).

1. The Committee believes the earlier statement did not stress sufficiently that the competencies are not just picked out of the air but are derived

analytically and must be related to the basic objectives of the schools. Hence, the changes in #1.

2. The Committee has become convinced that the design of assessment procedures in PBTE programs should go beyond evaluation of individual student progress to facilitate to the greatest extent possible accumulation of knowledge concerning relationships between instruction, teacher performance and pupil outcomes. Hence, the added item #3 (new #4).

3. The Committee recognized that, while student progress should depend essentially on demonstrated competence, in practical situations some time-limits may have to be placed on students. Hence, the omission of the last phrase in #4 (new #5). /./

3. W. Robert Houston and Robert B. Howsam, "Change and Challenge," Competency-Based Teacher Education: Progress, Problems, and Prospects (Chicago: Science Research Associates, Inc., 1972), pp.1-16. Extract: pp.3-9.

(In this selection, Houston and Howsam present another definition, this one stressing "competency.")

COMPETENCY-BASED INSTRUCTION

The concept of *competency-based instruction* has emerged from the emphases on goal-orientation and individualization. Learning goals or objectives can be made explicit by and for the learner. The individual then can pursue learning activities and can develop performance skills or competencies in the process. When this approach is coupled with an appropriate management and delivery system, the *accountability* principle can be applied to all aspects of the instructional program.

This book deals with the application of competency-based instruction in teacher education. It explores the current status of efforts and analyzes programs. First, however, there is need for a definition of the central term: *competency-based instruction*.

"Competence" ordinarily is defined as "adequacy for a task," or as "possession of required knowledge, skills, and abilities." In this broad sense, it is clear that any mode of instruction aims for competence--for development of well-qualified individuals who possess the required knowledge and skills. Competency-based instruction differs from other modes of instruction, not in its goals, but rather in the assumptions that underlie it and in the approaches that characterize it.

Standard dictionaries provide no definition for *competency-based*. This is a coined word of recent origin. The word *competency* has been chosen to indicate an emphasis on the "ability to do," in contrast to the more traditional emphasis on the "ability to demonstrate knowledge." The term *competency-based* has become a special designation for an education approach, for a movement. The term cannot be defined in a simple phrase; its meaning emerges from the complex of characteristics of this educational mode. Further clarification may arise through efforts to determine what it is not.

Two characteristics are essential to the concept of competency-based instruction. First, precise learning objectives--defined in behavioral and assessable terms--must be known to learner and teacher alike. Competency-based instruction begins with identification of the specific competencies that are the objectives of the learner. These objectives are stated in behavioral terms. Means are specified for determining whether the objectives have been met. Both learner and teacher are fully aware of the expectations and of the criteria for completing the learning effort. From a variety of alternative learning activities, those most appropriate to the specific objectives are selected and pursued. In contrast to much traditional instruction, the activities are viewed as means to a specific end. Neither teacher nor learner is permitted to view the activities as the objective of the learning experience.

The second essential characteristic is accountability. The learner knows that he is expected to demonstrate the specified competencies to the required level and in the agreed-upon manner. He accepts responsibility and expects to be held accountable for meeting the established criteria.

A third characteristic, that of personalization, is of a somewhat different order from the previous two. It is associated almost universally with competency-based instruction, but it is not necessarily a distinguishing characteristic when comparing this with other programmatic thrusts. Competency-based programs characteristically are individualized; they are self-paced, and thus time is a variable. They are personalized as well; each student has some choice in the selection of objectives and of learning activities. Individualization does not imply that all instruction is oriented toward independent activities. Group and even mass instructional process are viable alternatives; in some cases, they may be the most effective and efficient options.

One consequence of competency-based education is that the focus for evaluation or accountability is shifted to the individual's attainment of a set of objectives. He no longer is judged by his standing relative to the performance of a group or of a test population. In other words, this approach is *criterion-referenced*, in contrast to the *norm-referenced* approach that has been emphasized throughout much of our education history (particularly during the life of the testing movement). The learner's achievement is compared with the state objectives and the specified criteria; the achievements of other students are not relevant to the evaluation.

Another important consequence is that the emphasis shifts from the teacher and the teaching process to the learner and the learning process. Many learning experiences are included in the traditional curriculum because they fit the expertise or the needs of the instructor. Competency-based programs, emphasizing objectives and personalization, focus on the needs and accomplishments of the student.

Even among the disciples of the movement, much confusion exists about the further characteristics of competency-based instruction. This uncertainty

and disagreement seems to arise from a failure to differentiate between the closely related concepts or implementation modes that are so commonly associated as to seem characteristic of the approach.

Technology is the handmaiden of individualization. Only through technology can access to learning opportunity be enlarged and education be freed from excessive or complete reliance on the teacher. Today we recognize that the stone tablet and the printed book were merely early manifestations of the same general process--what we now call the application of technology to problems of storing information, retrieving it, and providing access through an appropriate delivery system. Technology is particularly important for competency-based instruction. In fact, the need for instructional objectives was recognized largely through the attempts to program new kinds of instructional materials. Nonetheless, the use of modern technology does not automatically lead to competency-based instruction; technology can be directed to either mass or individualized instructional systems.

The use of a *systems approach* also is common in competency-based instruction, particularly with individualization. The systems approach is designed to deal with complex realities. It has been employed in development of both the delivery systems for learning opportunities and the management systems for records and accountability. The concept of feedback loops is particularly useful in designing instructional modules. The graphic device of flowcharting has proven invaluable in presenting the options available in an individualized instructional system. Like technology, however, the systems approach is but another enabler for competency-based instruction.

Competency-based instruction also has been regarded as synonomous with *modular packaging* of learning experiences. Once again, the connection arises from common association with an effective means and not from logical necessity. Individualization of competency-based instruction naturally leads to the use of modules, which permit clear specification of learning objectives, an array of alternative activities, an assessment procedure, and learner accountability. Competency-based instruction rarely is considered without reference to some kind of unit packaging. Nonetheless, modularization and competency-based instruction are not the same thing.

These three examples of negative definition emphasize the point that competency-based instruction is a simple, straightforward concept with the following central characteristics: (1) specification of learner objectives in behavioral terms; (2) specification of the means for determining whether performance meets the indicated criterion levels; (3) provision for one or more modes of instruction pertinent to the objectives, through which the learning activities may take place; (4) public sharing of the objectives, criteria, means of assessment, and alternative activities; (5) assessment of the learning experience in terms of competency criteria; and (6) placement of the learner of the accountability for meeting the criteria. Other concepts and procedures--such as modularized packaging, the systems approach, educational technology, and guidance and management support--are employed as means in implementing the competency-based commitment. For the most part, these contributory concepts are related to individualization.

Competency-Based Teacher Education

Teacher education is the vehicle for preparing those who wish to practice in the teaching profession. As in all professions, this preparation involves on

the one hand the acquisition of knowledge and the ability to apply it, and on the other the development of the needed repertoire of critical behaviors and skills. Insofar as the knowledge, behaviors, and skills can be identified, they thus become the competency objectives for the teacher-education program. The criteria for performance are derived from these objectives.

Learning objectives commonly are classified according to one of the five kinds of criteria that may be applied in assessing performance. (1) *Cognitive* objectives specify knowledge and intellectual abilities or skills that are to be demonstrated by the learner. In teacher education, such objectives may include knowledge of subject matter to be taught, knowledge of psychological theories or educational strategies, ability to analyze curriculum programs, and so forth. Competency in meeting these objectives commonly is assessed through written tests. However, verbal interaction also may be used for assessment, and considerable sophistication is available through the use of computers for assessment of verbal responses. (2) *Performance* objectives require the learner to demonstrate an ability actually to perform some activity. He must not only know what should be done, but must demonstrate his ability to *do* it. Prospective teachers may be required to ask higher-order questions, to build and support self-images and egos, to construct evaluation designs or curriculum programs, or to develop instructional modules. (3) *Consequence* objectives are expressed in terms of the results of the learner's actions. In teacher education, such objectives usually are expressed in terms of the accomplishments of the students under direction of the teacher trainee. The teacher may be required to change the level of student achievement in reading, or to demonstrate that he can cause his students to play a mathematics game independently. In traditional teacher education, the focus is on cognitive objectives. In competency-based teacher education, the focus is shifted to include performance and consequence objectives. The teacher not only must know about teaching, but also must be able to teach and to produce change in his students. (4) Affective objectives deal with the realm of attitudes, values, beliefs, and relationships. These objectives resist precise definition and thereby preclude the precise assessment sought by competency-based approaches. Affective behavior normally is related directly to the social setting in which it occurs. It is not easy to contrive--or even to determine accurately--the settings needed for training and for monitoring effective behavior. Despite limitations in the ability to deal effectively with them, however, no teacher education program can afford to neglect the affective dimensions, which are integral to all other aspects of competency. (5) *Exploratory* objectives (also called experience or expressive objectives) do not fit fully within the category of behavioral objectives because they lack a definition of desired outcomes. These objectives specify activities that hold promise for significant learning; they require the learner to experience the specified activity. No attempt is made to specify the learning or behavioral changes that will result. Assessment can be made only in terms of whether the learner actually did undertake the required activity. These objectives are characterized by a high degree of variability in what may be encountered by the idiosyncratic disposition of the learner. In teacher education, the learner might be required to visit a ghetto settlement house or to observe an experienced teacher working with a class. Such experiences may lead to identification of other objectives that are more meaningful in a personalized program. For example, a visit to a settlement house may lead a student to realize that he is unprepared cognitively or affectively to cope with children from cultural subgroups. In turn, this realization may lead to identification of specific needs and to a program designed to remove the recognized deficiency.

All five of these kinds of objectives are used in competency-based teacher education. Those employed at any time are chosen on the basis of the nature of the competencies required, the available assessment means, and other situational factors. The ultimate objective of the competency-based movement is the maximal employment of consequence objectives.

Explicitness

Competency-based programs demand explicitness of objectives and of assessment criteria. This explicitness in itself has great potential for improving teacher education. Such programs make explicit what the certified teacher is able to do. To successfully complete the program, the teacher must demonstrate ability to meet specific objectives at specific criterion levels. Thus the teacher's portfolio of credentials in a genuinely competency-based program does not include grades associated with general course numbers, generalized letters of reference, or checklists on personal interaction skills. Rather, it includes a listing of the competencies he has demonstrated and a comparison of these with the expected competencies or a certification that criteria have been met. This explicitness makes possible a differentiated staffing pattern based on differential strengths in teachers--a pattern that never has been practicable before, and one that could prove most promising.

As has long been known, the course lists and grades traditionally used as an assessment of a teacher's preparation are extremely nebulous in meaning. The nature of an "Introduction to Education" course varies widely from college to college--indeed from instructor to instructor within a single college. Some instructors rarely and grudgingly grant an "A" in this course; for other instructors, an "A" is the typical or modal grade. We delude ourselves if we consider an "A" in "Introduction to Education" as a reliable or valid sign of any particular ability or achievement demonstrated by a preparing teacher.

Even if course grades could be made valid and reliable, they still would suffer from two flaws that are inherent in this approach. First, the grade obscures variations within the expected competencies; strength in one competency may compensate for weakness in another. Clearly, the profession is not protected adequately by such evaluations. The second inherent flaw is the use of norm-referencing, which appears to greater or lesser degree in most traditional courses. An individual's grade is affected by the performance of others in his class or in the norming population with which he competes. When criterion-referencing is used in a competency-based program, each student must meet the expected level of competence in each criterion.

Evaluation And Feedback

Explicit, competency-based objectives permit more effective evaluation, both of students and of the program. The objectives of traditional programs often are so general that they provide little direction for instruction. Adequate evaluation is impossible. Competency-based programs, on the other hand, identify the objectives, the criteria, the performance indicators, and the criterion levels so clearly for the student that he can assess for himself whether or not the objectives have been met.

The program developer can compare the success in meeting objectives of students completing various learning activities. He can examine energy output, resources required, and time needed to complete various program requirements. Because of explicitness, a data-based feedback system leads to programmatic formative evaluation.

Individualization

The importance of individualization cannot be overemphasized. Competency-based programs promote self-pacing of students through modules or learning experiences. Each student proceeds at a speed consistent with his needs, achievements, and time commitment. Selection of objectives by the student, within limits set for the program, permits differentiation of competencies based on goals and perceptions. Pre-assessment procedures promote "opting-out" of experiences for which competency already has been demonstrated. Thus, instruction is directly responsive to the objectives of the learner.

Effective programs employ an extensive array of instructional strategies. Modules provide for at least two, and often more, alternatives (such as a teacher presentation, a slide-tape presentation, or a computer-based program), from which the learner makes a choice. Individualization does not imply, however, that every activity must be pursued in isolation. Some are; others are done with buddies, with small groups, in seminar-sized groups, in classes, or even in very large groups. Competency-based instruction does, indeed, provide a veritable smorgasbord of learning opportunities.

A New Emphasis In Teacher Education

In a competency-based program, the emphasis is placed on exit rather than entrance requirements. With this approach the possibility is open for admitting a wider variety of persons to the group entering the program. Continual assessment of progress, optional choices of learning experiences, and performance criteria within the program make entrance requirements far less crucial than they are in traditional programs. Many who previously would have been precluded from entrance by their cultural development or by their previous educational choices and performance safely can be admitted to a competency-based program. Many of these students may be expected to enter and to complete successfully such a program. The result can be a wholesome diversity of backgrounds in the teaching profession.

4. Charles E. Johnson, "Competency-Based and Traditional Education Practices Compared." Journal of Teacher Education 25, n4 (Winter 1974), pp.355-356.

Practitioners who are becoming acquainted with competency-based education (CBE) are often confused by theoretical explanations. This may be because their interests tend more toward implementation and practice than theory. The following comparison is directed to practitioners. It compares some practical characteristics of CBE and traditional education programs.*

Characteristics of CBE Programs	*Characteristics of Traditional Education Programs*
1. The main indicator of student achievement is ability to do the job effectively and efficently.	1. The main indicators of student achievement are knowledge of the subject and ability to do the job effectively and efficiently.
2. Once a student has demonstrated ability to do the job, his or her preparation is complete. Time is not a factor. Some students finish early, others late.	2. Students operate within specified time limits, such as academic years, semesters, or quarters. Class hour requirements are generally adhered to.
3. The criterion of success is demonstration of ability to do the job. Mastery criteria are used to determine how well students perform. These criteria must be met for students to be considered competent.	3. The criteria of success are letter grades which indicate the extent to which the student knows the required subject matter.
4. Entrance requirements are not of paramount concern. Students start where they are. If they are not ready, they are helped to become ready.	4. Entrance requirements are important concerns. Students who are not ready cannot be admitted.
5. Flexible scheduling of learning activities is essential to provide for individual differences among students. This allows for year-around educational opportunities and numerous possible times for enrollment.	5. Students are scheduled for instruction into fairly rigid blocks of time. The academic year and infrequent mass registration are standard practices.

*/ An abbreviated version of this paper appeared in W. Robert Houston, Exploring Competency Based Education (Berkeley, Calif.: McCutchan Publishing Corp., 1974), p.11.

6. There are no fixed rules as to how, when, or where learning is to be accomplished.	6. On-campus classroom teaching is the most common approach to instruction. Required lengthy on-campus attendance is standard practice.
7. Opportunities are provided to acquire competencies in practical field or on-the-job experiences.	7. Practical field experiences are limited.
8. Learnings (competencies) are presented in small learning units or modules, combinations of which are designed to help students acquire full competence.	8. Learnings (subject matter) are organized into courses representing academic time units.
9. Provision is made for differences among students in their styles of learning by providing them with various alternate paths for acquiring competence.	9. Lecture-discussion is the most common mode of presentation, supplemented by seminars, laboratory activities, and limited field experiences. Little attention is given to student style of learning.
10. The criterion for a "good" instructor is the extent to which he or she is effective and efficient in helping students acquire the competencies they are seeking.	10. The criterion for a "good" instructor is how much he or she knows about the subject and how well it is presented.

5. Margaret Lindsey, "Performance-Based Teacher Education: Examination of a Slogan," Journal of Teacher Education 24, n3 (Fall 1973) pp.180-186. Extract: pp.180-181.

(The following extract grapples with the whole question of terminology in the PBTE movement. In the remainder of the article "competency-based teacher education" is used as a "symbol of a practical social movement.")

In American education, slogans have played a prominent role in both discourse and practice. *Performance-based teacher education* (PBTE), a popular slogan on the current scene, is already serving as both stimulant and irritant. Like other slogans preceding it, this one neither clarifies meanings, explains theory, nor signifies programmatic consequences. The words themselves, individually and collectively, do not carry precise meaning, as evidenced by the polarity of interpretations brought to *performance* and the variation in degree of inclusiveness ascribed to the term *teacher education*. Neither does the slogan imply any set of principles that might make up a theory, nor does it indicate the scope and sequence of a teacher education program.

However, as Scheffler has suggested, educational slogans "make no claim to facilitating communication or to reflecting meaning." Slogans are to be "repeated warmly and reassuringly, rather than pondered gravely. ...They provide rallying symbols of the key ideas and attitudes of an educational movement. They both express and foster community of spirit, attracting new adherents and providing reassurance and strength to veterans."*

Performance-based teacher education is doing exactly what Scheffler said such slogans can do. Key ideas in a whole range of propositions intended to reform not only the education of teachers but also education in general are now attached to the words *performance-based teacher education*. Advocates convene to promote the goodness of the ideas; individuals and groups labor to make the ideas operative at local levels; former adversaries join together in praise of the potential they believe inherent in PBTE. A warm, friendly, and good feeling that something worthwhile is on the horizon prevades the atmosphere; a growing chorus claims that educational opportunity for all people will be vastly improved if teachers are educated to perform in desirable ways; and more and more persons are committed to achieving performance-based teacher education.

Performance-based Teacher Education as an Assertion

Individuals who originate slogans select and put together in sequence symbols they assume will communicate their message. In selecting and sequencing the symbols, they read into the slogan their own special connotations and interpretations. In Scheffler's words, with the passage of time, however, slogans are often increasingly interpreted more literally both by adherents and by critics of the movement they represent. They are taken more and more as literal doctrines or arguments, rather than merely as rallying symbols. When this happens in a given case, it becomes important to evaluate the slogan both as a straight-forward assertion and as a symbol of a practical social movement.**

This has happened to PBTE. The need to examine the slogan is urgent. Both antagonists and protagonists bring to performance-based teacher education their own meanings and practical interpretations. Some persons immediately reject the idea because they interpret it as antithetical to their philosophical commitments. Too often those committed to the idea cannot even arrive at a state of program planning because of barriers resulting from opposing interpretations of words like *performance* or *teacher education*. Sometimes credit or discredit is assigned to the slogan solely on the basis of the ease or difficulty with which persons reach decisions in designing program components. When advocates get below the surface and consider alternatives in designing specific experiences, preparing materials of instruction, or making definitive

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*/ Israel Scheffler, The Language of Education (Springfield, Ill.: Charles C. Thomas), 1960, p.36.

**/ Scheffler, p.37.

explanatory statements, they frequently discover that they are talking about very different things while using the same slogan words. Confusion is rampant.

In everyday discourse about education, slogans tend to encompass topical words which must bear tremendous responsibility for messages sent and received. It is very difficult to engage in productive dialogue with one's peers when the meanings each discussant brings to topical words are diverse and confused.

Increasingly, meanings surrounding the slogan *performance-based teacher education* become clouded as more persons deepen their personal and professional identification with it. Some become involved in research and and development. Others engage in various kinds of implementation. Out of these efforts new knowledge is produced, individual interpretations of the slogan are refined, and the urge to persuade others to adopt singular interpretations grows.

It is everyone's privilege to stimulate definitions to clarify his position. However, communication is made more difficult when terms become idiosyncratic with private meanings. A search for more precision in meanings brought to PBTE is not a game undertaken for the fun of it; rather it is a task the achievement of which is essential to productive dialogue.

A step-by-step examination of the expression *performance-based teacher education* reveals several points of confusion. The word *teacher* is used by some to mean classroom teachers in elementary and secondary schools and by others to encompass all professional practitioners in formalized school settings. Still others use the term in its generic sense, meaning anyone whose behavior is designed to induce change in another (e.g., parent, minister, news analyst, advertiser). While a definition of *teacher* may be stipulated anywhere along a continuum of increasing inclusiveness; in this article a teacher is considered to be a classroom practitioner working with children or youth.

Some extend the meaning of PBTE to include the education of professional personnel in addition to teachers. While performance-based education is surely as appropriate for the preparation of other educational personnel as for teachers, it is confusing to use the term *teacher education* in this connection. The earlier definition of *teacher* at once limits the definition of *teacher education*.

Teacher education needs further definition however. *Teacher education* is used by some to refer exclusively to student teaching in the traditional preservice programs. Others use it to mean the entire collegiate program provided as initial preparation of teachers (e.g., traditional components of general education, subject matter specialization, and professional education). Still others employ the term to mean continuing cycles of diagnosis, treatment, and assessment of needs and interests of persons from initial preparation for teaching through a career of practice. Here again, a continuum of increasing comprehensiveness is illustrated.

There is little justification for saying teacher education if we mean student teaching or any other single aspect of teacher education. When *teacher education* is used hereafter without qualification, it means the total initial and continuing education of teachers. It is possible, however, without sacrificing the concept of continuity in the education of teachers, to isolate a part of the total program. When the initial state of teacher education is the referent, the qualifier *preservice* is useful....

Performance, another word in the expression under discussion, actually is a neutral term meaning an act. The mounting evidence of the failure of the school to meet the needs of some children and youth in the American society, particularly those in depressed urban areas, has led to intense public and professional interest in what teachers do in the classroom. It is believed that *performance*, defined as observable behavior, makes a difference in the lives of pupils.

This very concern makes it doubtful that anyone involved in the education of teachers is interested solely in neutral acts or performances. All strive to help teachers behave in ways believed to contribute to desired ends. Many are aware that knowledge relevant to a teaching act is essential to high quality performance. Many are concerned that teachers and those evaluating them employ adequate criteria in determining the quality of action. Furthermore, it is widely recognized that performance in the classroom does not represent the complete professionalism expected of a teacher. As a professional person a teacher is responsible for rational decision making in the classroom and for systematic inquiry into conditions and practices leading to improved decision making in planning for teaching and classroom performance. He is responsible for possession and use of knowledge and for the discovery and certification of knowledge in his own practice.

Although *performance* is quite inadequate for expressing ideas contained in the preceding paragraph, many solve the problem by stretching the meaning of the word to cover some or all of them. If challenged, they may protest that words can mean whatever we wish. They ignore the fact that they have thus rendered a word completely useless in communication, for without specification of the inclusiveness with which *performance* is used, no one can know the conceptual load it is meant to carry.

The solution preferred by a growing number of educators is to move to a revised expression, *competency-based teacher education* (CBTE). While competencies deemed important must be spelled out, the word is not neutral. It connotes valued abilities, including the ability to perform in desired ways. It allows focused dialogue on a broad spectrum of competencies to be developed and displayed that match the complexity of the teacher's role. In the remainder of this article competency-based teacher education is used as a "symbol of a practical social movement."/

6. W. Robert Houston, "Competency Based Education," Exploring Competency Based Education, ed. W. Robert Houston (Berkeley, Calif.: McCutchan, 1974), pp.3-15. Extract: pp.12-14.

(This brief selection from Houston's discussion of the competency-based education movement is intended as a "coda" for this section on definitions.)

Consider The Fiddle

When one analyzes the performance of a violin soloist at the symphony, certain skills become apparent. He must be able to read music, properly handle the bow, tune the instrument, and have a certain stage presence. So must the beginner at the seventh grade concert. The differences are in the criteria that are acceptable for an adequate performance. What is more than adequate in one instance is not acceptable in another. The seventh grader may be as skilled as the professional in many aspects of the performance; he may properly hold the bow and read music, but he may not be able to coordinate these in the total program.

The parallel in teaching is obvious. The prospective teacher may perform adequately in asking higher order questions, establishing set induction,

and writing criterion-referenced objectives, but he may not be able to integrate these skills and employ them appropriately in given circumstances. Beginning teachers may be judged competent and show promise for further development, but three or five years later that same level of competence would be inadequate. This implies that the profession should define a series of competency requirements that might increase in complexity and scope as the teacher gains experience. Such criteria could also form one basis for differentiated school staffing.

Personal styles of demonstrating required competencies lead to different but often equally effective teaching strategies, just as violinists interpret music in a variety of ways. Indeed, the more competent the violinist, the more likely he is to extend the interpretation and not play the music precisely as written. Jascha Heifitz and Yehundi Menuhin can play the same composition, but each interprets it differently--yet both are acclaimed as virtuosos. So it is with teachers; master teachers perform in differing styles. Our own research indicates that some teaching virtuosos are child focusers, some task focusers, some pragmatists.* One is concerned primarily with how children feel; the second emphasizes completion of tasks and projects; the third considers situation variables in making decisions. The teacher-stance study, the research of Bruce Joyce, and common sense indicate that effective teachers employ a variety of styles. Two hypotheses would logically follow: (1) While a competency core may exist, *the varied teacher personalities, styles, and stances preclude definition of a single set of requirements for all teachers;* and (2) *the more a person is proficient as a teacher, the more likely his professional style is to be unique.*

Again using the analogy of the violinist, the lowest level of performance demonstration was at the single skill level (correctly holding the bow, reading music, asking higher order questions). When these were combined into a performance, and if the individual met stipulated criteria appropriate to the objectives of that performance (seventh grade orchestra or New York Philharmonic, concert or practice), he was judged competent. Thus competence is *situational* (contextual).

A parallel might be drawn between measurement and evaluation. One measures a performance but evaluates competence. In assessing a violinist, a diver, or a teacher's verbal interaction with children, rating scales, tests, observations, or other instruments may be employed; they describe *what is*. Evaluation of those data considers the adequacy of measured phenomena within a context and value orientation.

Competence is also demonstrated over a period of time; a single performance does not indicate competence. A teacher's typical performance does not indicate competence. A teacher's typical performance may be of such quality as to be judged "competent," but occasionally he may have poor performances. Competent athletes, speakers, or musicians all have "off days;" so do competent teachers.

Teacher education programs are concerned more with competence than with individual performance, although some judgments are necessary in assessing competence. Further, a program of teacher development is goal (or goals)

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*/ Other teaching stances include time servers, contented conformists, ambivalents, and alienated. For a report of the research, see Ann G. Olmsted, Frank Blackington III, and W. Robert Houston, "Stances Teachers Take: A Basis for Selective Admission," Phi Delta Kappan 55, no.5 (January 1974).

oriented, and it lasts an entire lifetime. A professional seldom attains his goals because as he develops his goals change and evolve. Each individual, as the Spanish philosopher Santayana reminds us, chooses his own personal star toward which he strives.

7. Joel Burdin, Three Views of Competency-Based Teacher Education: I Theory (Bloomington, Indiana: Phi Delta Kappa Educational Foundation, 1974).

ABSTRACT

This monograph discusses competency/performance-based teacher education (C/PBTE) as a training alternative with promise and problems. Four basic characteristics of C/PBTE are discussed, namely, specification of competencies to be mastered, assessment of C/PBTE outcomes, extensive use of technology, and use of flexible time requirements for individualizing training programs. Also, some implied characteristics are discussed, and working examples are used to illustrate both kinds of characteristics. Some problems relating to C/PBTE programs are discussed, including budgeting, selecting competencies, assessing problems, and creating a massive training program. Discussion of issues that arise concerning C/PBTE and the present status of and future possibilities for C/PBTE conclude this monograph. Categories of teacher behaviors, resources for C/PBTE, and illustrative competencies for Minnesota are appended; an 11-item bibliography is included.

8. Wilford A. Weber, James M. Cooper, and W. Robert Houston, A Guide to Competency Based Teacher Education (Competency Based Instructional Systems, 1973).

ABSTRACT

This guide presents some of the major issues regarding competency based teacher education. Each issue is presented in question form, a brief response is provided, and resource materials which deal with that issue are referenced. A list of suggested resource materials is presented as the last section of the guide. Some sample questions from the guide are as follows: "What is competency based teacher education?" "What are competencies, what is competence, and what is competent?" "Does competency based teacher education have a solid philosophical base?" and "What are the teacher competencies known to be related to teacher effectiveness?"

B. RATIONALES FOR PERFORMANCE-BASED TEACHER EDUCATION

(Defining performance-based teacher education is not the same thing as justifying its existence in both educational theory and practice, though often one finds definition and rationale are presented at the same time. There follow two rationales, both taken from longer works.)

1. Frederick J. McDonald, "The Rationale for Competency Based Programs," Exploring Competency Based Instruction, ed. W. Robert Houston (Berkeley, Calif.: McCutchan, 1974), pp.17-30. Extract: pp.23-25.

The Rationale For Competency Based Teacher Education

No one disagrees that a conception of the nature of teaching is a prerequisite to designing a teacher training program. But many individuals seem to be confused about the difference between the nature of teaching and the nature of the acquisition process by which teaching competence is learned.

The nature of teaching is determined by what the child to be taught is to learn and how he or she best may learn it. The nature of the acquisition process by which teaching competence is acquired is determined by what the teacher is to learn and how he or she may best learn it. The rationale for competency based teacher education pertains to the latter. The former determines its content.

The Characteristics of Teaching Competence

Teaching acts are observable performances. In principle these performances are linked to situations that vary in terms of the purposes of the teaching, the materials and media of instruction, the characteristics of the children being taught, and their responses in specific situations.

Such performances have two components: (1) a behavioral component and (2) a cognitive component. The behavioral component is a set of observable actions. The cognitive component is a combination of perceptions, interpretations, and decisions. Skill in both components is required to produce a competent performance.

The critical question usually asked is what performances are required for effective teaching? Much of the discussion of competency based teacher education revolves around the answers to this question.

Such answers ought to derive from conceptions of what is to be learned and how this learning might be facilitated. A variety of models of the teaching-learning process are available to describe the relations between teaching performances and various kinds of student learning. They may be used to describe the content of a teacher training program.

We are not concerned here with the choice among these models, other than to remind the reader of our earlier comments about the processes of

making analogies. The important conclusion to be drawn is that no one model adequately describes all the kinds of learning to be mediated by teaching; while there may be performances common among the models, each appears to include unique performances or unique combinations of performances. Teaching competence, therefore, is defined in terms of a variety of performances. Some of these are subsets of others. To acquire teaching performances one must learn both the discrete performances and their combinations.

Teaching competence means possessing a set of performances on which the teacher can draw as situations vary. The complexity of the teaching situations a teacher faces strongly suggests that a teacher must continually adapt performances to situations.

The specificity of the performance is not its most critical characteristic. The designers of competency based programs have urged that performances be described as specifically as possible. This recommendation urges a useful heuristic which stimulates designers to focus on the characteristics of a performance and on the assessment of competence. It is also an antidote against the prevailing tendency to describe teaching acts in vague terms.

The critical descriptors of a performance are: (1) the actions to be taken; (2) the data needed to take the action; (3) the decisions to be made to initiate and carry out the actions; (4) the information to be processed as the actions are taken; (5) its intended effects and their indicators. These descriptors should be specific enough so that the actions to be taken are clearly indicated, the information to be gathered and the decisions to be made are concrete and readily identifiable, and the effects can be observed.

The critical characteristics of the performance are its links to the situations in which it is to be used. Such a description takes into account its effects and the conditions under which they are likely to be achieved.

The critical characteristics of a set of performances are their interdependency. Some performances subsume others. Some performances must be linked in sequences if their effects are to be achieved.

Thus, teaching acts are complexes of performances whose components and interdependencies are identifiable. The total set of performances required is sufficiently large that it is unlikely that the set can be learned as a totality. It seems likely, therefore, that the most useful models for describing the acquisition of teaching skill are those which account for the acquisition of discrete actions and clusters of actions and their combinations and integrations.

At the beginning of this chapter we stated that two of the characteristics of competency based programs were the organization of what is to be learned into components and precise specification of what is to be learned. The first characteristic reflects what we currently know about teaching performance: it is a behavioral and cognitive repertoire that is drawn upon to create and adapt to a wide variety of instructional purposes and means, and students. The precise specification of the competence is a heuristic device for being clear about what is to be done in teaching and under what conditions.

Thus, the rationale for competency based programs is rooted in the nature of teaching acts. The arguments about the behavioristic character of the movement are beside the point. A behavioral description of performance is necessary if we are to design a program that educates effective teachers. But it is not sufficient.//

2. Norman R. Dodl and H. Del Schalock, "Competency Based Teacher Preparation," Competency Based Teacher Education, ed. Dan W. Anderson et al. (Berkeley, Calif.: McCutchan, 1973), pp.45-52. Extract pp.46-48.

Rationale

Competency based teacher preparation derives from instructional activities designed and implemented to produce teachers who possess designated competencies for entry into the teaching profession. Traditionally, the competencies for entering the teaching profession have been defined ambiguously if at all. State departments of education offer the most readily available indicators of traditional expectancies in their requirements for teaching certificates. Almost without exception, these are stated in terms of required courses and time served in student teaching or internships. Demonstrations of competency will supersede evidence of courses passed and time spent in student teaching as certification requirements.

The lack of clearly defined outcomes hampers traditional teacher education processes. Even when sufficient time for teaching practice is provided, this lack of specific performance criteria makes it impossible to measure either the effects of training on performance or the student's readiness to enter the teaching profession. Competency based teacher preparation is designed to overcome this handicap.

As the teaching profession moves toward accountability, the point of view represented by a competency based approach assumes the following:

1. Rigorous criteria for knowing, as well as systematic specification of what is to be known (knowledge), must be a part of teacher education.
2. Knowing and the ability to apply what is known (performance) are two different matters.
3. The ability to attain specified objectives with learners (product) represents still another kind of competency that will be required of teacher candidates.
4. The criteria for assessing what a prospective teacher can do (performance) should be as rigorous, as systematically derived, and as explicitly stated as the criteria for assessing either what he knows (knowledge) or what he can achieve in learners (product).
5. Assessments of knowledge, performance, and product must be described and made systematically.
6. Only when a prospective teacher has the appropriate knowledge, can perform in a stipulated manner, and can produce anticipated results with learners, will he meet competency based requirements.

The assessment criteria for a competency based teacher preparation program are illustrated in figure 1.

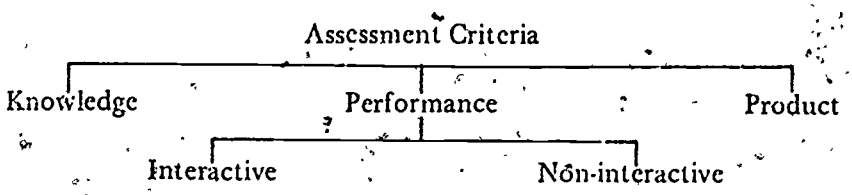

Fig. 1. Assessment criteria for a competency based teacher preparation program.

Traditional teacher preparation programs were concerned primarily with knowledge criteria for the assessment of objectives. Recently, however, the programs have begun to shift toward assessment procedures that emphasize performance criteria, and it can be expected that performance criteria will constitute a major force for innovation in education during the next decade. Both interactive and noninteractive behaviors are types of teacher performances that must form part of the basis of teaching competence. For instance, if teachers must use probing questions effectively to assist pupils to extend and clarify concepts, a prospective teacher must demonstrate that he can effectively use such questions with pupils. Such teacher behavior will be evaluated both on its quality and on the frequency of its occurrence. An example of noninteractive teacher behavior is the ability to select, using a stated set of criteria, instructional materials that suit each learner's abilities and objectives. If the selection criteria are explicit, the assessment of this instructionally related but noninteractive behavior can be reasonably precise.

We have defined competency as the realization of publicly specified criteria for classes of learning outcomes found to be appropriate to teacher preparation, i.e., knowledge, skills (performance), and products. With regard to this mix, we suggest that, in spite of the methodological problems encountered thus far in teacher effectiveness research, the ability to bring about specified learning outcomes in pupils will be included as one of the criteria on which to assess teacher competence. The mix of these classes of learning outcomes will depend on a variety of factors and will differ substantially from program to program.

Using product based criteria to assess teacher competency has certain definite advantages.

1. A product oriented basis for competency assessment approximates a one-to-one relationship between an initial or laboratory assessment and its achievement in real teaching.
2. It represents or provides an absolute criterion of teaching effectiveness and thereby meets the ultimate test of accountability.
3. It accommodates individual differences in teaching preferences or styles by allowing for wide variation in the means of reaching a given outcome, i.e., teaching behaviors. At the same time, however, it holds all teachers accountable for being able to bring about given classes of outcomes.
4. It allows for the fact that we are not yet sure what teaching behaviors cause specific outcomes in pupils, but it does require that effective behaviors and/or instructional programs be identified and used.
5. It forces the entire educational system (not just the teacher education program) to be clear about the goals or objectives of education.
6. It will take much of the guesswork out of hiring new teachers, since each teacher will have a dossier that summarizes in detail what he can or cannot do when he receives certification.

However advantageous it may appear to base competency assessment on product criteria, it is likely that most teacher preparation programs will shift only slightly in this direction during the next decade. But we believe it likely that increasing portions of teacher preparation will be directed toward performance criteria.

C. HISTORICAL CONTEXT OF PERFORMANCE-BASED TEACHER EDUCATION

1. Stanley Elam, Performance-Based Teacher Education: What Is the State of the Art? Extract: pp.2-4.

Probably the roots of PBTE lie in general societal conditions and the institutional responses to them characteristic of the Sixties. For example, the realization that little or no progress was being made in narrowing wide inequality gaps led to increasing governmental attention to racial, ethnic, and socioeconomic minority needs, particularly educational ones. The claim that traditional teacher education programs were not producing people equipped to teach minority group children and youth effectively has pointed directly to the need for reform in teacher education. Moreover, the claim of minority group youth that there should be alternative routes to professional status has raised serious questions about the suitability of generally recognized teacher education programs.

The federal role in education was legitimized and made operational following the Russian Sputnik. Federal money became available for a variety of exploratory and experimental programs, including such projects as the ten elementary education models funded by the U. S. Office of Education* and investigations of performance-based certification by state departments of education. More recently, economic conditions have led taxpayers to demand visible dividends on their investments in education. The "taxpayers' rebellion," as well as highly vocal discontent expressed by the romantic critics, has resulted in demands for accountability at every level, including teacher education.

Technological developments have made available new resources for teaching and learning and threaten to alter the teaching role in fundamental ways. Business and industry have entered the education field, not only operating education programs for their own purposes but preparing and marketing new learning tools and techniques. School boards began in 1967 to contract with private firms for specialized, "guaranteed-or-your money-back" educational services, and a new industry was born. Among its prominent features is an emphasis on the use of paraprofessionals and "learning center managers" who require a minimum of specialized training.**

New concepts of management (e.g., the systems approach) were pioneered by government and industry. In education they were used in the planning, design, and operation of more efficient, product-oriented programs.

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*/ Joel L. Burdin and Kaliopee Lanzilloti (eds.), A Reader's Guide to the Comprehensive Models for Preparing Elementary Teachers. (ERIC Clearinghouse on Teacher Education and AACTE, Washington, D. C., 1969.)

**/ In a sense this trend conflicts with the growth of the differentiated staffing movement. The teacher shortage of the early and mid-Sixties, certification laws requiring longer preparation periods, collective demands for the inclusion of teachers in important policy decision making, and other forces led inexorably to pioneering efforts in staff differentiation. Resultant new roles have important implications for teacher training.

Confronted with the ultimate question of the meaning of life in American society, youths have pressed for greater relevance in their education and a voice in determining what its goals should be. Thus PBTE usually includes a means of sharing decision-making power.

The education profession itself has matured. First, there have been important advances in the art and science of teaching. For example, evaluation and assessment are more highly sophisticated than they were a decade ago, thanks largely to the greater availability of research funds. Beginning with the massive studies by Ryans published in 1960,* we know much more than we did about teacher characteristics. More recently, the teaching act itself has been exhaustively analyzed. At least 200 observational category systems have been developed, of which Flanders' Interaction Analysis and its variations are the best known.** It has been argued that the more teacher trainers know about requirements for success in the teaching act, the more precisely they can establish program goals and assess performance, both important aspects of PBTE.

Second, a more secure body of teachers, most of them with four to five years of college preparation, seem to be winning the struggle for a greater voice in certain decisions that directly affect them. Their goals now encompass greater control of preparation programs and entry into the profession. Thus PBTE ideally involves the cooperation of teacher organizations.

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*/ David G. Ryans, Characteristics of Teachers: Their Description, Comparison, and Appraisal: A Research Study. (Washington, D. C.: American Council on Education, 1960).

**/ Unfortunately, not more than ten of these systems have been used in process-product studies relating frequencies of variables to measures of student achievement. However, it should be noted that the researchers were seeking ways to describe teaching, not to prescribe it; they were not trying to relate teacher behavior to pupil outcomes. For an analysis of these studies and their relevance to PBTE, see Barak Rosenshine, Interpretive Study of Teacher Behaviors Related to Student Achievement. Final Report, Project No. 9-B-010, Small Grants Research Projects. Washington, D. C.: National Center for Educational Research and Development, U. S. Office of Education, 1970.

2. AACTE Committee on Performance-Based Teacher Education
Achieving the Potential of Performance-Based Teacher Education.
Extract: P. 5.

Historical Context

One of the persistent problems in American teacher education has been to effectively relate the preparation of teachers to the job they are expected to do in the schools and to emerging social conditions. Changes in what society expects of its schools, in what is to be taught, in the pupils' backgrounds, in the instructional materials available, in the role of the teacher outside the classroom--all have kept placing new demands on teacher education. Human nature being what it is and teacher-preparing institutions having traditionally been operated at quite some distance from the schools, teacher preparation has tended to get increasingly out of date. When the gap between what the teacher is prepared to do and what the teacher is in fact called on to do has grown too great, reform movements have developed to break the old teacher education molds and create new patterns. Such efforts have sometimes established new orthodoxies which ultimately proved to be irrelevant to changing school conditions. PBTE is, in the judgment of the Committee, a response to this continuing challenge. Its roots lie deep in the development of teacher education during the last 100 years.

In the nineteenth century, for example, the establishment of common schools led directly to the creation of a new type of teacher education institution and program in this country--the normal school, which in turn developed into the teacher college with a substantially expanded program. In the early years of the twentieth century new knowledge resulting from a movement stressing the "scientific study of education" led to fairly widespread agreement on a group of courses in education which constituted the recognized core for professional preparation of teachers. As the schools were democratized, they began accepting an obligation to provide secondary education for an increasingly large segment of the population, and a reaction against certain aspects of the lock-step system of mass education then in vogue helped bring into being a reform movement known as progressive education emphasizing the individualization of education. This broad effort stressed laboratory experiences to make teacher education more realistic and it emphasized behavioral objectives, particularly as advocated by Ralph Tyler, to sharpen goals and facilitate measurement of outcomes. More recently, in a more dramatic and specific way, the impact of the Russian Sputnik on the American public led to Congressional action encouraging reform in the schools with respect to the teaching of science and mathematics. This reform encompassed major curriculum changes and a far-flung program of in-service institutes for teachers, as well as substantial changes in their preservice preparation.

SECTION TWO

ASPECTS OF PERFORMANCE-BASED TEACHER EDUCATION

Once one is acquainted with the definitions of performance-based teacher education, the next step is to determine what stuff makes up a PBTE program. This section deals with various aspects of PBTE and has the following divisions: a) Program Design--which includes discussions of the basic component of PBTE, "competencies;" b) Evaluation and Assessment--both of the student's performance and of the program itself; c) Individualization and Personalization--which, inspite of criticisms of PBTE referring to it as "mechanistic", are a component of PBTE; and d) Field-Based Support Programs.

A. PROGRAM DESIGN IN PERFORMANCE-BASED TEACHER EDUCATION

1. W. Robert Houston and Howard L. Jones, Three Views of Competency-Based Education: II University of Houston (Bloomington, Indiana: Phi Delta Kappa Educational Foundation, 1974). Extract: pp.17-23.

(This monograph, one of three in a series on competency-based teacher education, describes the program at the College of Education, University of Houston. The first section of the monograph, "CBE in Action. The Top of the Iceberg," describes relevant physical facilities at the university. The second section, "The CBE Design: Unseen Part of the Iceberg," part of which is extracted below, discusses program design, with special reference to the University of Houston program. The following extract focuses on overall design in general and, specifically on competencies in a competency-based teacher education program.)

Need for Design

Most preparation programs in teacher education are characterized by their lack of unified, cohesive, directed efforts. There is a distinct lack of interrelatedness as many individual faculty in several departments each go their separate ways. The mottled patchwork called a curriculum often is a jumble of contradictions, feats, old wives tales, unexplained and undefined theories, and little translation of theory into viable practice. Even that practice cannot be used to improve the student or the program.

Consequently, much of the teaching done by graduates of these programs relies on intuition, with the more perceptive teachers being more effective, not because of the training program but almost in spite of it. Reliance only on the intuitive person suggests that there is no distinct discipline of teacher education, and never could be. The program at the University of Houston is predicated on the belief that this is not the case. Five propositions regarding the role of the teacher were specified early in program design, and form the basis for subsequent delineation of competencies and objectives, development of instructional materials, and design of evaluation procedures.

Five Propositions.

1. *The teacher is a liberally educated person with a broad background in his teaching field.* This proposition emphasizes the responsibility of general education and major fields of study in the arts and sciences to provide a rich basis for teaching. Actually, only a small portion of a prospective teacher's professional preparation occurs in the College of Education (of 122 credits, 43 for elementary and 18 for secondary are in education). While recognizing the importance of academic preparation, it is this professional program which is competency-based and which is described here.

2. *The teacher reflects in his actions that he is a student of human behavior.* Teaching is an applied behavioral science: knowledge alone is not sufficient. Teachers should demonstrate the full range of competencies derived from psychology, multi-cultural education, socio-linguistics, sociology, philosophy, and anthropology. Further, such understandings are translated into actions which reflect a realistic understanding of self and others.

The program includes a number of objectives related to this proposition. The testing program briefly described above for early portions of the program is designed to help prospective teachers better understand themselves, their values and motivations, and their relationships with others. This self-understanding is basic for teachers who may be helping students better understand themselves. A series of optional affective modules permit prospective teachers to explore competencies related to Sharing Self with Others; Communication; Listening and Responding; Awareness of Self in Relation to Others; Communication: One-way and Two-way; Professional Ethics; and Group Process. Members of the counselor education faculty are available when students request personal assistance; this support staff has been invaluable in personalizing the program.

In a major part of the program, students choose competencies from a wide range of the behavioral sciences; studying about Piaget and other learning theorists, sociological principles and trends, influences of multicultural education, and the evolving city in America. The emphasis is on developing skills and using them, and applying knowledge of the behavioral sciences in classroom practice.

These two program aspects--self-understanding and formal study of the behavioral sciences--support program elements derived from the premise that teachers who better understand themselves and others are likely to be more effective teachers.

3. *The teacher makes decisions on a rational basis.* The rational approach to decision making, and its attending paradigm, permeates the training program so that the prospective teacher can analyze important functions of his roles and the consequences of action.

The actions of the professional constitute an interrelationship between theoretical considerations and behavioral manifestations. The process includes four stages. (1) Goals and objectives are delineated and based on perceived needs. (2) Strategies for achieving these goals and objectives are planned. (3) Plans for achieving goals and objectives are implemented. (4) The extent to which goals or objectives are achieved is evaluated.

Some notes about this model are in order. First, it can be applied to any professional action, whether it is teaching, self-development, or organizing for management. Each requires goal setting, planning, acting, and evaluating. Second, the cycle sometimes is completed quite rapidly while on other occasions it may require weeks or months; it is not time-bound. Third, evaluation leads back to goal and objective setting--speculating on whether objectives are to be changed, or implementation strategies, or both.

This rational approach is predicated on the belief that when professionals systematically analyze important functions of their roles and evaluate the consequences of their actions, they are more likely to be effective. Within the program, students are exposed to the rational approach to lesson planning where they diagnose learner needs, set objectives, plan to achieve objectives, teach, and evaluate results of teaching on the basis of objectives achieved. This process is embedded early in the program in the micro-teaching lessons and later during internship with classes of pupils. The process is integral to clinical supervision; it is emphasized by counselors; it forms the basis for advisor discussions with students about which competencies are to be demonstrated.

4. *The teacher employs a wide variety of appropriate communication and instructional strategies.* This proposition is drawn from the premise that teachers who have a wider repertoire of skills and techniques of instruction, management, and communication are more likely to be effective. At one point in the program, teaching tactics such as questioning skills, set induction, and positive reinforcement are studied and demonstrated in micro-teaching settings. Later, they are expected to be embedded in more complex instructional procedures.

Some students learn to code and interpret the coding of their classroom interaction, using schedules such as those by Ned Flanders, Gene Hall, Chuck Galloway, or Irv Miller. All use a variety of data collection systems to describe teacher and student actions.

5. *The teacher exhibits behavior which reflects professionalism.* This includes the ability to work closely with other persons in solving problems as well as continual self-assessment. Again, the rational model is applied so that effectiveness can be increased in an ever-changing social context.

Competencies

The five propositions which are described on the last section led to the generation of a set of competencies which are noted below. For each of the competencies there is a descriptive statement providing the reader with some indication of the area of focus of each of the competencies. Not included in the list are the many sub-competencies which are demonstrated by students during the various parts of the program. The prospective teacher:

1. *Diagnoses the learner's emotional, social, physical, and intellectual needs.* Draws upon knowledge of human growth and development, learning theories, social/cultural foundations, assessment techniques, curriculum goals and content to gather information about the learner and to identify instructional needs.

2. *Identifies and/or specifies instructional goals and objectives based on learner needs.* Views the setting of instructional goals and objectives as a key element in the diagnostic/prescriptive model of instruction; reconciles curricular/educational goals with present level of learner needs; analyzes instructional goals to identify knowledge, skills, attitudes needed to achieve those goals; states objectives so that intent is communicated to learner.

3. *Designs instruction appropriate to goals and objectives.* Develops strategies for promoting achievement of instructional goals and objectives in which learner needs and instructional options are incorporated.

4. *Implements instruction that is consistent with plan.* Designs strategies which have the potential to promote learner achievement of particular goals and objectives.

5. *Designs and implements evaluation procedures which focus on learner achievement and instructional effectiveness.* Constructs and operationalizes evaluation procedures which focus on a variety of goals and objectives; reports learner achievement through grades, consultations, checklists, and the like; evaluates instructional effectiveness by comparing learner achievement with that expected after given instructional experiences.

6. *Integrates into instruction the cultural backgrounds of students.* Incorporates materials, examples, illustrations, verbal and nonverbal communication patterns, motivators and reinforcers from learner's background--race, language, sex roles, socioeconomic level, nationality, etc.--so that learner is able to identify with content, processes, and intended outcomes of instruction.

7. *Demonstrates a repertoire of instructional models and teaching skills appropriate to specified objectives and to particular learners.* Describes and demonstrates a variety of instructional models. Uses appropriate models of instruction based upon the subject, objectives, and needs of learners.

8. *Promotes effective patterns of classroom communication.* Recognizes the value of effective communication; accepts and supports ideas of others; strives for more productive communications; and encourages interaction among all members of the group.

9. *Uses resources appropriate to instructional objectives.* Operates audio-visual equipment, makes instructional materials appropriate to objects, and identifies sources of instructional materials. Individualizes resources in classroom and uses community facilities for instructional purposes.

10. *Monitors processes and outcomes during instruction and modifies instruction on basis of feedback.* Demonstrates sensitivity to classroom indicators which allows for making on-line decisions regarding success of instructional processes and learner achievement.

11. *Demonstrates an adequate knowledge of the subject matter which she/he is preparing to teach.* Demonstrates a broad background as a liberally educated person, and an in-depth knowledge of the fields of study in teaching major. Describes content, placement, and sequence of subject matter being taught to learners.

12. *Uses organizational and management skills to facilitate and maintain social, emotional, physical, and intellectual growth of learners.* Establishes a management system that facilitates individual achievement and personal growth; organizes and facilitates productive group interaction; and establishes positive socioemotional relationships with learners. Creates and maintains a supportive physical and socioemotional climate which promotes productive group interaction and provides for individual needs of learners.

13. *Identifies and reacts with sensitivity to the needs and feelings of self and others.* Demonstrates a concern for the needs of learners; recognizes that as a member of a learning group, the teacher has needs which must be met in a teaching-learning situation; and reacts to meet the needs of others; bases decisions upon best available data.

15. *Works effectively as a member of a professional team.* Works with other professionals, paraprofessionals, and laypersons in order to achieve commonly shared goals; displays behaviors consistent with the goals and ethics of the teaching profession.

16. *Analyzes professional effectiveness and continually strives to increase effectiveness.* Uses a variety of observational and analytic procedures to study teaching effectiveness; examines the consequences of teaching by focusing on learner objectives and instructional outcomes.

As the reader glances through the competencies described above the question must come to mind: "Isn't this what all teacher education efforts are designed to focus on? Don't all effective teachers perform these global goals?" The answer, of course, is yes and effective teachers demonstrate these competencies in their own unique ways.

CBTE proponents, however, hold prospective teachers accountable for demonstrating minimal competence prior to certification. To more fully explore this area, the reader must explore the decision-making process in CBTE. In most experience-based teacher education efforts, the assumption is that the more experiences and more varied experiences a prospective teacher has, the better prepared he will be teaching. The key instructor decision is: what things can I have the student do in this course? In competency-based efforts the decision is a different one. The decision becomes: what competencies do I expect of the teacher? Toward this end, CBTE proponents note an important principle--prospective teachers are held accountable for the demonstration of competencies, not for the acquisition of competencies. In other words, the student is expected to demonstrate competence; and how he achieves this competence is up to him. The instructor's role is facilitation--helping students identify means to achieve or increase competencies.

2. Bruce R. Joyce, Jonas F. Soltis, Marsha Weil, Performance-Based Teacher Education Design Alternatives: The Concept of Unity (Washington, D.C.: American Association of Colleges for Teacher Education, 1974). Extract: pp.5-9.

(This paper primarily deals with the model of the teacher for use in PBTE. Alternative strategies for the model are presented. The teacher is seen as the "organic unity" of education. The opening pages, which discuss five strategies for creating the model of the teacher, are reproduced below. The remainder of the paper presents analyses of each of the five strategies. Footnote enumeration is as it appeared in the original edition.)

Creating a Model of the Teacher

The remainder of this paper will deal with what we consider to be the substantive heart of teacher education: creating the model of the teacher and selecting training strategies. Assessment and management will be dealt with only indirectly. Throughout the discussion we will be concerned with the central quality of unity, both in the model of the teacher and in the processes which will be used to prepare him.

In a performance-based program detailed goals are specified and agreed upon prior to instruction. The student must either be able to demonstrate his ability to promote desirable learning or exhibit behaviors known to promote it. There is general agreement that a teacher education program is performance-based if: "Competencies (knowledge, skills, behaviors) to be demonstrated by the student are derived from explicit conceptions of teacher roles, stated so as to make possible assessment of a student's behavior in relation to specific competencies, and made public in advance."[3]*

Beyond this agreement, two really critical questions emerge: How do we go about identifying and explicating the teacher roles and how do we use the resultant models of the teacher as program goals? Although it is possible to create a good model and still fail to put together a good program, the model of the teacher is nonetheless extremely important for philosophical and technical reasons. Philosophically it determines the direction of the program -- the kinds of schooling that the teacher will be prepared to carry out. There is no more powerful way to make a statement about education than to prepare a teacher, nor is there a better way to live a philosophy.

In addition, philosophically, the model of the teacher expresses a view of a human being and of teaching as a human process. Accordingly, the selection of the model reflects an important humanistic decision by its actual choice of a preferred mode of education and by the fact that the training process inevitably affects the humanity of both trainer and trainee. If a humane teacher is to emerge from a training program, then the conception of the teacher must be humanly as well as technically and substantively effective. If the teacher is expected to love his students and to cherish his opportunity to be with them, then the model of his performance should express love and devotion. By contrast, if he is manipulated by his training he may become a manipulator. The model tells him what we believe about the human condition. The model of the teacher is technically important because it must yield coherent and trainable competencies which add up to an integrated, effective teacher of students. If the model is vague, chaotic,

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*/ Notes from this extract appear on p.38 of the Source Book.

or artificially contrived through forced relationships among incompatible competencies, the program -- and its results -- will be diffuse and contradictory.

Research must have a central role in creating the model of the teacher. We should realize the present bounds of our own ignorance. A simple, reliable, all-purpose model of the teacher cannot yet be created. Our past years of search for a few criteria which define general effectiveness have yielded little solid knowledge. Instead, we are beginning to have some reasonable, but untested models of the teacher accompanied by a little knowledge about a few skills which enable teachers to do some specific things effectively. The ability is there to generate strong general models which can guide program development, but which are tentative in the sense that they need continuous testing and revision. Commitment to a model of the teacher thus involves a decision to carry out research. The testing of the model -- essentially a search for knowledge about teaching and teacher training -- should be embedded in the program development and implementation process, resulting in specific, tested principles, to guide teaching and training.

For many years research on teaching was guided by the hope that there would be some kind of general magical variable that would account for teaching effectiveness. Gage has pungently commented:

> The so-called criterion problem misled a whole generation of researchers on teaching and burrowed them in endless and fruitless controversy and drew them into helplessly ambitious attempts to predict teacher effectiveness over vast arrays and spans of outcomes, teachers' behaviors, time intervals, and pupil characteristics all on the basis of predicted variables that had only the most tenuous theoretical justification in the first place.
> ...If the global criterion approach has proved to be sterile what was the alternative? The answer was to take the same path that more mature sciences had already followed: if variables at one level of phenomena do not exhibit lawfulness, break them down. Chemistry, physics, and biology had in a sense made progress through making finer and finer analyses of the phenomena and events they dealt with. Perhaps research on teaching would reach firm ground if it followed the same route.[14]

The prospect dismays some who feel we should already know what good teaching is and excites others who see an opportunity to search for knowledge about effective teaching.

Gage suggests that teaching be studied: "... in delimited, well-defined components that can be taught, practiced, evaluated, predicted, controlled and understood in a way that is proved to be altogether impossible for teaching viewed in the larger chunks which occur over the period of an hour, a day, a week, or a year."[15]

We should be realistic about what is possible. The research which Gage has suggested will yield results only gradually. Present knowledge does not raise us above the level of a complex hypothesis. Nor can we know beforehand that the model will work; it cannot be tested until much of the program has been developed and implemented. What reliable knowledge we have resides in fairly small units--i.e., models of teaching which can serve specific purposes. Our model of the teacher has to be extrapolated from studying these small units, combined with judgments about other characteristics essential to defining teaching tasks. Then the program elements have to be created and teachers trained with them before testing can begin.

Identifying the Teacher Model: Five Strategies

We have five major options for creating the model of the teacher. They are: a model of the school, a general model, a particular educational approach, a practitioner model, and a traditional teacher education model.

Each strategy has distinct strengths and weaknesses. The model of the school involves some description of its teachers' activities and assignments of the major learning strategies they will use, and of the kinds of relationships they will have with pupils and with each other. These descriptions of teaching, in turn, form the models of the teacher. The resultant conception of the teacher is compatible with the education to be used in the school. Furthermore, by linking teacher training to specific teaching tasks in a specified educational environment, real-world relevance is possible. Nor need there be a single model; if the model of the school uses a differentiated-staffing plan, several models of the teacher can be developed and integrated. But tying teacher training to a particular model of the school or to a real school is not without problems. A teacher who was prepared to work in one kind of school might need additional training before he could operate in another one. This problem would diminish if every school contained a Teacher Center in which the competencies appropriate for that school could be learned. The teacher could then be "retrained" whenever he moved into a new school setting. If teacher training were a lifelong process, individual schools could create their own organizational patterns and models of education, confident that these procedures would prepare teachers to work effectively in their pattern.

A second strategy -- creating a general model of the teacher -- would identify the most common roles that a teacher might play in a variety of classrooms. This process requires a general model of the classroom and a consistent general model of the teacher for the typical classroom. The resulting conception would be broken down into sets of specific competencies. The teacher thus identified would be expected to fulfill those major educational roles required of a generalist.

The approach has its own kind of real-world relevance. Most teachers today are, in fact, generalists. Even those who have a subject specialty are expected to play many roles and use a great many educational models in their teaching. A disadvantage becomes apparent, however, in the extreme complexity of any such role when it undergoes a systems analysis. The Bureau of Research teacher training program models -- assuming the teacher as generalist -- noted competencies of almost 3,000. Such extremely complicated role-description is difficult enough to think about or to train; it is even harder to assess.

A third strategy -- the particular educational approach -- develops a specific curriculum plan and educational materials, and derives the specifications of the teacher from the roles necessary to make that plan work. Examples of this strategy already exist. Individually Prescribed Instruction (IPI), for example, is a systems description of the teacher's roles, and teacher training materials for implementing the IPI plan. In the early childhood domain there are four approaches: Englemann-Becker,[16] Montessori,[17] Bushell,[18] and Bank Street.[19] Each includes materials, teaching role descriptions, and training systems.

The particular approach to the definition of the model of the teacher also has obvious real-world advantage: The teacher who is trained in this way can presumably implement that educational model effectively. It has the same liability of the model of the school approach: When a teacher moved into a school which embraced a different educational approach, he would probably need further training. Eventually we may come to know more about transfer of skills from one

approach to the other. Maybe, for example, a teacher who masters the Engelmann-Becker approach can transfer immediately to the Montessori model and vice versa. But, for the present, a conservative interpretation that fresh competence will be needed is the soundest guideline.

If one selects a preferred philosophy or educational theory, creates his model of the teacher from it, and then trains the teacher by it, he obtains great unity by the particular model approach. But he also puts all his eggs into one basket. An entire training program can emphasize, for instance, personalistic theory,[20] group dynamics,[21] cognitive theory,[22] or behavior modification[23] and teach the teacher to use that theory to solve his problems.

A fourth strategy -- the practitioner mode -- can specify the teacher through one of two approaches. First, superior teachers can be identified by peers, students, supervisors, or a combination of these. By studying their behavior objectively, we can identify their specific strategies of teaching. These strategies, in turn, become specifications for a model of a teacher. Essentially, a model of a teacher is identified from model teachers.

A second approach involves asking practitioners which competencies they believe are important. After organizing these competencies, we develop criteria for selecting key ones which then become the specifications of a model of a teacher. Developing the model of the teacher from real working teachers has the advantage of real-world relevance. In operation, though, it has two disadvantages. First, teachers may not agree on what competencies are important. What works for one may not work for another. Second, personal competencies may well be expressions of personality. Good teachers might turn out to be highly idiosyncratic artists whose qualities are not amendable to training on any basis. It is extremely important that the model of the teacher which is selected be a trainable model. The behavior of the expert practitioner might be an expression of style rather than strategy, requiring certain kinds of personalities rather than certain kinds of competencies. But, if the practitioner does turn out to be the best informant, these difficulties may not be hard to solve.

A fifth strategy -- explicating the components of traditional teacher education programs -- is the most common way of identifying the competencies of the teacher. It is relatively clear-cut: the components of an existent teacher-education program are translated into competency terms. For example, the traditional teacher education program includes methods courses, education psychology, the social foundations of education, and an apprenticeship to an experienced teacher. A course in mathematics education, for example, would be broken down into specific competencies.

This strategy for applying the competency orientation is easily implemented with new program components simply replacing old ones. But the approach presents problems. For one thing, traditional teacher education programs were not constructed from a competency orientation. Their components may not be amendable to specification in terms of sets of interacting, mutually-reinforcing competencies.

But this fifth strategy has a second problem. It rests on the assumption that the course components of the teacher education programs have in the past been relevant to the needs of the teachers -- an assumption that many teachers would challenge. Actually, the problems of integration and unity as well as adequacy of the components present major drawbacks to any literal translation of traditional education into competency-based terms. Certainly, building competencies from traditional teacher education programs is the most widely used and most conservative approach. It is also the approach most tied to past conceptions. Some of the other strategies are more promising in preparing people to generate new forms of education. As we examine the alternatives more closely in the next pages, we will see, though, that they present their own problems in achieving a program of unity and power.

Notes

13. Stanley Elam, Performance-Based Teacher Education: What Is the State of the Art? (Washington, D.C.: American Association of Colleges of Teacher Education, 1972), p. 6.

14. N. L. Gage, Teacher Effectiveness and Teacher Education (Palo Alto: Pacific Books, 1970).

15. Ibid.

16. Carl Bereiter and Siegfried Englemann, Teaching Disadvantaged Children In the Preschool (Englewood Cliffs, New Jersey: Prentice-Hall, 1966).

17. Maria Montessori, The Montessori Method (New York: Schocken Books, 1964).

18. Donald Bushell et al., "Applying Group Contingencies to the Classroom Study Behavior of Pre-School Children," Journal of Applied Behavior Analysis vol. 1, 1968, pp. 55-61.

19. For an early exposition, see Carolyn Pratt, I Learn from Children: An Adventure in Progressive Education (New York: Simon and Schuster, 1948).

20. Arthur Combs, The Professional Education of Teachers: A Perceptual View of Teacher Education (Boston: Allyn and Bacon, 1965).

21. Kenneth Benne, Jack Gibb and Leland Bradford, T-Group Theory and Laboratory Method (New York: Wiley, 1964).

22. David Ausubel, The Psychology of Meaningful Verbal Learning (New York: Green & Stratton, 1963).

23. Carl Thoresen, Behavior Modification in Education (Chicago: National Society for the Study of Education Yearbook, University of Chicago Press, 1973). □

3. Patricia M. Kay, What Competencies Should Be Included In a C/PBTE Program? (Washington, D.C.: American Association of Colleges for Teacher Education, 1975). Extract: pp. 4-9.

What are "Competencies"?

Perhaps there are as many conceptions of what teaching competencies are as there are people who have attempted to define the term. Definitions of teaching competencies have ranged from highly specific behavioral objectives delineating all the knowledges, skills, and attitudes deemed necessary for effective teaching--to more generally stated goals reflecting various functions that teachers should be able to perform. Examples of specific behavioral objectives include:

. Given standardized reading testing materials, a test manual, and a class of 4th grade children, the teacher will administer and accurately score the test for the class.

. Given a slide projector (model number and manufacturer specified) and set of 35 slides in order, the teacher will correctly place the slides in the projector tray in 1 minute or less.

. Given one column listing 6 major learning theorists and one column listing 10 important characteristics of their learning theories, the student will correctly match at least 9 of the characteristics to the theorist.

Examples of general specifications are:

. The teacher can use a variety of formal and informal methods of evaluating pupils' basic skill development.
. The teacher can effectively use audio-visual aids to enhance instruction.

There are two dimensions to most definitions of what teaching competencies are. The content that is to be included is one dimension; the specificity with which it is stated is another, and both have generated a good bit of discussion.

Content focus - What should be included?

Initially, the content is critical. That dimension could include knowledge, attitude, or skill outcomes or any combination of them. Some C/PBTE designers have used all three: they identify knowledges, skills and attitudes for program objectives and call them competencies. Others have focused only on skills or tasks or functions* that teachers are called on to display or perform. In this

*The reader is warned that the terminology - job functions, duties, tasks, responsibilities, etc. - is unexpectedly complicated and loaded with semantic traps which make exact word usage difficult. For example, a number of attempts within the context of personnel selection and training to arrange and define roles, functions, duties, tasks in some kind of logical hierarchy have been exercises in futility. This, perhaps, is one of the more serious barriers to the development of a teaching skill taxonomy. The pertinent point for program developers is that undue concern for definition of these terms is probably not a potentially rewarding activity.

paper the word competencies will not imply knowledge or attitude objectives. There are a number of reasons why it makes more sense to concentrate program efforts, including competency definitions on a functions-of-teaching base. By this definition, the previously given example about learning theorists is not a competency.

To say that competencies address teaching skills or functions does not mean that knowledge and attitude outcomes are excluded from the goal structure of a C/PBTE program. In order to perform most teaching functions adequately, it is assumed that some cognitive background is necessary, and few teaching tasks can be accomplished successfully in the absence of appropriate attitudes. It is not inconceivable that the knowledge components of a skill derived program could constitute a major portion of a curriculum. Good teachers are knowledgeable about both their content fields and pedagogy--but the utilization of knowledge in performing the tasks of teaching is the essence of professionalism. If programs are not initially planned to develop within their students the capacity to apply the powerful concepts, principles and ideas available to them, experience has shown that it is unlikely that teachers would routinely develop those applications on their own.*

A somewhat similar case can be made about the argument that attitudes should be included as program competencies. Those institutions that choose to be explicit about attitude development as program goals with the expectation of measuring those competencies along the familiar lines of psychological attitude measurement principles (i.e., paper and pencil instruments) are likely to have difficulties in a number of areas. Attitude measurement alone is tricky to say nothing of the enormous task of changing attitudes. Continued efforts to define, measure and research attitudes in this manner are not likely to be very fruitful efforts for teacher educators. Perhaps the problem is that many have forgotten their lessons from psychology about what attitudes are and why paper and pencil attitude measures were developed in the first place. An attitude is a predisposition to behave in a certain manner and attempts to measure those predispositions were developed primarily because of the difficulties inherent in sampling and assessing actual behaviors. For example, parental attitude measures were developed by child psychologists because of the obvious technical and practical difficulties of observing parents' behaviors in their routine interactions with offspring. What parents do and say and show by their actions is what effects children and is of prime importance just as in teaching it is what a prejudiced person does, and says, or displays in interactions with children that causes harm. The point is not that attitudes - and the affective domain generally - ought to be ignored. On the contrary, since what teachers do and say to display affect as they perform the functions of teaching is what has effects on children, then it is within the functions of teaching that the domain should be included.

Statements of teaching competencies defined in terms of functions, skills, and tasks of teaching has several other highly practical advantages. It seems reasonable to expect that a professional program built upon explicit job-related skills would provide an easier transition from preservice preparation to inservice job performance and continuing education. In effect, it would be less of a transition than a progression along a continuum of skill development. Skill or function focused programs have the advantage of enabling students to more accurately perceive

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*/ B. Othanel Smith made this point in Teachers for the Real World and also noted the dearth of instructional materials for aiding prospective teachers in the acquisition and application of pedagogical knowledge. Subsequently, the federally funded protocol and training materials projects have attempted to fulfill this need.

the part each aspect of their program including knowledge and attitude development plays in their personal goals of preparation to teach.

Specificity focus - How should it be stated?

The second major dimension of what a teaching competency is involves the level of specificity with which various functions, tasks, and skills are defined. In the two examples previously given about the ability to use audiovisual aids, both contain reference to a task of teaching. One, however, is a highly specific statement - in fact, a behavioral objective - while the other illustrates a more general level of description - and still more general statements have been engendered.

This specificity-generality question is surrounded by a great deal of confusion. Much of that confusion is, no doubt, attributable to language complexities. As Norman Dodl so aptly said, "the terminology is purely arbitrary."*

However, it may be useful to return to the American Association of Colleges for Teacher Education PBTE Committee's essential characteristics of performance-based programs** to see how they have been interpreted in regard to the question of definitional specificity.

The first essential characterisitic is:

"The instructional program is designed to bring about learner achievement of specified competencies (or performance goals) which have been

- *defined from systematic analysis of the performance desired as end product (usually that of recognized practitioners) and*
- *stated in advance of instruction in terms which make it possible to determine the extent to which competency has been attained."*

This characteristic seems to be primarily an identification and description concern. The second characteristic implies more quantification:

"Evidence of the learner's achievement is obtained through assessment of learner performance, applying criteria stated in advance in terms of expected levels of accomplishment."

Interpretation of those characteristics have varied from institution to institution. Some have interpreted those statements to mean that competencies are the same as behavioral objectives and proceed to generate, literally, hundreds of them. Others have interpreted them to mean that in the long run, competencies need to be operationally defined, and the more specific objectives as well as measures of them related to a limited set of generally stated competencies need to be made public.

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*/ Norman R. Dodl, "Selecting Competency Outcomes for Teacher Education," Journal of Teacher Education Vol. XXIV, Fall 1973, pp. 194-199.

**/ AACTE Committee on Performance-Based Teacher Education, Achieving the Potential of Performance-Based Teacher Education: Recommendations (Washington, D.C.: AACTE PBTE Series: No. 16, 1974).

In fact, either approach may be legitimate as a starting point for competency identification and both are beset by problems. If behavioral objectives are chosen as the level of operationalism to be addressed in deciding what competencies shall be included in a program, measurement problems may be alleviated but there is great danger that over concentration of the goals will result in program fragmentation. Program developers who start with behavioral objectives will ultimately have to relate each of those objectives to the "performance desired as an end product." It is somewhat akin to attempting to validate theoretical constructs when operational definitions are available but where the corresponding constructs and their interrelationships have not been elaborated. It is highly likely that starting at that operational level will result in an inability to arrive at a unified conception of teaching. There is also the very real possibility of ignoring outcomes that do not readily lend themselves to the behavioral objective format. These are important considerations to be weighed in using some course conversion methods of identifying competencies.

If the decision is made to address a more limited set of generally stated function-focused goals, the problem is that the "list of competencies" cannot stand on its own. Each goal statement (competency) requires further elaboration for precise meaning. Competencies identified in general functional terms can acquire more precise meaning through further specification of theoretical underpinnings and the instructional program, but principally through the measures used to assess the competencies. Many institutions that have chosen this route have found that a major difficulty is in operationalizing their competencies through the development of competency measures and thus, seem to be temporarily stuck at operationalizing a conception of teaching through instruction.

Ultimately, the whole continuum of definitional levels has to be addressed, no matter what the starting point, if the instructional program is to be, in fact, performance-based according to both characteristics. That is, if it is to be grounded in some conception of end product teaching performance that is assessable. It is more likely that starting at a more theoretical level and proceeding to operational will insure a program that is conceptually unified and makes use of a set of competency measures that possess, at least, internal or content validity. That is, the measures may reliably reflect the conception of--or approaches to--teaching that are the program's goals. In reality, as various institutions address the question of what competencies should be included in programs, most efforts weave in and out of several levels. It is as impossible to define all competencies with the same degree of specificity as it is to describe all constructs of social science theory with the same precision. Thus, none of the examples given earlier are "complete" competency statements. With that caution in mind it is safe to say that methods for deciding what competencies should be included in a C/PBTE program differ in the theoretical-operational level at which they initially address competency selection.

Ways of Deciding What Competencies Should be Included in a C/PBTE Program

Procedures for deciding what competencies should be included in a program can be grouped in three categories roughly corresponding to the relative degree of operationalism at which they address competency selection. From least to most operational they are: theoretical, task analytical, and course conversion approaches. Probably no finished program is fully theoretically derived or totally based on task analysis or fully course-converted. Most probably contain elements

derived from all three kinds of approaches. The classification is useful both as a basis for analyzing what is occurring and for program designers to develop methods by which they can proceed to identify program goals. In the following three sections, these methods will be briefly described and program designers who would opt for one or another approach are referred to further sources of assistance.

(The following abstract summarizes the remainder of the paper.)

Strengths and weaknesses of theoretical approaches, task analysis procedures, and course conversion methods all suggest the need for further work on methodology and indicate that while there are numerous routes to competency identification, no single route would be best under all circumstances. Theoretical approaches are most likely to result in conceptually unified programs -- but can only be useful to the extent that the underlying theories have good explanatory power in the real world. Task analysis procedures for competency identification run the risk of being too firmly tied to what actually goes on in the real world to result in the generation of new knowledge about teaching and learning. Course conversion methods of identifying teaching competencies, while probably the most expedient approach, can easily result in program fragmentation and, unless combined with a more theoretical orientation, are not likely to produce fruitful hypotheses for continuing research. An eclectic approach combining the best features of all the methods may be the most useful for accomplishing the task, although the question of which is the best or most useful can only be answered through a continuing process of program evaluation and competency validation research.//

4. Richard W. Burns, "The Central Notion: Explicit Objectives," Competency-Based Teacher Education: Progress, Problems, and Prospects," ed. W. Robert Houston and Robert B. Howsam (Chicago: Science Research Associates, 1972). pp.17-33.

ABSTRACT

This chapter assesses the role and function of objectives in competency-based teacher education. It is divided into four sections. The first section, dealing with issues that surround the concept of objectives in teacher education, discusses objectives' desirability, practicability, source, nature, standardization, and teacher accountability. Section two, on problems that exist in the development and use of objectives, discusses the scope of objectives, the writing of objectives, criteria for grading, constraints, and affective objectives. In the third section, on progress and prospects, the following assessment is made based on programs completed or underway: a) it is clear that objectives can be specified for teacher education; b) it is less obvious at this time whether such objectives are good, complete, or functional. In the final summary section, it is concluded that while competency-based teacher education is at present too young to be judged a success, it certainly cannot be judged a failure.//

5. J. Bruce Burke, "Curriculum Design," Competency-Based Teacher Education: Progress, Problems, and Prospects," ed. W. Robert Houston and Robert B. Howsam (Chicago: Science Research Associates, 1972). pp.34-55.

ABSTRACT

This chapter reviews the broad spectrum of questions raised about curriculum design as teacher education advances toward accountability for teacher interns. The chapter is divided into four sections. The first section describes the conceptual framework for the design of competency-based curricula and compares its underlying assumptions with those of traditional programs. The section focuses on competency-based teacher education's emphasis on explicit learning goals, individualization, modeling, systemic approach, and autonomy. The second section considers issues raised in the design of competency-based curriculum: the question of morality ("Is competency-based education but another application of machine efficiency to our lives?"); role versatility; and capacity to cope. The third section discusses practical problems of implementing such a curriculum, such as changing institutional procedures, selecting competencies, faculty orientation and retraining, isolating students, new relationships with teacher organizations and public schools, financial support for software development, and the need for a national network. In the final section on progress to date, it is stated that no single institution has (at this writing) put all operation pieces into a working model but that the movement is becoming national.

B. EVALUATION AND ASSESSMENT IN PERFORMANCE-BASED TEACHER EDUCATION

1. John D. McNeil and W. James Popham, "The Assessment of Teacher Competency," Second Handbook of Research on Teaching, ed. Robert M. W. Travers (Chicago: Rand McNally, 1975), pp.218-244. Extract: pp.237-240

(The paper from which the following extract is taken is an extensive examination of the various views that exist about what teacher effectiveness is and how it can be evaluated. The extract is the section of the paper on teacher competency criteria.)

Desirable Attributes Of Teacher Competency Criteria

In surveying the numerous measuring approaches which have been employed to identify the effective teacher it becomes apparent that for given purposes some criteria are better than others. Perhaps the best way to promote a better fit between one's purpose and the selection of a criterion measure will be to isolate a reasonable number of attributes on which the available criterion measures differ, then rate the measures according to these attributes. One should be able to make a more defensible selection among competing criterion measures by deciding which of the several attributes are important to his particular operational decision or research investigation, then contrasting alternative measures according to whether they possess these attributes.

General Attributes

Ideally, of course, all measuring devices would possess certain positive attributes such as reliability. We would always want to devise classroom observation schedules, for example, which were quite reliable. Obviously, in selecting among alternative measures one should be attentive to whether the approach yields a relatively consistent estimate of teaching competence.

There are other general attributes which can or cannot be built into measuring devices. General attributes may be present or absent in particular members of a class of criterion measures, such as administration rating scales, but not in all members of that class. Such an attribute would be whether the measure possessed an essentially neutral orientation, that is, could be profitably used by educators with a variety of instructional viewpoints. Certain measuring instruments, e.g., observation schedules and rating scales, are so wedded to a particular view of instruction that anyone with a contrary view would find it difficult if not impossible to use the instrument. For instance, one might conceive of a classroom observation form designated so that the observer was to attend only to phenomena of interest to an advocate of operant conditioning methods. Such a form would not possess a neutral orientation and, therefore, would be less serviceable to a large number of those who must attend to many other factors. Not that highly partisan measures have no value, especially for certain research purposes, but generally criterion measures that are more neutrally oriented are to be preferred.

Another general feature which should be sought whenever possible in teacher competence measures is that it yields information about the types of instructional situations in which a given teacher functions best. This attribute can be described as an assignment indicator and, if present, would obviously be helpful for researcher and decision-maker alike. One could conceive of performance tests which might be designed so that we could discover what types of instructional objectives a teacher can best achieve for particular kinds of learners. Criterion measures which would permit this identification of the optimal role for a given teacher would be most helpful indeed.

There are other attributes of useful criterion measures which are a function of particular measures rather than a given class of measures, for example, initial cost, reusability, etc. But if a measure possesses reliability, a neutral orientation, and an assignment indicator, it has a running start toward being a useful measure for a variety of situations.

Six Attributes for Discriminating Among Criterion Measures

We can turn now to several attributes which are often present or absent in an entire class of criterion measures, for example, in (almost all) contract plan measures. These attributes are not always needed by all who are seeking a criterion measure, but for given situations one or more of these attributes will usually be requisite. Without implying any hierarchy of import, we shall briefly examine six such attributes, thus attempting to rate classes of criterion measures according to their possession of each attribute.

1. *Differentiates among teachers.* For certain situations it is imperative to discriminate among teachers. Who is best? Who is worst? Is teacher X better than teacher Z? Under what conditions will teacher A perform best? What are the separate effects of teacher A? To answer such questions a criterion measure must be sufficiently sensitive to differentiate among teachers. There are decisions where we do not have enough knowledge merely by knowing that a teacher has met a minimal level of proficiency. Both administrators and researchers, for instance, often encounter situations where they need a measure sensitive enough to assess variance in teachers' skills.

2. *Assesses learner growth.* The thrust of frequent discussions in this chapter has been to emphasize the necessity to produce criterion measures which can be used to assess the results of instructional process, not merely the process itself. In certain limited instances we may not be interested in the outcomes of instruction as reflected by modifications in the learner, but these would be few in number. Certain classes of criterion measures are notoriously deficient with respect to this attribute.

3. *Yields data uncontaminated by required inferences.* An attribute of considerable importance is whether a measure permits the acquisition of data with a minimum of *required* extrapolation on the part of the user. If all observations are made in such a way that beyond human frailty they have not been forced through a distorting inferential sieve, then the measure is better. A classroom observation system which asked the user to record the raw frequency of teacher questions would possess the attribute more so than a system which asked the user to judge the warmth of teacher questions.

4. *Adapts to teachers' goal preferences.* A desirable feature of teacher competence measures for certain selections is that they can be adjusted to the differing estimates of teachers regarding what should be taught in the schools, indeed,

what schools are for in the first place. In our society there are divergent viewpoints regarding the role of the schools, and in given subject fields even more disagreement about the best goals for that subject. A measure of teaching skill will be more useful for given situations if it can adapt to such dissimilarities in goal preferences.

5. *Presents equivalent stimulus situations.* For some purposes we would like to have criterion measures which could produce results not easily discounted because certain teachers were at a disadvantage due to deficiencies in the situations in which they were operating. If we use gross achievement scores of learners as an index of one's teaching skill, then it is not surprising that a ghetto school teacher would be perceived as being in a less advantageous position than a teacher from a wealthy surburban community. There are times when we might like to use a measure which would permit the measurement of teaching proficiency when the stimulus situations were identical or at least comparable.

6. *Contains heuristic data categories.* In a sense this final attribute is the reverse of attribute number three above which focused on the collection of data uncontaminated by required inferences. At times we want data that simply state what was seen and heard in the classroom. At other times it would be useful to gather information -- interpretations -- which illuminate the nature of the instructional tactics. For the unsophisticated individual, in particular, measures which would at least in part organize his perceptions regarding strengths and weaknesses in teaching would in certain situations be most useful. Theoretical concepts which suggest linkages between events are cases in point. The teacher or supervisor who learns to both recognize instances of the psychological principal of reinforcement (a class of events which modify responses) and to apply this principle in classroom situations should be able to generate more alternative teaching strategies than before.

TABLE 1

CLASSES OF TEACHING COMPETENCE CRITERION MEASURES WITH RESPECT TO SIX DESIRABLE ATTRIBUTES OF SUCH MEASURES

Desirable Attributes of Teacher Competence Criterion Measures	Classes of Criterion Measures							
	Systematic Observation	Administrator Ratings	Student Ratings	Poor Ratings	Self Ratings	Personal Attributes	Contract Plans	Performance Tests
1. Differentiates Among Teachers	+					+		+
2. Assesses Learner Growth	−	−	−	−	−	−	+	+
3. Yields Data Uncontaminated by Required Inferences		−	−	−	−		+	+
4. Adapts to Teachers' Goal Preferences	−				+		+	−
5. Presents Equivalent Stimulus Situations		−	−	−				+
6. Contains Heuristic Data Categories	+							

Now these six attributes should be considered by those requiring teacher competence measures to see which attributes are particularly important for the situation at hand. Thus an inspection of Table 1 may be useful when we have arranged the classes of certain measures previously considered along with the six attributes just examined. In the table a minus indicates a deficiency with respect to the attribute, a plus indicates the attribute is well satisfied by that class of criterion measure. Absence of a plus or minus reflects no predominant presence or absence of the attribute in the class of criterion measures. The following instances are offered as illustrations of how the table might be used. Principal X wants to know which of several teachers can best teach the children in his school to pronounce given vowel sounds in unfamiliar words. He therefore will select a performance test that measures the ability to teach this reading skill, for differentiation sensitivity is necessary to answer the question. Supervisor Y wants to know how successful a teacher is in achieving a certain instructional objective of great importance to that particular teacher, and how to help the teacher in the event the objective is not attained. The supervisor could use both a contract plan which allows for selection of an individual goal and a systematic observation which promises to provide a more meaningful record of teacher-pupil interaction patterns.

2. Richard L. Turner, "Rationale for Competency-Based Teacher Education and Certification," The Power of Competency-Based Teacher Education: A Report, ed. Benjamin Rosner (Boston: Allyn & Bacon, 1972). pp.3-23. Extract: pp.3-8.

(This extract from a larger document is an answer to the question, "What criteria can be used to assess the effectiveness of teacher education programs?")

LEVELS OF CRITERIA

The levels of criteria presented here are intended to make clear the points at which feedback to teacher education programs could be generated and the points at which performance-based certification could occur. These levels are applicable to all teacher education programs which are performance and data based, such as the Elementary Models, as well as those which are oriented toward pupil outcomes.

Criterion Level 1

At the highest level, the criterion against which teachers (or teaching) might be appraised consists of two parts. The first part is observation of the acts or behaviors in which the teacher engages in the classroom. The observations must be conducted with a set of instruments which permit classification of teacher behaviors in both the cognitive and affective domains. The second part is systematic analysis of the level of outcomes achieved by the teacher with the pupils he teaches. Outcomes in both the cognitive and affective domains must be included. Because of variation in the entry behaviors of students and variations in teaching contexts, the residual outcomes in pupil behavior (the terminal behaviors corrected for entry behaviors and moderating variables) should be used as the criterion measures. To be placed at Criterion Level 1, the above two-part appraisal of teacher performance must be conducted over a relatively long period of time,

probably at least two years (on a time sampling basis), with both the observational and residual pupil behavior components assessed during each of the years. The reason for the two-year period is that both teacher and pupil behavior are open to some random fluctuation and care must be taken to obtain a sufficient sample of behavior from both sources to assure fair conclusions.

There are two principal uses to be made of the data obtained at Criterion Level 1. First, if the data are obtained during the teacher's first three years of teaching experience, they might be used to certify that the performance of the teacher is at a level to warrant relatively permanent certification. How permanent the certification might be depends on whether a cyclical pattern of certification (e.g., recertification once every ten years) becomes a socially acceptable policy, or whether life certification remains as the socially acceptable policy. Second, if observational data on teachers as well as pupil performance data are included in the criterion, the relationships between the observed behavior of teachers and pupil performances can be utilized as general feedback to teacher education programs. These relationships will indicate which types of teacher behavior are most likely to be influential in bringing about particular changes in pupil behavior. Teacher education programs would thus be able to increase the amount of confidence they have in intermediate performance criteria which involve only the actions of the teacher.

Criterion Level 2

This criterion level is identical to Criterion Level 1 except that a shorter performance period is involved. Some current thinking about performance-based certification, such as that in the Comfield Model,* appears to assume a teacher performance period of one year or less, after which initial certification might be awarded. Although a performance criterion involving the latter period of time is at a high criterial level, it is sufficiently open to error attributable to fluctuations in teacher behavior, pupil behavior, and the teaching context that it inspires considerably less confidence than does criterion performance based on wider sampling over a longer period of time.

Criterion Level 3

This criterion level differs from Criterion Levels 1 and 2 in that pupil performance data are eliminated from the criterion. Judgments about competence or proficiency are thus based on the observable behaviors of the teacher rather than on the pupil outcomes associated with these behaviors. Nonetheless, this criterion level is still performance based in the sense that the teacher actually does engage in teaching and is gauged on the quality of his professional actions. How "good" or valid this criterion level is depends almost wholly on whether empirical relationships between teacher actions and pupil performance have been established through research or through data obtained by use of Criterion Levels 1 and 2.

The degree of confidence in Criterion Level 3 lies in the upper intermediate range. This criterion seems to yield sufficient confidence to be useful in the

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*/ H.D. Schalock and R. Hale, Jr. (Eds.), A Competency Based, Field Centered Systems Approach to Elementary Teacher Education, Vol. II. Final Report for Project No. 89022, Bureau of Research, Office of Education, U.S. Department of Health, Education, and Welfare, 1968.

provisional certification of teachers. It is also highly useful in teacher education programs since one may observe teachers to determine explicitly whether they evidence the behaviors which a particular teacher preparatory program claims to be producing. Observation data at this criterion level provide evidence about the efficacy of the teacher education program.

Criterion Level 4

This criterion level differs from Criterion Level 3 in that both the teaching context and the range of teacher behavior observed are restricted. The context might be a typical micro-teaching context involving a few pupils or even peers acting as students. The teacher behavior observed would be restricted to a few categories in the cognitive or in the affective domain.

This criterion lies in the intermediate range, but it inspires very modest confidence and cannot be construed as an adequate basis for performance-based certification. Rather, its utility lies in providing feedback about the efficacy of particular segments of the teacher education program and in providing diagnostic feedback to students about their own progress. It tells whether a student has acquired certain behaviors or skills and whether he can integrate these skills under specially arranged teaching conditions.

Criterion Level 5

This criterion level differs from Criterion Level 4 in that the teacher need not perform before live students (simulated students would be satisfactory). He must, however, be able to produce or show in his behavior at least one teaching skill, e.g., probing.

This criterion inspires virtually no confidence as a criterion for performance-based certification, but it is very useful for providing information about the efficacy of training materials or subcomponents of instructional modules or of courses. Its "goodness" as a criterion depends in substantial part on the extent to which the skill being assessed can be shown to be a skill associated with pupil performance outcomes as established either by research or by use of data obtained in using the higher order criteria noted above.

Criterion Level 6

This level differs from Criterion Level 5 in that the teacher need not engage in producing a performance, but rather, only show that he understands some behavior, concept, or principle germane to teaching. Within this criterion several levels of "understanding" can undoubtedly be identified. These levels of understanding can be operationalized by varying the kinds of problems the teacher is asked to respond to in accord with some type of taxonomy, such as Bloom's.* Like Criterion Level 5, the utility of this criterion is primarily to provide data about the efficacy of particular program components within teacher education. Similarly, its "goodness" as a criterion level depends largely on the extent to which knowledge of particular behaviors, concepts, or principles may ultimately be shown to be useful in predicting attainment of one or more of the higher criterion levels.

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*/ B. S. Bloom, (Ed.), Taxonomy of Educational Objectives. Handbook I: Cognitive Domain. (New York: David McKay Company, 1956).

Criterion Level 6 is concerned with the effects of a training program on improvements in teacher knowledges and understandings. Criterion Levels 5 and 4 are concerned with the effects of teacher training on improvement in pedagogic skills under laboratory or simplified training conditions. Criterion Level 3 addresses itself to the effects of training on a teacher's behavior under actual classroom conditions. The concept of pupil change as a criterion of teacher effectiveness is introduced at Criterion Levels 2 and 1. Criterion Level 2 is concerned with changes in pupil behavior that can be effected in a relatively short time period (one or two weeks) and under actual classroom conditions. Criterion Level 1 is concerned with the long range effects of teacher behavior on changes in pupil achievement and well-being.

There are fundamental differences between Criterion Levels 6 through 3, and Criterion Levels 2 and 1. Criterion Levels 6 through 3 focus directly on the impact of training on teacher behavior. Criterion Levels 2 and 1 are concerned with both the effects of training programs on teacher behavior and with the effects of teacher behavior on pupil performance.

Because teacher educators accept responsibility for the preparation of educational personnel whose performance under actual classroom conditions results in desired changes in pupil behavior, some teacher educators argue that Criterion Levels 1 and 2 are the most appropriate levels for assessing the effectiveness of training programs. The emphasis on pupil change in Criterion Levels 1 and 2, therefore, equates accountability in teacher education with school accountability. Teacher education, however, does not address itself directly to the modification of pupil behavior. It is uncertain, therefore, whether measures of school accountability are appropriate measures of the effectiveness of teacher education programs. On the other hand, teacher education does accept responsibility for the modification of teacher behavior. Training programs should, therefore, be held accountable for changing behavior.

The most appropriate criterion level for accountability in teacher education is Criterion Level 3, i.e., demonstrations of change in teacher competency under actual classroom conditions. Moreover, the evaluation of individual trainees at Criterion Level 3 provides the evidence for competency-based certification at the entry and permanent certification levels. The use of Criterion Level 3 to evaluate the effectiveness of teacher education programs and to evaluate the competencies of individual trainees for certification integrates the objectives of the teacher education programs with the requirements for professional service in the classroom. It is important, therefore, that teacher education introduce evaluation procedures at Criterion Level 3 to measure the degree of mastery attained by personnel in the program. Unfortunately, few inservice or preservice programs have carefully articulated the competencies to be acquired, nor does teacher education possess the necessary instruments to measure change in specific competencies. For these reasons, evaluations of the effectiveness of programs have relied almost exclusively upon subjective appraisals of quality by students (teachers) participating in the programs. Clearly, teacher education must adopt a more rigorous approach to the definition and evaluation of its training curricula.

Although Criterion Level 3 carries the major weight in competency-based teacher education and certification, Criterion Level 1 is the major criterion for assessing the validity of the competencies which comprise the teacher education curriculum. Assessing the validity of the curriculum is a research function. In this sense,

the research criterion (Criterion Level 1) monitoring the selection of teacher competencies is distinct from the accountability criterion (Criterion Level 3) monitoring the effectiveness of the training program./_/

3. AACTE Committee on Performance-Based Teacher Education; Achieving the Potential of Performance-Based Teacher Education: Recommendations Extract: pp.18-29; 40.

Topic 4 - Assessment

Assessment lies at the heart of PBTE. Goals of instruction must be stated in assessable terms; learner performance must be assessed and reassessed throughout the instructional process; evidence so obtained must be used to evaluate the accomplishments of the learner and the efficacy of the system. Remove assessment from PBTE and all that is left is an enumeration of goals and provision of instruction which hopefully will lead to their attainment--not much on which to pin one's hopes for significant improvement in an educational program.

But assessment is both inherently difficult and inherently threatening. Such is the nature of evidence-gathering, whether it be in law enforcement, the hard sciences, or teacher education. The search for evidence has to meet rigorous tests of impartiality, objectivity, relevance, consistency, and comprehensiveness. It always poses a threat to the status quo. Consequently, it should probably not come as any great surprise that the Committee has found little hard evidence to confirm or deny the claims of the proponents of PBTE or the counter-claims of its detractors. In most efforts to launch PBTE programs observed by Committee members, assessment has been neglected or attempted in piecemeal fashion, sometimes apparently as an afterthought. Seldom has it been carried on with sufficient rigor to test the basic hypotheses underlying the PBTE approach.

There are four major applications of assessment theory and skill in performance-based teacher education:

1. in initially defining competencies (performance goals),
2. in measuring candidates' attainment of those competencies,
3. in evaluating the effectiveness of educational procedures and materials,
4. in validating competencies (performance goals).

With respect to the definition of competencies (1 above), the requirement that specified competencies be "stated in advance of instruction in terms which make it possible to determine through assessment of learner performance the extent to which the competency has been attained" may look innocent, but it calls for a high degree of sophistication with respect to evaluation. It forces the instructor to face the question as to just what evidence would be convincing with respect to the attainment of his instructional goals. He must ask himself how he can, in the practical situation, obtain such evidence. Vague, general, fuzzy goals will not stand up under such analysis; the instructor puts himself under strong pressure to become increasingly precise in laying out just what he seeks to accomplish. The assessment problem becomes even more difficult when the personal choices of

the learner are taken into consideration in establishing instructional goals. The student as well as the instructor must then face such questions.

Assessing the attainment of competencies by specific candidates (required for 2 and 3 above) may involve a wide range of sophistication in measurement, from the relatively simple task of measuring the ability of the candidate to describe (orally or in writing) the requisite professional behavior, through evaluation of his personal performance in simulated or realistic situations, on to measurement of long-term effects on pupils resulting from the candidate's performance. Present attempts to relate a candidate's performance to long-term effects on pupils are both encouraging and disturbing; encouraging, because the research that needs to be done to establish accurately what factors do influence pupils has begun; disturbing, because some states, school districts, and colleges are developing policy positions and programs on the mistaken notion that conclusive evidence already exists.

With respect to the evaluation of the efficiency of instructional procedures and materials, such criteria as the following, in addition to mastery itself, should be considered:

1. time required by learners to master the competencies;
2. costs of instruction, including materials;
3. attitudes of learners toward procedures and materials; and
4. retention of mastery over time.

The ultimate validation of performance goals (Does specified teacher performance in fact bring about desired pupil performance?) is essentially a research task, but the more it can be built into ongoing teacher education programs the sooner we will accumulate the knowledge base we need. Thus, it is hoped that institutions with the necessary resources will so structure their experimental efforts.

> *Recommendation No. 10 - Any effort to develop a performance-based teacher education program should place major emphasis on developing and applying appropriate techniques of assessment. In recognition of the cruciality of this process and its inherent complexity, collaborative arrangements should be established between agencies interested in the development of performance-based programs and agencies employing persons skilled in assessment to make the expertise of the latter readily available in the development process.*

More concretely, such agencies as the United States Office of Education, various state departments of education, and the major foundations who underwrite performance-based programs should assist teacher education institutions and school districts to make use of expert measurement personnel on the staffs of major universities, the regional labs, the Educational Testing Service, and private institutes and corporations. In fact, they would be wise to make grants only when assured of the involvement of such personnel.*

It is the Committee's judgment that many local groups trying to cast all or part of their teacher education efforts into a performance-based mold have their

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*See Statement of special concern by Committee member Krathwohl in Appendix B-4.

priorities mixed. Because they do not grasp the full significance of evaluation or because they undertake program development with inadequate resources, and no doubt partially because evaluation is difficult and threatening, most programs put a disproportionate amount of available time and energy into development of instructional materials and program management and invest much too little in assessment.

> *Recommendation No. 11 - The development of a plan for assessing the ongoing program (to assure that present student needs are being met and to provide data for the revision of the program for the next group of students) should be completed before any program is considered fully operational.*

In this connection, the Committee recognizes that the evaluation system in any new program is likely to represent simply a first approximation; it will be expected to evolve through incremental improvements. But before the program is launched, there should at least be a basic rationale, a recognized commitment to assessment, agreement on initial sets of materials and techniques to be used, and provision for suitable record keeping. In short, those in charge of the program should know how they will manage the evaluation process. As the program develops, these instruments, techniques, and procedures should be sharpened, and budgetary and staff arrangements should be effected to make possible studies relating evidence obtained to the variables in the program judged to be most significant....

from Appendix B-4
STATEMENT OF SPECIAL CONCERN

David R. Krathwohl

(Committee members Barr, Dodl, Drummond, Jenkins, Kennamer, Maucker, McCarty, and Valencia concur with this statement.)

To be performance based implies a kind of sophistication in evaluation which is considerably beyond the techniques which are currently being employed in operating programs. Perhaps it is not unreasonable that in the early developmental stages of PBTE the greatest share of energy should be devoted to the creation of the best possible instructional process. But it is going to take a prodigious effort to develop the kind of instrumentation which PBTE requires; and we must get started on it. In many instances the demands of PBTE lie beyond our present ability to deliver such instrumentation. This is particularly true of some of the affective objectives. We need to get experimentation started to develop those evaluation procedures. There, therefore, is needed an additional recommendation which calls specific attention to this problem, and which strengthens the statements made about evaluation later in the document, especially the first paragraph on page 19:

The evaluation of a student's mastery of skills and concepts is an essential part of PBTE, yet one that is currently not getting adequate attention. New grants for the development of PBTE should be given with the understanding that there will be as much emphasis placed on the development of the process of evaluation

as is placed on the development of instructional materials. Further, there should be a marked increase in the support of experimental projects which attack some of the problems of PBTE evaluation where our present methodology is inadequate.//

4. W. Robert Houston, J. Bruce Burke, Charles E. Johnson, John H. Hansen, "Criteria for Describing and Assessing Competency Based Programs," Competency Assessment, Research, and Evaluation, ed. W. Robert Houston (Albany, New York: Multi-State Consortium on Performance Based Teacher Education, 1974), pp. 168-171. Extract

During the past few years competency based education programs and projects have proliferated extensively. Some closely reflect the criteria set forth by Elam.* Other programs claiming to be CBE appear to be only slight modifications of more conventional approaches. Survey** of CBE practices reflect considerable activity, but the quality appears to vary greatly. Some have simply translated their old programs into the "form" of CBE, while others have diligently applied CBE principles.

But both claim to be CBE. Attempting to describe or compare results of such programs is an almost impossible task.

Beginning in 1973, the Consortium of CBE Centers*** began a project to describe the various dimensions of CBE as reflected in operating programs. Such a tool could provide the basis for activities such as:

(1) Surveys of CBE activity

(2) Self-assessment of intent and progress by CBE programs

(3) Planning a document to be used by professional preparation programs

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*/ Stanley Elam, "Performance-Based Teacher Education, What is the State of the Art?" (Washington, D.C.: AACTE, 1971).

**/ Allen Schmieder, "Competency-Based Education: The State of the Scene," (Washington, D.C.: AACTE, 1973), pp. 10-11; Susan S. Sherwin, "Performance-Based Teacher Education: Results of a Recent Survey," (Princeton, N.J.: Educational Testing Service, 1973); Donald W. McCurdy, "Status Study of Competency Based Teacher Education Programs in Science," (Paper presented at the Association for the Education of Teachers in Science, March 15, 1974).

***/ Syracuse University--James Collins; Oregon--H. Del Schalock; Michigan State University--J. Bruce Burke; University of Georgia--Gilbert Shearron and Charles E. Johnson; Florida State University--Norman Dodl; Columbia University-Teachers College--Bruce Joyce; University of Wisconsin--M. Vere DeVault; University of Toledo--George E. Dickson; University of Houston--James Cooper, Wilford Weber, and W. Robert Houston. James Steffensen and Allen Schmieder represent USOE and John Hansen is Executive Secretary.

(4) Discussion device for considering the function and value of various criteria

(5) Research in institutional change, programmatic strategies, and organizational constructs.

The following criteria serve as the basis for this effort. While still regarded as a "working list," it represents the third major revision and considerable debate over the past year by a wide range of persons. In its final form, to be published by the Multi-State Consortium in the fall, 1974, each criterion will be supported by a set of indicators and program descriptors.

The purpose of this is to provide another tool in the improvement of professional education programs. Feedback from readers relative to these criteria and to the finished document will be appreciated.

Criteria for Assessing the Degree to Which Professional Preparation Programs Are Competency Based

Competency Specifications

1. Competency statements are specified and revised based upon an analysis of job definition and a theoretical formulation of professional responsibilities.

2. Competency statements describe outcomes expected from the performance of profession-related functions, or those knowledges, skills, and attitudes thought to be essential to the performance of those functions.

3. Competency statements facilitate criterion-referenced assessment.

4. Competencies are treated as tentative predictors of professional effectiveness, and subjected to continual validation procedures.

5. Competencies are specified and made public prior to instruction.

6. Learners completing the CBE program demonstrate a wide range of competency profiles.

Instruction

7. The instructional program is derived from and linked to specified competencies.

8. Instruction which supports competency development is organized into units of manageable size.

9. Instruction is organized and constituted so as to accommodate learner style, sequence preference, pacing, and perceived needs.

10. Learner progress is determined by demonstrated competency.

11. The extent of learner's progress in demonstrating competencies is made known to him throughout the program.

12. Instructional specifications are reviewed and revised based on learner feedback data.

Assessment

13. Competency measures are validly related to competency statements.

14. Competency measures are specific, realistic, and sensitive to nuance.

    14.1 Procedures for measuring competency demonstration assure quality and consistency.

    14.2 Competency measures allow for the influence of setting variables upon performance.

15. Competency measures discriminate on the basis of standards set for competency demonstration.

16. Data provided by competency measures are manageable and useful in decision making.

17. Assessment procedures and criteria are described and made public prior to instruction.

Governance and Management

18. Statements of policy exist that dictate in broad outline the intended structure, content, operation and resource base of the program, including the teaching competencies to be demonstrated for exit from the program.

19. Formally recognized procedures and mechanisms exist for arriving at policy decisions.

    19.1 A formally recognized policy making (governing) body exists for the program.

    19.2 All institutions, agencies, organizations, and groups participating in the program are represented in policy decisions that affect the program.

    19.3 Policy decisions are supported by, and made after consideration of, data on program effectiveness and resources required.

20. Management functions, responsibilities, procedures, and mechanisms are clearly defined and made explicit.

    20.1 Management decisions reflect state program philosophy and policy.

    20.2 The identified professional with responsibility for decision has authority and resources to implement the decision.

    20.3 Program operations are designed to model the characteristics desired of schools and classrooms in which program graduates will teach.

20.3a Job definitions, staff selections, and responsibility assignments are linked to the management functions that exist.

20.4 Formally recognized procedures and mechanisms exist for arriving at the various levels of program mangement decisions.

Staff Development

21. Program staff attempt to model the attitudes and behaviors desired of students in the program.

22. Provisions are made for staff orientation, assessment, and improvement.

23. Staff development programs are based upon and engaged in after consideration of data on staff performance.

Total Program

24. Research and dissemination activities are an integral part of the total instructional system.

24.1 A research strategy for the validation and revision of program components exists and is operational.

24.2 A data-based management system is operational.

24.3 Procedures for systematic use of available data exist.

25. Institutional flexibility is sufficient for all aspects of the program.

25.1 Reward structure in the institution support CBTE roles and requirements.

25.2 Financial structure (monies and other resources) in the system support collaborative arrangements necessary for the program.

25.3 Course, grading, and program revision procedures support the tentativeness necessary to implement the program.

26. The program is planned and operated as a totally unified, integrated system.

5. Frederick J. McDonald, "Evaluation of Teaching Behavior," Competency-Based Teacher Education: Progress, Problems, and Prospects (Chicago: Science Research Associates, 1972), pp.56-74.

ABSTRACT

The early portions of this chapter review the current state of the art of measuring teaching behavior and assess it as "dismal." It is stated that the most obvious fact about the measurement of teaching behavior is the lack of

universal agreement about what is to be measured. To correct this lack, the need for a taxonomy of teaching behaviors is stressed, though it is added that many existing taxonomies are unsatisfactory because they do not have an ordering principle. The author describes a suggested taxonomy of teaching behavior adapted from Guilford's taxonomy of intelligent behavior. The remainder of the chapter discusses other problems such as determining both the units of measurement and the criteria for evaluation, and the sampling problem which occurs in the absence of a taxonomy. //

6. George E. Dickson, ed., Research and Evaluation in Operational Competency-Based Teacher Education Programs, Educational Comment I/1975 (Toledo, Ohio: University of Toledo, College of Education, 1975).

ABSTRACT

This is a collection of papers presented at a 1974 conference on research and evaluation in operational competency-based teacher education (CBTE) programs. Two conceptual models for research and evaluation of CBTE activities were presented at the conference and the presentations of these models are the first two chapters of this collection: "A Comprehensive Medley-Soar Toledo Model for Research in Teacher Education" and "The Oregon College of Education--Teaching Research Division Paradigm for Research on Teacher Preparation." Four papers on support systems which must be involved in research and evaluation in CBTE follow: "A Computer Management System for Performance Based Curriculum (Comspec);" "Field-Based Support Systems for Research and Evaluation;" "From Rock Through Melon to Mush: The Place of the Teaching Center in Research and Evaluation;" and "Support Systems to In-Service CBTE Personnel, On Campus and Off Campus." The next paper is a discussion of the comprehensive research and evaluation model developed at the University of Toledo which is being used to evaluate the university CBTE program at both elementary and secondary teacher education levels. The final paper is a "Proposal for a Consortium of States to Develop a National Program to Improve Teaching Effectiveness." //

NOTE

The reader is referred to the article "Accountability: Assessment Problems and Possibilities," by Robert S. Soar, which is presented in full on pp. 82-91 of the Source Book. This article contains material that is also relevant to the evaluation and assessment of performance-based teacher education.

C. PERSONALIZATION AND INDIVIDUALIZATION IN PERFORMANCE-BASED TEACHER EDUCATION

1. George E. Dickson, "Considering the Unifying Theme: Competency-Based Teacher Education," Partners for Educational Reform and Renewal, ed. George E. Dickson, Richard W. Saxe, et al., (Berkeley, Calif.: McCutchan, 1973), pp.11-29. Extract: pp.19-21.

Personalization and Individualization

Competency-based teacher education programs are sometimes criticized as being nonhumanistic. Although we reject this charge, we acknowledge the concern as valid. For programs to be both humanistic and relevant for students they must be personalized. "Personalization" requires a variety of strategies that individualize and make more personal the learning-teaching process. The word personalization has a meaning beyond the term individualization. Individualization generally refers to providing educational opportunities for a student to engage in learning activities at his own rate, sometimes independently, sometimes with others. Individualization has many instructional forms, and some of these tend to be abstract and to lack humanness. Personalization of instruction, on the other hand, is the attempt to particularize instruction by being more concerned with the diverse interests, achievements, and activities of each learner.

The systems approach to the development of competency-based teacher education requires a continuous, regenerative effort to design, develop, and operationalize a teacher education program. Personalization requires that all persons, including students, who have any role in the programmatic effort be involved. Each student's program will vary to some extent on the basis of his interest, specialization, background of knowledge, skills, and personal learning style. Personalization requires a continuing relationship among the college faculty, the students, and other involved persons throughout the program's development and operation.

The student in particular is expected to interact continuously with the instructional staff, whether they are college faculty or school personnel. Interaction should result in definition and negotiation of the competencies to be developed by the student, the context in which such competencies will be demonstrated, and the criteria by which they will be judged. The concept of personalization assumes that not all students are alike and recognizes their individual differences. Consequently, the basic objective is to provide a program of teacher education that will achieve broad competence for prospective teachers but at the same time will single out and promote teacher individuality. The utilization of faculty, cooperative teachers, and other instructional personnel is also guided by the concepts of personalization and individualization.

The merit of personalization is that students will know exactly what they want to do and what they can do. They are then held accountable for demonstrating the competencies they have participated in defining and which they have contracted to achieve. This calls for assessment procedures considerably different from those presently in practice. In competency-based teacher education, assessment is "criterion referenced" in terms of the three previously mentioned classes of criteria--knowledge, skills, and products. When seeking the products of a teacher's behavior in assessing competency, competence is assessed in specific situations where specific objectives are achieved and should not be thought of as abstract or generic. This achievement of situation-specific competence will occur in real life educational settings, with real pupils working toward real objectives. The

practice will result in teachers with markedly different styles of teaching who can produce predictable educational outcomes. Competency-based teacher education attempts to prepare prospective teachers who will provide a personalized and individualized learning environment for children. We find it only reasonable that a teacher education program should reflect a similar learning environment.//

2. M. Vere DeVault, "Individualizing Instruction in CBTE," Exploring Competency Based Education, ed. W. Robert Houston (Berkeley, Calif.: McCutchan, 1974), pp.37-46.

ABSTRACT

The author states that two assumptions provide direction for the position presented in this chapter: a) an essential ingredient of competency-based teacher education is individualized instruction; and b) there is a lack of communication about what is meant by individualized instruction which has handicapped planning and implementing individualized instruction in CBTE and school programs. The focus of this chapter is the improvement of communication among staff members in planning a given CBTE program. The author has observed individualized programs and instruction and developed an instrument through which these programs can be concisely described; out of this experience came the identification of a number of components. This chapter provides a descriptor for the analysis of individualized instruction and a discussion of two of these components, "sequence" and "media." The descriptor has been designed to answer questions about the specific nature of a given individualized instruction program.//

3. Paul Nash, A Humanistic Approach to Performance-Based Teacher Education (Washington, D.C.: American Association of Colleges for Teacher Education, 1973).

ABSTRACT

Questions are raised in making performance-based teacher Education (PBTE) a more humanistic enterprise. A definition of the term "humanistic" could include such qualities as freedom, uniqueness, creativity, productivity, wholeness, responsibility, and social humanization. As to freedom, a humanistic approach to PBTE would encourage people to act deliberately and intentionally out of self-framed goals; a problem is that such goals are not externally measurable. PBTE would in theory protect one's uniqueness, but would find conflict with the general standards of behavior society demands. The flexibility of PBTE could foster creativity, but this might suffer under the need for measurement. The humanistic idea of productivity, which is different from that of industry, holds that productiveness comes from the center of the person. The wholeness of an individual might suffer in PBTE with its possible emphasis on short-term, isolated gains. The matter of teacher responsibility and PBTE brings back the question of the nature of teacher responsibility. As to social humanization, perhaps making teachers behave more efficiently in the context of the present authority structure may entrench the forces that have led to dehumanization.//

D. FIELD-BASED SUPPORT SYSTEMS IN PERFORMANCE-BASED TEACHER EDUCATION

1. Gilbert F. Shearron, "Field-Based Support Systems for Research and Evaluation," Research and Evaluation in Operational Competency-Based Teacher Education Programs, Educational Comment I/1975, ed. George Dickson, (Toledo, Ohio: University of Toledo, College of Education, 1975), pp. 64-74.

ABSTRACT

This paper presents information on the development of field-based support systems for competency-based preservice teacher education. In this paper, field-based support systems are defined as a group of schools and school districts which work closely with a college or university in a teacher training effort. The paper is divided into two parts. Part I considers the theoretical aspects of a field-based support system. The requirements of such a system for competency-based teacher education are stated to come from its three components: training, research, and evaluation. Part II describes attempts to develop field-based support systems. Much of the section is developed from the author's experience at the University of Georgia. Among the topics discussed are identifying and assessing competencies, the training function, and program evaluation. /__/

SECTION THREE

IMPLICATIONS OF PERFORMANCE-BASED TEACHER EDUCATION

Given definitions and rationales of PBTE, and given descriptions and discussions of its various aspects, the next question to be answered is, as the Latin grammarian used to put it at high school commencement, "Quo Vadis?--Whither do we go?" What are the implications of performance-based teacher education? What is its potential for educational improvements and also educational problems? This section presents articles, extracts, and abstracts of papers that discuss implications of PBTE, covering the following topics: a) general implications; b) staff development; c) governance; d) accountability; e) state agencies; and f) accreditation.

A. GENERAL IMPLICATIONS OF PERFORMANCE-BASED TEACHER EDUCATION

1. Karl Massanari, "CBTE's Potential for Improving Educational Personnel Development," Journal of Teacher Education 24, no.3 (Fall 1973), pp. 244-247.

Contrary to what some people believe, competency-based teacher education (CBTE)* is not a neatly packaged, sharply defined program which training agencies can transplant from some outside source. Hopefully, it will never be that, for it would lose much of its power to generate change. Rather, it is a dynamic and catalytic strategy for educational personnel development** and as such consists of little or no predetermined content. Because it is essentially process oriented, its substance in a particular context will emerge from employing that process.

The CBTE strategy does not impose on a training agency any particular conceptualization of a professional's role, set of desired competencies or objectives, learning experiences for students, or assessment techniques to determine the achievement of the competencies. Such content emerges from the implementation of the strategy in a specific context.

Simply stated, CBTE strategy means that professional roles will be conceptualized, desired competencies will be identified in relation to role conceptualization, objectives will be made explicitly and publicly, instruction and learning experiences will facilitate the achievement of the competencies and objectives with heavy emphasis on individualization, and achievement of the competencies and objectives will be demonstrated by students before exiting from a training program. A program implemented through this strategy will be open and regenerative because each aspect of the program and the program as a whole will be subjected to continuous review and modification in light of the feedback from research and experience. As a strategy for educational personnel development, CBTE is pregnant with potential for generating reforms, intelligent leadership, and adequate support for development and research.

Most strategies for bringing about change are surrounded with problems and CBTE is no exception. There are problems in implementing the strategy which create other educational or political problems. They include: Who decides what about teacher education? Who determines the desired competencies needed and how they are to be assessed? How does one assess teaching behavior? How does one assess the effect of teaching behavior on pupil learning? How does one manage a CBTE program with all of its complexities? How does one obtain the necessary support for developmental activities?

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*/ Some people prefer the term performance based rather than competency based. There are arguments which support both viewpoints. In this paper, the term competency-based teacher education is used because it is broader in scope (including knowledge, performance, and consequent pupil learning) and because it implies a dimension of quality for teacher behavior (performance is essentially a neutral concept).

**/ The term educational personnel development is used to convey the idea that the CBTE strategy is applicable to training programs for all kinds of educational personnel. There is nothing inherent in the strategy which limits its application only to the preparation of classroom teachers (teacher education).

This article does not analyze these problems or their solutions. The point is how one views these problems. This paper views them as challenges to be met.

CBTE strategy generates power through unleashed forces which push educators to reconceptualize the nature of training programs. Its implementation forces educators to refocus efforts, to develop new kinds of training programs, and to introduce new program characteristics to existing programs.

Each push to educators has its own arena of opportunities and problems. Each individually is dynamic and generates other pushes. In addition, the pushes are interrelated and affect each other producing a synergistic effect which adds further to the power of CBTE strategy.

While these pushes provide general direction, they do not define exactly what should be done. They are oriented to process rather than content or substance. Therefore, harnessing these forces requires intelligent leadership; realizing their full potential requires adequate development and research support.

What then are the pushes which are generated by the CBTE strategy?

CBTE pushes educators to ask the right questions at the right time.

The questions are not new questions; they have been the concerns of teacher educators and society for a long time. Certain questions must be asked and answered if education is to be improved: What is the role of the school? What are the needs of children and youth? What kinds of competencies do teachers need? How can we best assist teachers to achieve the desired competencies? How can we determine that teachers and other educational personnel are competent? How can we keep training programs abreast with societal needs? Answers to these and other fundamental questions are the foundation stones on which educational personnel development must be built.

More basic questions arise: Who determines their answers? Who decides what about educational personnel development? CBTE implies that the best answers will come from a cooperative approach to decision making. The professional teacher educator must initiate the processes leading to that end. CBTE pushes educators in these directions on a continuing basis and at the right time.

CBTE pushes educators to define professional roles more clearly.

The logical starting point is to conceptualize the nature of the professional role for which a program is being designed. This process requires that roles be defined in relation to three considerations: *function, context, and time.* Function involves the task and what the professional does or should do. Context is the setting where the professional performs his role. Time refers to when the role is performed. Role clarification is not a new concern: Educators, schools, and communities have addressed this problem for decades. Before training programs are designed, CBTE strategy requires the clear and public definition of professional roles. This is not to suggest a bronze-cast definition; rather, it presently defines what a particular preparation program is to do. The definition is subject to review and modification in light of experience and research.

CBTE pushes educators to design educational personnel development programs in their totality and in relation to the competencies required for particular roles.

Some improvements in preparation and staff development programs are brought about through a bits-and-pieces approach but produce significant change. CBTE

strategy forces educators to consider the program Gestalt rather than its bits and pieces. The Gestalt should be conceptualized in relation to the competencies required for particular professional roles. Furthermore, professional preparation must be viewed as career-long rather than preservice in nature.

CBTE pushes educators to relate preservice preparation programs more closely to the schools and the profession.

A most perplexing problem over the years has been how to relate theory and practice. Should theory or practice come first? Should they be integrated? How much theory and how much practice? Should practice be simulated or provided in real life situations or both? Implementation of CBTE strategy pushes educators to relate theory and practice in a systematic way and in doing so to make more effective use of the schools.

CBTE pushes educators to explicate program objectives and to make them public.

The importance of objectives in program planning and in instruction has been recognized by educators for a long time. CBTE strategy not only recognizes this importance but gives it peculiar significance. It is a focus-on-objectives strategy. It requires that they be made public. It requires that they be directly related to the competencies needed by the professional for which the training program is designed.

Objectives may be classified as to types depending on the viewpoint of the classifier. At least three types are generally agreed upon: knowledge, performance, and consequence. Knowledge objectives refer to what the student knows, performance objectives to the application of knowledge and skills in simulated and real life situations, and consequence objectives to the results of performance in terms of pupil learning. CBTE pushes educators to incorporate all three types of objectives in program planning and in assessing the competence of the student preparing for a professional role.

CBTE pushes educators to provide instruction and learning experiences which facilitate the achievement of the desired objectives.

Relating instruction and learning to objectives is a professional obligation of educators. However, the pressures brought about by adopted textbooks, the special interests and teaching styles of instructors, and other factors often get in the way of relating instruction and learning to the real objectives. CBTE strategy requires this relationship on a continuing basis. Furthermore, educators will be pushed to modularize instruction and the learning experiences in support of the desired objectives.

CBTE pushes educators to individualize and to personalize instruction and learning experiences.

Providing for individual learner differences has been advocated for decades as an attribute of good instruction. Similarly, designing programs of study in accord with learner needs has been recognized as sound educational practice. While these ideas have been recognized as desirable educational principles, educators have not been very successful in incorporating them into educational practice. Certain obstacles, some beyond the control of educators, have stood in the way. Because CBTE initially takes into account a student's achievement level and because it incorporates self-paced learning, educators are pushed to attend to individual learner needs, learning rates, and learning styles.

Instruction is personalized when students have a voice in determining the objectives they are expected to demonstrate, are free to select learning experiences of their choice to achieve the objectives, participate in determining the conditions in which their competencies are demonstrated, have opportunities for small group work with peers and instructors, and receive continuous advisement and counseling. CBTE pushes educators in these directions.

CBTE pushes those who provide instruction to facilitate learning rather than merely dispense information.

When instruction and learning experiences are individualized and responsibility for learning is shifted to the learner, the instructor's role changes. Implementing CBTE forces a role reconceptualization in a preparation program. The instructor becomes a facilitator, one who assists learners to achieve objectives.

CBTE pushes educators to develop and use new kinds of training materials.

CBTE requires resources not readily available in most non-CBTE-type training programs. An instructional program which supports the achievement of specific individual objectives requires new training materials. These training materials will draw heavily on the resources of educational technology and the schools. CBTE strategy further pushes educators to field test and to validate the training materials.

CBTE pushes educators to develop and use new kinds of management systems.

Because CBTE emphasizes competencies and objectives, individualization of instruction, reconceptualization of faculty roles, effective use of the schools, new kinds of training materials, and assessment, new kinds of management procedures are needed to facilitate effective operation. A related characteristic is periodic review and modification of the management system based on experience.

CBTE pushes educators to obtain or develop and to apply appropriate assessment techniques.

While assessment has always been problematic for educators, it is particularly critical for CBTE. CBTE is heavily process oriented because it emphasizes the demonstration of competence. Implementation of CBTE requires assessment techniques to determine the appropriateness of given program competencies, the achievement of the selected competencies, the effectiveness of training materials and procedures, and the effectiveness of program management. CBTE pushes educators to obtain or develop assessment techniques which are applicable to all of these program elements. It pushes them both to develop new assessment techniques and to make clear to the profession and to society that new kinds of assessment techniques are needed and will be used. CBTE pushes educators to break through the narrow assessment boundaries imposed by the scarcity of available techniques.

CBTE pushes educators to conduct research and provides direction for research activity.

Like other teacher education programs, CBTE is based on a number of untested assumptions. Identified professional role competencies are only tentative. They

need to be validated. Judgments about the achievement of those competencies by trainees also need validation. Program operation effectiveness needs to be monitored. The relationship of teacher behavior to pupil learning needs further attention through research. CBTE pushes educators and researchers to address themselves to these and other problems. Through such efforts, CBTE programs are kept open and regenerative.

CBTE pushes educators to broaden the decision-making base.

A cooperative approach to decision making in teacher education has been supported in educational literature for nearly three decades. A number of colleges and universities practice it in varying degrees. However, because the implementation of CBTE places great emphasis on answers to fundamental questions--as noted earlier--and on effective relationships with the profession and schools, educators will be pushed to a greater extent than ever before to include not only colleges and universities, but also the schools, the organized profession, communities, and students.

CBTE pushes educators to be accountable for what they do.

CBTE is much more than accountability; the terms are not synonymous. Implementation of CBTE requires program accountability--training evidence to support its claims. Students will be held accountable for demonstration of desired competencies.

CBTE pushes educators to keep training programs abreast with the state of the art and responsive to societal needs through a systematic change strategy.

American society is continuously undergoing change at an accelerating rate. The state of the art in education is advancing at a much slower rate. Teacher education and staff development programs must have the capacity to respond to change and to do so more efficiently and effectively than in the past. CBTE provides a systematic basis for effecting change on a continuing basis.

CBTE pushes educators in all of the above directions at the same time.

Each push enumerated above is dynamic in its own way. Since the pushes are interrelated, they cannot be implemented independently. When they are implemented in combination, the resulting synergistic effect increases even more the power that is generated by CBTE.

Some people believe that CBTE is just another development which will fade away into the oblivion of educational faddism. On the other hand, some of us believe that CBTE--given intelligent leadership and adequate development and research support--can generate the kinds of reform so long sought and now so urgently needed. Experiences in implementing CBTE programs, the quality of leadership provided, and the amount of support allocated to development and research will be major factors in determining whether CBTE's potential for improving educational personnel development is attained.[7]

2. Howard L. Jones, "Implementation of Programs," Competency-Based Teacher Education, ed. W. Robert Houston and Robert B. Howsam (Chicago: Science Research Associates, 1972), pp.102-142.

ABSTRACT

This chapter discusses the progress being made in implementation of competency-based teacher education programs and the problems that have arisen in relation to implementation. The author states that the real strength of the competency-based effort lies in its emphasis on total programs rather than on course-by-course development. The author stresses the need not just to *adopt* programs but to *adapt* to programs. Resources and model programs are cited. Among the topics discussed are the following: a) selection and implementation of objectives; b) instructional activities, c) new faculty roles, d) assessment, e) personalization and f) systems in competency-based programs.

B. STAFF DEVELOPMENT AND PERFORMANCE-BASED TEACHER EDUCATION

1. William H. Drummond, "The Meaning and Application of Performance Criteria in Staff Development," Phi Delta Kappan 52, no.1 (September 1970), pp.32-35.

Two questions confront those institutions, organizations, and agencies involved with teacher education and staff development:

1. What is it that we want people to be able to do in order to play certain professional roles?

2. How will we (institutions, organizations, and agencies) help unique individuals become what they want to become individually and still achieve competence in playing the roles we have defined?

The first question calls for the definition of a variety of roles based upon organizational (societal) needs. The second requires a unique and personal definition of a role based upon both institutional expectations and individual needs and goals. These questions and the underlying tension between individual and organizational goals are not new in teacher education nor in the larger society. What appears to be new is the pressure to move toward explicitness in answering these questions. As one who has had experience in trying to help others see the possibilities of using technology for improving the ways teachers are now being prepared, I have learned that I must make explicit my own beliefs and values. The anxieties which arise from change or the threat of change (especially change which may be viewed as dehumanizing), call for an expression of the change agent's motives. The purpose of this paper is to discuss ramifications of the application of systems technology to teacher education and staff development in a democratic context. To put it another way: Of those people who read this paper, 65%, when asked to report its meaning, will state that the author believes the application of performance criteria in teacher education and staff development can be liberating -- that is, can help the individual practitioner be more self-directive, more competent, more professional.

I shall provide: 1) a statement of beliefs and values concerning the application of technology to education; 2) a set of principles for program development; 3) institutional considerations in the use of performance criteria; 4) individual considerations in the application of performance criteria for staff development; and 5) a summary of the changes in teacher education which logically follow from the ideas presented.

Beliefs and Values

1. Whatever the instructional or learning system established, it should support societal and human values, such as the following:

   a. Every individual is of infinite value.

   b. Every individual is unique.

   c. Every individual has a right to become himself.

   d. Education should help a person become free. (Freedom is the power to choose from among alternatives with the acceptance of the consequences for the choices made.)

   e. People, given the truth, will usually make wise choices.

   f. Power (political and economic) must be widely shared among all the people if tyranny is to be avoided.

g. Existing political processes can be used for change and, in fact, are our best-known means for peaceful change.

h. Institutions and agencies are or continue to be valuable only as they help achieve the persistent aspirations of man.

i. The good society is the open society.

j. People are more important than things.

2. Individuals are the synthesizers of experience. Since each individual is unique, each person possesses and is developing his own set of perceptions, needs, and aspirations.

3. Individualization requires that the learner be the agent for choosing and undergoing the next learning experience. Sequencing, therefore, is a sacred right of the learner.

4. The teacher using his resources (knowledge, skills, resources, artistry, and his technology) is responsible for:

a. discovering and diagonosing individual learner needs;

b. projecting (being ready for) probable learner goals;

c. communicating with the learner and others significant to the learner;

d. negotiating agreements with the learner regarding his goals and objectives;

e. providing alternative activities (ways) and an appropriate environment for the learner to achieve agreed-upon objectives, or helping the learner create new alternatives and environments for himself;

f. investing enough time, psychic energy, and affection to see the learner through to a satisfying achievement of his agreed-upon objective(s);

g. providing timely feedback and encouragement during and after each learning activity;

h. collecting data which might be used for subsequent planning and work.

Program Development Principles

Considering the values and beliefs just expressed and the present state of the art of applying technology to the preparation of teachers, the following principles seem to have power for those who are involved in planning and designing new or different preparation programs:

1. Those institutions and agencies which have a stake in the nature of staff development should be involved in the design and the operation of preparation programs. This means that organizations other than colleges and universities which have traditionally assumed responsibility for preparation should also collaborate in staff development activities. They include: school organizations, representing the interests of parents, citizens generally, and the administrative authority of the schools; and professional associations, representing the special interests and the general interests of persons practicing in the profession.

2. The components of preparation programs, alternative learning environments, and experiences made available to prospective students of teaching should be based upon an examination of professional roles (actual or desired) and consideration of the related performance outcomes sought. Performance outcomes in this context deal with both the performance of teachers and the consequent performance of pupils engaged in learning under the supervision of those teachers.

3. Program components need to be individualized to allow persons to progress and develop at their own rates, consistent with their unique personality and learning styles. This implies that:

a. there is no one way to achieve any particular performance objective;

b. model performances should be available (live and on film) demonstrating different modes and styles;

c. real choices are available to the individual which are within his perceptual field; and

d. when none of the available prearranged choices are suitable to and for the individual, he and the training staff may create or allow to be created additional alternatives. The number and ordering of experiences should be negotiated between the individual and those who share in the responsibility for his preparation and competence.

4. Program components should be designed so that feedback (and assistance in evaluation) is provided to individual participants and to those who conduct the programs. Feedback consists of having a person see, hear, or feel how others reacted to his performance. Feedback may have evaluative overtones (it usually does to the person performing, because he has expectations for himself), but it may be designed to avoid assessment and evaluation by others. In any case, provisions should exist for participants (trainees and trainers) to initiate and become involved in program change.

5. Programs should foster self-renewal and professional development throughout the person's career. This means that the persons who become engaged in a preparation program should inductively take on high standards of performance for themselves and soon realize that they will need to be involved continuously in preparation (learning and changing) throughout their careers. It further means that participants (trainers and trainees) need to be encouraged and rewarded for assuming responsibility for their own development. In their training, therefore, they should learn to project immediate and long-range goals for themselves and design or select creative and appropriate means for achieving their designated goals. In addition, participants will need to learn how to work effectively with others in the achievement of personal and professional development goals.

6. Programs of staff development should facilitate professional movement and change. As persons engaged in educational work gain experience and expertise, they should be increasingly free to move from one role to another throughout the educational enterprise. Assignment, training, and certification functions should make such movement relatively easy.

The six principles just enumerated hit hard at the problems associated with the application of technology to the educational process in a society which values participation and individual freedom. Taken individually, each principle makes sense and seems relatively easy to apply and implement, but taken collectively the principles are difficult; they conflict or require accomodation one with another. For example, it is possible to broaden the base of participation in program planning by making school organizations and professional associations equal partners with the colleges in program development; electronic communication and rapid transportation make this feasible. But when programs also are to be individualized, self-developing, and more open and flexible, fundamental change in the whole system seems required. My basic thesis is that fundamental change in the nature of staff development is required and that systems technology, if applied humanely, provides a means for promoting that change.

Institutional Considerations

Assuming that the legal authority for preparation, certification, assignment, and staff development is delegated by the state to the agencies or organizations

suggested above through the approval of their programs,* what criteria should be applied to programs for their approval and how should institutions respond to such criteria? The following criteria are suggested:

1. The agencies of teacher education and staff development (colleges, school organizations, and professional associations) will describe agreed-upon arrangements which they have made to insure collaboration in planning and conducting programs.

2. Each agency will furnish evidence of its commitment to the programs in which it is participating. The combined set of agencies will furnish evidence that they have the necessary human and material resources to field the programs for which they are requesting approval.

3. The agencies of teacher education and staff development will describe the roles that holders of each certificate (persons who complete the designated program) are expected to perform. Since sets of agencies across a state have their own unique qualities, since the nature of communities and neighborhoods varies widely, and since arrangements and resources also vary, it is expected that different role descriptions may be written for different teaching and learning situations. Consideration of desirable change in educational practices and settings should always be included in developing role descriptions.

4. The agencies will describe the essential competencies (performance outcomes) required of persons who wish to play the roles described and will differentiate expectations, when appropriate, at various levels (program entry level, intern level, etc.).

5. The agencies will specify the kinds of evidence they will accept as indication that a person has attained the competencies described above which are believed necessary for a person to play a specified role at a given level. For continuing program approval, agencies will describe the nature and extent of research conducted to evaluate the validity of the performance criteria being applied in connection with the listed competencies.

6. The agencies will describe the arrangements made for: a) individualizing programs, b) providing feedback to the participants (trainees and trainers) about their performance, and c) providing feedback to the agencies so that program change can occur.

7. The agencies will describe the agreed-upon arrangements made for recommending or concurring with a change of a person's certification level.

Self-Developing and Role-Defining

These seven criteria require the agencies of teacher education and staff development to answer the two questions raised at the beginning of this paper. They must make explicit the various role options for which they wish to help people prepare, show how they will organize their collective resources into programs, and then describe how they will assist individuals who choose to engage in a given program to achieve success in that program. There are two levels of

*/ An assumption is made here that the state's role is primarily one of insuring that preparation processes are spelled out and that systems remain open.

decision involved in the application of the principles of program development and the seven criteria for program approval: 1) the institutional, role-defining; and 2) the individual, self-developing.

Illustration: Suppose several preparation agencies in a given geographic area wish to be involved in elementary teacher preparation and, through collaborative discussion and planning, decide to propose five different role (model) definitions for elementary teacher education. What these definitions would consist of, whether or not all five would be available to all students, and the basic nature of preparation arrangements and programs would be institutional (interagency) decisions; assuming, of course, that they meet the criteria established for program approval. The person wanting to become an elementary teacher in the geographic area could choose one of the five programs available or choose not to go ahead with elementary teacher preparation in that geographic area (a go, no-go decision).

Suppose, then, that a person chooses one of the five elementary programs available. He has in effect chosen a set of agreed-upon goals, performance objectives, etc., and the second level of decision making becomes operative. The agencies involved would make available a variety of learning experiences for each objective, and the individual would have almost unlimited freedom in choosing and creating learning experiences which help him achieve criterion-level behavior.*

The real power of this two-level concept is that the acceptance by the trainee of agreed-upon goals allows the trainer to move away from telling and directing activities to helping and consulting activities.

Individual Considerations

The key to professionalism in teaching is the establishment in the ethos of the school of a truly professional role for the teacher -- a role characterized by decentralization of decision making involving the welfare of clients (students) and a high degree of self-actualization by the teacher regarding the way he plays his role. This means, of course, that the procedures created for [illegible]ring teachers have to be consistent with the goals of development, for self-rene[illegible].

Assuming that the local community, local school staffs, the organized profession, the academic community, and the citizens of the state impinge upon the role of the teacher, how can the role be opened so that persons playing the role can be freer, more responsible, more idiosyncratic?

The application of systems technology and performance criteria makes this possible: The system requires that the objective of training be clear, that the individual undergoing the training get some notion of where he is in relation to the objectives; that he, again, sees where he is in relation to the objective and, again, project and choose an action until he achieves a criterion level of performance. The system and the technology should serve the decisions made by the people involved, not vice versa.

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*/ The reader should remember that certificates issued through approved programs are state certificates and are, therefore, acceptable for employment in any geographic region of the state and can be valid in all states in accordance with interstate agreements. Since each new assignment brings new learning needs, the individual will need to associate himself with staff development opportunities wherever he lives, to help himself and others with professional improvement and renewal.

The competencies included in the role definitions should be broad-gauged and agreed-upon by the agencies in a preparation consortium. These definitions should provide alternatives in function and style; models operating in various environments should be available to help persons make the role alternatives more real. The institutional constraints on each role need to be as open as they can be so that choice can be forthright.

Once a role has been selected, including the list of competencies and performance criteria, individuals should be free to demonstrate their competence (or to improve their competence) in creative and unique ways. Alternative ways others have used for learning should be available for the individual's choice. If no alternative is available that is suitable for the trainee, he and his trainers should be free to create new alternatives which then can be added to the bank of ideas available to other trainees. In every case, the individual should be able to choose the activities in which he will engage and when he will engage in them. He should be encouraged to establish performance objectives and criteria above and beyond those specified by the agencies of teacher education and staff development, and then use the resources of these agencies to achieve his own unique standards of performance.

Implied Changes in Teacher Education

If the ideas suggested above are acceptable and desirable, how will teacher education change? The following "from--to" continuum is an attempt to summarize changes which are already apparent:

From:	*To:*
Preparation for education service conceived as a college responsibility	Preparation accepted as a mutual responsibility of colleges, school organizations, and professional associations
Program decisions made by a college faculty	Program decisions made by all who are affected
The locus of preparation viewed as being on the college campus	The locus of preparation viewed as being in the schools and their communities
Preparation programs seen as a set of common experiences for all students	Programs seen as a set of common objectives with various and unique experiences
Preparation and staff development viewed as a function of the early part of one's career	Preparation and staff development seen as continuing throughout one's career
Professional career development seen as single-purposed and orderly	Career development seen as a multi-purposed and emerging

Competence seen as a set of credentials	Competence seen as the ability to perform
Communication about preparation in a language of courses and credits	Communication in a language of objectives and subsequent performance
Preparation viewed as impersonal and a responsibility of institutions	Preparation viewed as personal and as a responsibility of individuals and colleagues
Preparation experiences seen as orderly, objective, and logical	Preparation experiences seen as capable of being ordered, subjective as well as objective, psychological as well as rational
Feedback on preparation experiences given at the end of the semester in the form of grades	Feedback given after each experience in a language of objectives and performance
Preparation designed for working in line and staff organizational arrangements	Preparation designed for working in collegial organizational arrangements
The teacher seen as accountable to his principal	The teacher seen as accountable to and for his students (clients)
The role of the teacher viewed as passive and subordinate	The role of the teacher viewed as active and coordinate
Voluntary professional associations viewed as being interested only in welfare and fringe benefits	Professional associations viewed as being interested in welfare and in the quality of professional practice
Preparation viewed as screening -- ways to exclude people from becoming	Preparation viewed as helping -- ways to include people, to help them become

C. GOVERNANCE AND PERFORMANCE-BASED TEACHER EDUCATION

1. Michael W. Kirst, Issues in Governance for Performance-Based Teacher Education (Washington, D.C.: American Association of Colleges for Teacher Education, 1973). Extract: pp. 6-14.

Governance Implications of PBTE

Introduction

PBTE is a different and controversial basis for teacher training and certification. If it could be implemented, it entails such fundamental changes that the present "balance of power" among the groups discussed above will be upset. All the actors and interests in the present system will see PBTE as an opening to enhance their control and institutionalize their particular value perspective. Given the present pluralistic distribution of influence, the emergence of a monopoly or dominant interest group is unlikely, but some groups will win in a relative sense and others lose. In part, the winners will be determined by national trends in educational politics that transcend the particular issues of PBTE. Such trends as militance and enhanced organization of classroom teachers and ethnic minorities will have important consequences. The national debate on tenure revision will spill over to PBTE.

What is this constellation of interests and value perspectives that will become involved in PBTE? A primary task for those who implement PBTE will be to decide on the precise objectives stated in behavioral terms and a specific catalog of priority skills and behaviors. Certainly, the advocates of informal education, open schools, and "humanism" will confront once again the "behaviorists" and "operant conditioners." In some ways the advocates of priority for the disciplines and "basic education" will tangle with a new breed of pedagogues. All shades of the conflicting philosophies of education will have a major stake in the outcome of PBTE. Given the base of research and state of the art, many of their differences cannot be settled in the near future by empirical research findings. The outcome will probably entail considerable bargaining and compromise reflecting a number of philosophical viewpoints. The counterattack of the humanists in opposition of PBTE should not be underestimated.*

But joining the leaders of educational thought and researchers in the fray will be all the factions we see now struggling for control of U.S. education policy--organized teachers, parents, ethnic minorities, students, legislators, and governors, foundation officials, federal bureaucrats, institutions of higher education, and other professional education groups (NEA, NCATE, AACTE, etc.). Most of these groups have a wide range of philosophical viewpoints within their memberships.

Impact on Researchers

A crucial unknown is whether the performance concept will lead to a new conceptual and validated research base for the elusive concept of "education

*/ Arthur W. Combs, Educational Accountability (Washington: ASCD, 1972).

profession." Some research strategies can be built into program design and implementation, but if PBTE is implemented before a large research base is in place, it will probably degenerate into an inchoate and elusive slogan that is used in negotiations among the contending forces. As one advocate of increased teacher influence put it:

> ...the really crucial question is whether teaching can be established on a validated knowledge base (as against conventional wisdom or experience validated) and whether the organized profession can become unified and strong enough to provide the teacher with authority to practice according to validated knowledge.*

Given this empirical uncertainty, the educational R & D community could play a larger role in PBTE than it did in NCATE or the formulation of current state policy. Very few researchers were influential in TEPS or NCATE, and heretofore state education agencies have not been known for their ability to translate research findings into public policy, but the researchers work slowly and their findings may take a decade or more. Meanwhile, we are confronted with widespread dissatisfaction with the present system of professional preparation and tenure with strong pressure for a short run "quick fix." Educators and government officials plunged into implementation of "accountability" and "accomplishment auditing" before the concept was clearly defined or based on validated knowledge.

Clearly, the education R & D community has the opportunity to lead by collecting the data and establishing the criteria. An underlying premise of PBTE is that if teachers are trained to exhibit certain specific "competencies," they will be more effective in producing desired pupil attainments than teachers prepared in the traditional way. Obviously, experimental designs will have to be undertaken to explore this premise, and to establish the preferred competencies. If PBTE is used for certification in the near future (as Texas and Washington propose), research will be used to modify standards, not establish them initially. Many researchers think the whole effort to establish teaching competencies is beyond the state of the art.**

Reaction of Teacher Organizations

Another group that will probably gain in relative influence with the advent of PBTE will be NEA and AFT organized classroom teachers. As we have seen, the NCATE - State Government alliance was composed more of university professors, higher education administrators, and long-term government employees. Classroom teachers, however, are better organized now than at the advent of NCATE and want to be spokesmen for themselves. As Howsam stresses:

> Accordingly, it follows that representation of the organized profession is critical. The difference

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*/ Robert Howsam, "The Governance of Teacher Education" (Washington: ERIC Clearinghouse on Teacher Education, 1972).

**/ Stephen M. Barro, "A Review of the Power of Competency-Based Teacher Education." Paper prepared for Committee on National Program Priorities in Teacher Education, City University of New York, May 1972.

between having teachers on committees, boards, and commissions with an employee orientation and without a professional mandate is subtle enough to have escaped attention in the past. It should not be perpetuated.*

Teacher leaders assert they are closer to classroom interaction and have a better grasp of classroom competencies than deans or professors. Moreover, if employment and promotion decisions are to be based on "performance," this will be a prime concern of teacher contract negotiations. Again we must acknowledge the possibility that technical difficulties of defining and demonstrating competence could be so important and value conflicts so irresolvable that PBTE will become merely a negotiating slogan between contending forces. Teacher organization leaders see PBTE as a method to break the hegemony of universities but are unsure of their precise negotiating demands in terms of substantive changes in PBTE concepts.

Some of the directions organized teachers want to pursue, however, are already emerging. They appear to favor even less influence for the disciplines as the comments below indicate:

> ...there should be considerably less emphasis on teacher education as an all-university function.
> (a) the teacher education subsystem is the one with primary responsibility for the professional preparation of teachers.
> (b) other university subsystems with a role in teacher education (the disciplines) are no more critical to teacher education than they are to the other professional schools. They provide instructional service to the professional schools.
> (c) effectively requiring education to jointly provide for the education of teachers with other units which have less interest and conflicting purposes makes education dependent and makes it responsible for behavior over which it has no control.**

PBTE implies more observation of teachers in the classroom, and it is unlikely that teacher organizations will have as little to say about this field component as they have in the past. Indeed teacher organizations want evaluation of classroom performance by peers of classroom teachers rather than by state or university "experts." This is likely to be their key demand, but its relationship to PBTE is as yet unclear.

At this point NEA is pushing for organized classroom teachers to dominate teacher certification and training through a new state level professional

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*/ Howsam, op. cit., p.16.

**/ Howsam, op. cit., p.18.

standards unit independent of the state education agency. California's so-called Ryan Act has established such an independent commission appointed by the Governor with representatives from most of the contending interests mentioned previously. The 15-person commission has 6 certified teachers, 4 university faculty, 2 school board members, and 3 private citizens. Ex officio members are from the State Superintendent's Office, the Regents, and from other postsecondary boards. Each of these groups can make a legitimate claim for a place on a policy-making board and each has a somewhat different perspective on what PBTE should stress. Again, we come back to the unlikely event that research can settle the issues of which competencies should have priority, so any policy board will end up resolving these issues through bargaining, compromise, and probably some old fashioned log-rolling.

One teacher's view on current in-service training is expressed below.

> Practicing teachers have found it close to impossible to get the kind of continuing education which is relevant to their real problems. They have to pursue the advanced college degree route because such degrees have been tied to salary schedules by school board members who believe that completed college courses are the sole indicator of the quality of a teacher. Teachers must have the power to say what it is that they need to learn to keep up with changing times - and to be able, through state and local governance procedures, to see that they get it.*

If teachers are successful in separating "professional standards" from the State Department, it is important to probe the probable impact on PBTE. The professional's traditional viewpoint that educational policy should be separated from general government has been to increase the influence of professional educators vis-a-vis mayors, governors, city councils, and state legislators. As we have seen, however, NCATE dominated by college educators had very close ties with SDE's. Consequently, the teacher groups must be hoping that they will be the professional group that will dominate the new professional standards boards. If this happens, PBTE could be vetoed by organized classroom teachers and can only succeed if key concessions are made to such groups. It would become more crucial for adherents of PBTE to have the enthusiastic backing of teacher organizations than the endorsement of key SDE officials, but this strategy will vary according to great differences in state politics. Teacher organizations in Florida are in disarray and not very strong, while New York is quite a different situation. It is likely, however, that teachers will have a greater role under new PBTE standards than in the past - both in setting the criteria and having teachers evaluate each other.

Politics within the University Teacher Trainers

The experiences with PBTE in Texas and Washington highlight the political threat of PBTE for liberal arts professors.** In Texas, where proposed legislation

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*/ The National Commission on Teacher Education and Professional Standards, NEA, "Self-Governance For The Teaching Professions: Why?" Unpublished paper available in PBTE Clearinghouse, AACTE.

**/ The writer is indebted to Professor Lorrin Kennamer, Dean of the School of Education, University of Texas for background on the Texas PBTE situation.

requires that all courses a prospective teacher takes, including those in the liberal arts, be performance-based, the liberal arts faculty has sponsored a counter-measure that would emasculate the state's thrust toward PBTE. This counter-measure would

1) make the universities solely responsible for teacher education rather than sharing power with teacher groups and local schools.

2) prohibit the state education department from requiring any approach (PBTE) for teacher training.

In effect, PBTE becomes a vehicle for shifting control from the campus to off-campus areas. In the past, cooperation with off-campus groups was permissive but now the Texas Competency-Based Teacher Education standards envision a tripartite council of campus, school system and organized profession. Many Texas liberal arts and subject matter professors claim this violates academic freedom. These liberal arts professors also cite AACTE publications showing PBTE has a "thin research base" and consequently should be delayed. School teacher and administrator groups organized under the banner of the Texas State Teachers' Association have supported the PBTE concept.

The Colleges of Education are, as one dean put it, "caught in the middle of the crossfire." They are seen by the liberal arts group as in collusion with the professional practitioners. But many teachers and administrators see College of Education faculty as part of the campus trying to retain their historic control. In Washington, PBTE has been underway since 1971. One aspect of the reaction of the education faculty is indicated by this observation in a report on strengths and weaknesses of PBTE implementation.

> Competency-based teacher education is threatening to many college and school personnel. They do not feel they themselves are competent in the standards expected of candidates.*/

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*/ Frederic T. Giles, "A Study of the Experiences of Washington Colleges and Universities in Implementing the 1971 Guidelines for Teacher Certification," Unpublished.

D. ACCOUNTABILITY AND PERFORMANCE-BASED TEACHER EDUCATION

1. Robert S. Soar, "Accountability: Assessment Problems and Possibilities," Journal of Teacher Education 24, no.3 (Fall 1973), pp.205-212.

Logically, there appear to be three major strategies contending for a role in the evaluation of teaching skills. The traditional and most widely used strategy to date has been an assessment of the quality of the program within which the teacher was trained (1). The aspects of that strategy have led to the movement for competency-based teacher education (CBTE). As a part of traditional evaluation in teacher preparation, measurement of the teacher's knowledge continues to be relevant.

Two other strategies appear to be viable ones within the broad context of evaluation of teacher competence: measuring the growth of pupils taught by the teacher and measuring the teaching behavior of the teacher.

Measurement of Pupil Growth

This is an assessment strategy which is immediately appealing to many. Probably there are a number of reasons for this. Since the business of schools is to produce change in pupils, it seems reasonable to assess the success of the school by measuring the growth of pupils. In some instances, businesses pay workers in terms of production; why not pay teachers on the same basis? Such a solution is immediate and compelling, but examination of this possibility raises questions.

The Influence of the Classroom

A major difficulty in evaluating the teacher is the amount of influence the classroom can have in relation to other influences on the pupil. A series of papers published by the Office of Education (2) concluded that the relative influence of the teacher or the school is not great. A documented example of a specific nonschool affect, the relations between attitudes and expectations of parents to intelligence and achievement of their children have been found to be strong. The relations hold even within a single socioeconomic group and have been demonstrated in a number of ethnic groups (3; 4; 5). Similarly, the peer group influence has been demonstrated.

Presumably these are only a few effective non-school influences. If the teacher is only one of a number of influences on pupil growth, the correlation of growth for one pupil group with another the following year should not be high. This turns out to be the case. One study (6) showed a correlation of .08 for successive years of pupil growth in pooled achievement measures for a group of 55 teachers. Rosenshine (7) has summarized a series of studies indicating relations typically in the .30's for growth for successive years. Brophy (8) has reported successive year data which are highly variable, with correlations ranging from low negative to high positive, but with a median in the .30's. As test-retest reliabilities, correlations like these would not be acceptable.

To lay the pupil's growth, or lack of it, at the teacher's door, seems a major oversimplification considering the many other factors involved.

Measurement--Statistical Problems

The solution of measuring pupil growth looks so simple--yet involves a series of problems. Specialists in educational and psychological measurement have labored with the difficulties for a generation or more, without final resolution. As Bereiter (9) comments:

> Although it is commonplace for research to be stymied by some difficulty in experimental methodology, there are really not many instances in the behavioral sciences of promising questions going unresearched because of deficiencies in statistical methodology. Questions dealing with psychological change may well constitute the most important exceptions. It is only in relation to such questions that the writer has ever heard colleagues admit to having abandoned major research objectives solely because the statistical problems seemed to be insurmountable.

These problems are not widely recognized except by measurement specialists; a few of them will be outlined below.

The procedure of only measuring pupils' standings at the year's end would be inadequate. Whatever growth may have occurred would be such a minor element in the total amount of pupil knowledge that this possibility is easily dismissed. The alternative is testing pupils in the fall and again in the spring to determine the change made while with a given teacher. This is where the booby traps are important.

One such is the regression effect. Figure 1 (p.85) illustrates fictitious data for weight measurements for a group of people weighed three months apart, assuming no weight gain or loss on the average. The ellipse in the figure represents the outline of a plot of hypothetical points, each of which represents the weight of one person on both occasions. The cross-hatched areas at the ends of the distribution represent the lightest and the heaviest individuals at the first weighing, and the cross-hatched areas at the top and bottom of the distribution represent the extreme weights at the second weighing. Since the areas at the ends of the ellipse only overlap slightly with the areas at the top and bottom of the ellipse, the highest and lowest weight people must, to a considerable degree, be a different group on the two occasions.

Presumably, there are at least two reasons for this: one is error of measurement when the scales were not read accurately on one or more occasions. The other is that weight changes occur for individuals from one occasion to the other, even though there is no change in the average weight. It is easy to imagine the person who discovers his weight is higher than usual and goes on a diet as well as the person whose weight is less than he assumed and affords an occasional dessert. Perhaps it would be easy to imagine parallel influences on some pupils as a consequence of knowing their standing on achievement test scores. In any case, the effect will be present any time the two sets of scores are less than perfectly correlated.

The next point to be developed from the figure is the realization that if the people who were in the heaviest 10 percent on the first weighing were not in that same group in the second, they must have lost weight. Similarly, the people in the lightest 10 percent must have gained weight. Since initially heavy people tend to lose weight and initially light people tend to gain weight, there must be a negative correlation between initial weight and change in weight.

The same negative correlation will routinely be found between the fall scores that students make on achievement tests and the change they make during the year. This runs so counter to the expectation that high achieving pupils will grow most during the year that it is hard to accept, but it is true. In our past work, for example, these correlations have ranged from the --.30's to the --.50's for full-length subtests of the Iowa Test of Basic Skills, for third through sixth graders, and typically from the --.40's to the --.60's (with some higher correlations) for specially assembled subtests with kindergarten and first graders. We recognize that the year-end score a pupil makes on an achievement test represents his knowledge before he entered the class, but we do not readily recognize the gain a pupil shows during a year is also related to his standing at the beginning of the year. Although true, the relationship is negative rather than positive, as is the correlation between pretest and post-test.

To correct for this spurious effect, another kind of gain measure is used with some frequency--regressed gain. The logic of this gain measure is that of correlating pretest scores with post-test scores for the total group; then, for each individual, predicting the post-score that he would be expected to earn on the basis of his pretest score, and subtracting that predicted score from his actual final score. In effect, what this does is to create a measure of gain which is independent of the pupil's initial standing, so it more freely represents the change which has occurred in him during this year in the classroom. The procedure parallels the use of analysis of covariance to hold the affect of pretest scores constant, except that scores for individual pupils are created which can be used in further analysis.

This apparently simple solution is only a beginning toward the solution of the problem. In order for a regressed gain score to be independent of pretest score, the adjustment made must vary with how extreme the prescore is. Students with initially high scores have their gain scores increased, and students with initially low scores have their gain scores decreased.

The next question, then, is to what group a pupil reasonably belongs. A group of low social status pupils, for example, will have a lower mean score than a group of high social status pupils. If the two groups are combined in one analysis, then the adjustment made to the gain score for each individual will be made from the mean of the combined group. Low pupils will stand relatively lower than they would from the mean of their own group, and as a consequence their gain scores will be reduced more than they would be if they were compared to the mean of their own group. Similarly, gain scores of the high standing pupils will be increased more than if they were compared with the mean of their own subgroup. Since the amount of the adjustment made to the gain to make it independent of initial standing depends on how extreme the pretest score is from the mean of the group being analyzed, the amount of the adjustment which is made depends on a proper grouping of pupils. What groups should be created in order to compare each pupil with his own group? Since there are no very clear bases for deciding this question, the gain score which the pupil will be assigned is uncertain.

At least occasionally, further problems exist. In our own work, we have often found that even on well-developed standardized tests it is not unusual for pupils to show ceiling effect. That is, the extent to which a pupil can show growth is limited by the number of items he missed in the fall. High scoring pupils will be penalized since they can't show the real gain they have made on a test with this ceiling effect. In some of the data we are currently analyzing (subtests assembled out of standardized tests), we have found relatively strong nonlinear relationships between pupils' initial scores and the gains they show. Pupils who initially make low scores gain little, pupils who make initially moderate scores gain greatly, and pupils who make initially high scores also gain little. So the

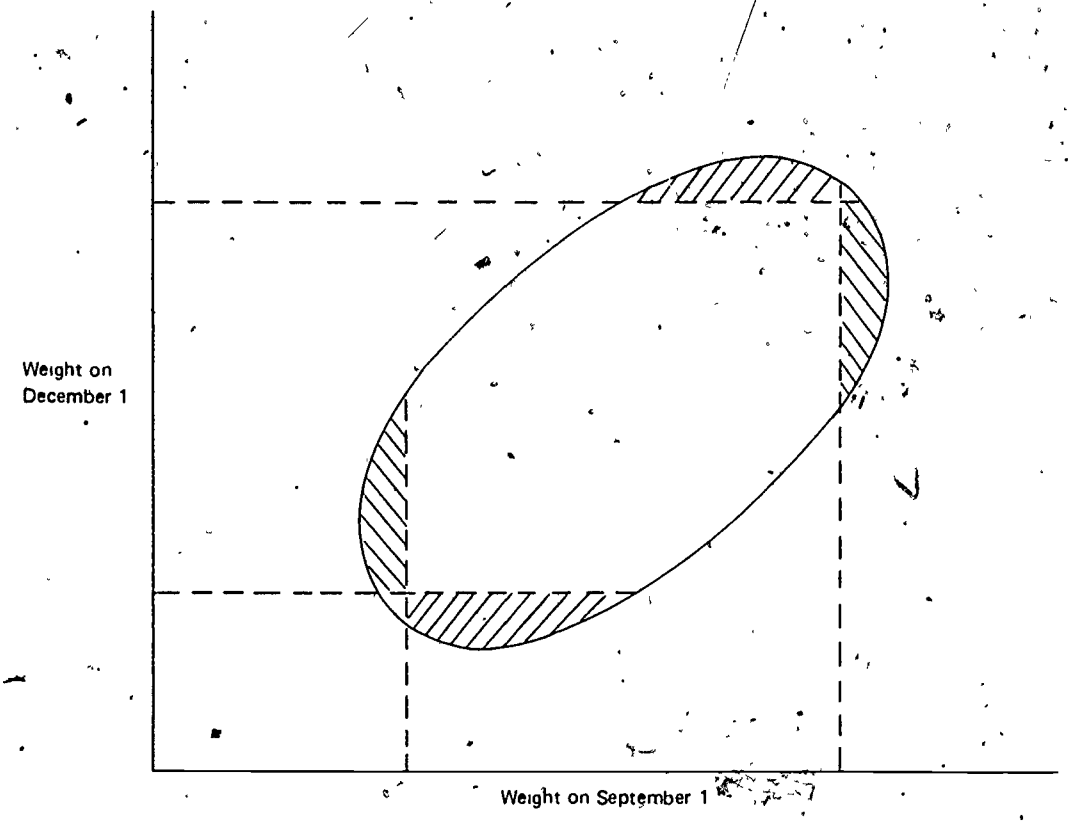

FIGURE 1

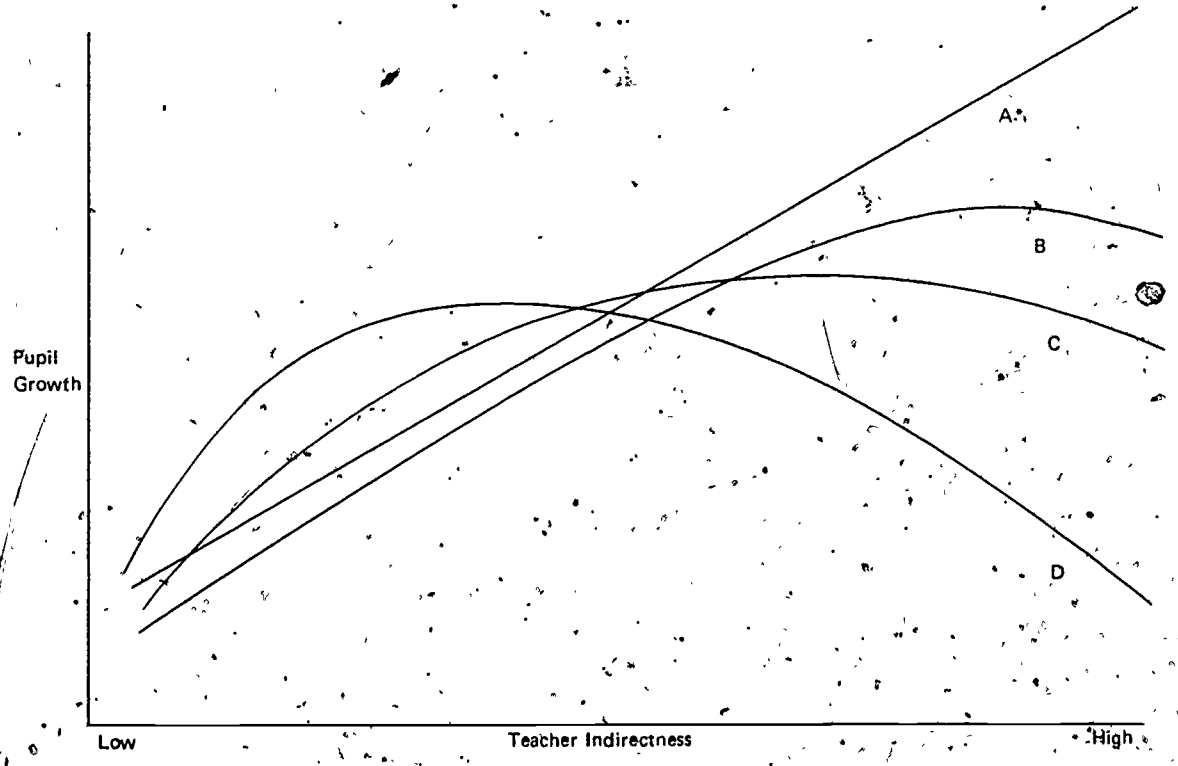

FIGURE 2.

Hypothesized Relation between Teacher Indirectness and Pupil Growth across a Broad Range

*A: complex, abstract measures
D: simple, concrete measures
B and C: intermediate levels

classroom which happened to contain pupils who tested toward the middle of the scale will show considerably more gain than a classroom would in which pupils initially scored low or high. If pupils were ability-grouped, the teacher with the middle group would have a material advantage.

The general conclusion from these measurement problems is that the growth a pupil shows is a function both of the growth he actually made and the test items which are used to reflect that growth as well as the kind of score used to represent the growth. Since it is difficult to know the relative contribution of each of these sources, the measurement of gain remains uncertain. Also, it is relevant to note that the tests cited above are probably better developed than those to be used in state accountability programs.

Problems of Rate of Growth

Still further problems may exist. It seem reasonable to expect that at least some characteristics of pupils grow slowly enough that change during the school year would not be measurable. (An AACTE task force on performance-based teacher education has developed this point.) As examples, it seems likely that learning sets toward complex problem solving and responsible citizenship behavior probably change too slowly to be measurable within a single year.

Problems of Teaching and Test Administration

The St. Petersburg Times (10) reported on two other problems cited by teachers in the initial application of Florida's accountability program. One is the tendency for some teachers to concentrate on teaching the eight or ten children in the class who were tested in the fall and will be tested again in the spring. Small (11) documents the parallel problem of teachers concentrating on low-standing pupils in an application of accountability measurement in England a century ago. In addition, the problem of teachers concentrating on the material to be tested also was reported in both articles. Of course there is always the problem of teachers "helping" pupils take the spring test to enable them to do well. The alternative of having a disinterested outsider do the testing raises cost-feasibility problems.

Problems of Levels of Complexity

If the competence of the teacher is to be assessed by measuring growth in pupils, it seems important to measure pupil growth at all levels of the Taxonomy of Cognitive Objectives (12). Current evidence (13; 14) suggests the teacher behavior which supports relatively simple-concrete kinds of pupil growth is different from the kind which supports relatively complex-abstract pupil growth. It also would seem important to judge the competence of the teacher on his ability to promote higher level objectives as well as lower level ones.

In the accountability program which the state of Florida is developing, the intent is to develop test items to measure objectives at all cognitive levels, at each grade level, and in all subject matter. This appears to be a very ambitious undertaking, considering the difficulties measurement specialists have encountered in developing measures of higher level objectives. The program probably will be forced to go into the field because of legislation which requires only the development of measures of lower level objectives because of the difficulty of developing the higher ones. In that event, it would seem reasonable to expect the result to be accountability testing which would overemphasize lower level objectives and

underrepresent higher level ones, if they are represented at all. The consequences would be that teachers who stress lower level objectives would do well by the accountability criteria, and teachers who teach to facilitate the growth of higher level objectives would appear to be less satisfactory. It would not be surprising if this led, in turn, to greater numbers of teachers stressing low level objectives.

Another reasonable expectation is that the teacher who feels the accountability movement looking over his shoulder may very well "turn the screws" a bit by putting pressure on the pupils to achieve, so the teacher will make a satisfactory appearance in the spring testing. This is generally the sort of teacher behavior which is destructive of higher level objectives. A number of pressures converge on the teacher to teach for immediate effects--for low level objectives--and to concentrate on low-achieving pupils.

While it certainly is not conclusive, it may be suggestive to recognize that the current generation of alienated college students have spent most of their years in public education in the post-Sputnik era when concentration on subject matter learning was stressed.

In summary, the measurement of teacher competence by way of pupil gain appears to be an uncertain route to travel. While there are problems in the use of pupil measures for lower level objectives, these problems are perhaps manageable. The attempts to measure teacher competence through pupil gain in higher level objectives appears to be exceedingly difficult and probably impossible in many cases.

The Measurement of Teacher Behavior

Having recognized some of the difficulties in pupil measurement as an assessment strategy, we will consider the measurement of teacher behavior. The long history of negative results which have been produced by the use of traditional teacher ratings is almost certainly one of the reasons why the observation of teacher behavior as an assessment strategy is not viewed more favorably than it is.

Medley and Mitzel (15) comprehensively reviewed studies in which ratings of teacher effectiveness, made by supervisors or administrators, had been related to any reasonably objective measure of pupil growth. The findings from numbers of studies consistently showed no relation between ratings of teacher effectiveness and measures of pupil growth. It is only reasonable that this dismal literature has led many people in education to assume the effective teaching was not identifiable.

This research literature has changed materially since about 1960. Numbers of identified measures of teacher behavior appear to hold real promise for clarifying the nature of teacher effectiveness, although it is becoming increasingly clear that the nature of the phenomena is very complex (13). These promising findings come from the application of systematic observation, as distinguished from rating procedures. Systematic observation is a way of observing classrooms in which the observer is made a recorder insofar as possible, rather than an evaluator. That is, he looks for specific items of behavior from a standardized form and checks the occurrences of these behaviors. He does not combine the behaviors into sums of composites; he does not make judgments based on them. The data are then treated statistically so that composites are created with known weights, and with the possibility of trying different combining schemes, or "scoring keys."

Another characteristic of data of this sort is that it tends to be "low inference" rather than "high inference." It stays closer to the original behavior. When the effectiveness of the teacher is rated, for example, there is no way of knowing what behaviors entered this rating. If a teacher is rated as "warm," the field is sharply restricted; but there are still numbers of possible behaviors which may have been involved. But if an observer counts the number of times a teacher smiles, pats a child, or praises a child's behavior or work, the behavior which entered the measure has considerably greater specificity. These, then, are examples of behavior measures ranging from high to low inference.

Recent studies using ratings of intermediate levels of inference, such as "clarity" or "enthusiasm" have produced considerably more promising results than the earlier high inference ratings (16). Before these results can be used maximally, the low inference behaviors which enter the ratings need to be identified.

There are also hopeful results from the application of systematic observation which suggest that presently identified classroom behaviors are related to pupil growth (13;16). Parenthetically, it may seem contradictory to refer to measures of pupil growth as criteria against which measures of classroom behavior are validated, when they are dismissed as a basis for evaluating teachers. There are many differences. The small number of pupil measures which assess higher cognitive levels of growth may be adequate for research directed at identifying teacher behavior which is associated with complex pupil growth but probably are not adequate for wide scale teacher evaluation. The problems of measuring gain can be better dealt with in research studies in which intensive analyses of data are carried out than in wider scale evaluation studies in which analyses of data are likely to be simpler. Uncontrolled influences are spread over a number of teachers, with general trends sought, rather than affecting the evaluations of individual teachers.

A parallel with medical practice seems relevant. If the only criterion of a physician's effectiveness were the mortality rate of his patients, then he could scarcely afford to take terminal patients. If the criterion is whether he prescribes the treatment which is known to be the most effective, then the evaluation becomes a fairer one. Similarly, the teacher appears to be more fairly evaluated if the judgment is made on what he does, rather than on the outcome of what he does. The first is under his control and the second is not (or at least not nearly so much so).

Admittedly, the results of research to date are not completely clear and consistent. There are suggestions that some teacher behaviors are more likely to produce valued outcomes. The following generalizations are among those which might be cited. Indirectness of teacher behavior tends to be associated positively with assessment growth, favorableness of pupil attitudes, and creativity growth. Teacher flexibility tends to be associated positively with achievement gain. Teacher criticism tends to be negatively related to achievement gain. Subtle rather than obvious aspects of teacher behavior tend to be related to pupil growth. The cognitive level of pupil interaction tends to follow the levels used by the teacher, up to intermediate levels; but pupil interaction involving the higher levels tends to occur only in the presence of supportive interaction by other pupils.

The conclusions which seem appropriate begin to become complex before the findings of various studies are pursued very far. For example, several studies suggest that pupil growth increases as freedom and self-direction increases, but only up to a point. Beyond that point, less growth rather than more appears to take place. Further, the point at which maximum growth takes place appears to be a function of the complexity or abstractness of the learning task--the more abstract the task the greater the freedom which is optimal; the more concrete the learning, the greater the teacher control which is optimal.

Figure 2 (p.85) presents an integration of the relationships suggested by various studies (13) which was further supported by Soar and Soar (14). There are also suggestions that different pupil groups (dependent vs. independent, low vs. high anxious, low vs. high ability) respond differently to the same classroom behavior, but the clearest conclusion in this case is the need for further research.

The use of systematic observation could meet the requirements that student teacher competencies be derived from explicit conceptions of teacher roles, be stated to make assessment possible, and be made public in advance (1). Systems provide explicit, behavioral, low inference measures of teaching behavior and,

as such, provide a vocabulary and a set of concepts for communicating about teaching as well as a metric for measuring it. It is hard to see how these requirements could be met without procedures such as these.

Some Possible Applications

Measuring teacher behavior is certainly applicable to teacher preparation programs. In fact, such applications have been made for some time now. For some years, Hough, in a program at Ohio State University, has been teaching a methods course in which students are given a series of prescriptions for behavior which they must be able to produce in simulated teaching to complete the course. As examples, each student teacher must teach a lesson in which at least half of the talk in the lesson is produced by students; he must teach a lesson in which at least one-third of his own talk is indirect, as defined by the categories of an observation system. If the student can produce all of the prescribed behaviors at the beginning of the course, he has completed it. If it requires several quarters for him to produce the behaviors, he never completes the course. This is a measurement of exit competencies which Elam (1) identifies as being desirable.

An important issue is the need to represent teacher behavior through the use of multiple systems in order to gain a broader view of the classroom behaviors important to pupil growth. A course such as Hough's is surely a pioneering effort.

When all student teachers are routinely observed, the economic problems of applying observational procedures do not appear to be great, even if each graduating teacher is to be certified on this basis. If the goal is to certify a program, then perhaps it would be appropriate to observe a sample of teachers to evaluate the program rather than the individual teachers.

There are promising beginnings in researching aspects of teacher behavior which are important for pupil growth. The use of such observational measures is a preferable way to proceed, even when the goal is to measure the implementation of theory which is still unverified by empirical research. Of course, some measures of classroom behavior might be seen as measures of objectives in and of themselves, quite apart from their relation to other measures of the growth of pupils. For example, it would seem reasonable to value a classroom in which a smaller rather than a larger proportion of the teacher's effort is directed toward controlling the behavior of pupils instead of "teaching." Similarly, it seems desirable for a teacher's management of a classroom to take place through directions which are gentle and noncoercive, rather than ordering and commanding. The classroom in which moderate amounts of positive affect are expressed and relatively small amounts of negative affect occur, would probably be valued by many.

Observation also offers the possibility of measuring the attainment of pupil objectives which would probably be difficult to assess in any other way. How better to measure pupil responsibility and self-direction than to record the ability of pupils to carry out a task without teacher direction? How better to measure the socialization of young children than to code the interactions that occur between members of small groups as they work together in the classroom?

Some Concluding Comments

Measuring teacher effectiveness by measuring change in pupils is probably only feasible for simpler, lower level objectives.

For the attainment of higher level objectives, or more slowly developing objectives, the more appropriate procedure appears to be to measure the behavior of the teacher and compare it to behavior which is thought to be related to the development of higher level objectives in pupils. Such a procedure appears feasible, both for the assessment of competence of individual teachers and for the certification of programs.

While much research and development work remains to be done, the beginnings appear to be promising. In contrast, however, both as research on teacher behavior suggests and as Small (11) and the Times articles attest, the attempt to measure the attainment of all objectives by measuring growth of pupils is likely to be a disaster. It could foreclose the possibility of implementing a procedure which in the long run would represent a real advance in teacher education, certification, and evaluation.

The caution of the researcher about implementing a procedure which still needs extensive work is surely appropriate; yet in comparison to the alternatives, observational methods seem the most hopeful. They do not create pressure for the teacher to stress low level objectives. They avoid a series of measurement problems which are difficult, if not disabling. They measure the performance which is most directly under the control of the teacher. They permit the faculty and administration of a school or system to agree on valued teaching behaviors with a minimum of misunderstanding. They give the teacher feedback on his teaching behavior. They permit the teacher to apply the research findings which do exist relatively directly. If programs of accountability on competency-based teacher education are to be implemented, systematic observation appears to be one of the more promising assessment procedures for measuring teaching skill.

This article has only considered the problems of how to hold the classroom teacher accountable and for what. There is a broader context and the teacher's accountability is only part--the reciprocal responsibilities of the schools to society, and vice versa. A few examples are cited. Is there any limit to the pupil objectives for which schools are to be held accountable? A role in helping solve an imposing array of social problems has been given to the schools in the past generation. Concern about traffic safety has resulted in driver education in the schools. Other problems, in turn, have led to the addition of such programs as those concerned with sex, drugs, and now "parenting." It is hard to imagine any other agency of society which has been as involved in working to eliminate minority discrimination. Are there any old responsibilities for which schools are no longer accountable? Or has the list simply kept extending?

Is the family accountable in any way for the readiness of socialization of the child when he starts to school? Is a teacher of a regular kindergarten or first grade, for example, accountable for usual grade achievement for a child who begins school with little or no language, cleanliness habits or toliet training, safety, etc.? Is the interest and effort the child brings to his work solely the teacher's responsibility? Again, is there any limit to the objectives for which the teacher and the school are to be held accountable?

Does the school system and the society it represents have responsibility to the teacher for a variety of kinds of support? Are these measured in any ways but money? As only an extreme example, how is the society held accountable for the physical safety of the teacher? Who pays the penalty when it fails?

Superintendencies in large cities seem increasingly to have become "revolving door" positions. Is accountability for the problems involved placed anywhere but with the succession of incumbents?

Is the society accountable for the support of research to improve the quality and efficiency of the educational process in the schools?

Illustrative questions such as these, which are only a few of the possible ones, seem not to be included in discussions of accountability. Are they relevant, or is only the teacher accountable?

Notes

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16. Rosenshine, B. "Teaching Behaviors and Student Achievement" (London: International Association for the Evaluation of Education Achievement), 1971.

E. STATE AGENCIES AND PERFORMANCE-BASED TEACHER EDUCATION

1. Theodore E. Andrews, "What We Know and What We Don't Know," Exploring Competency Based Education, ed. W. Robert Houston (Berkeley, Calif.: McCutchan, 1974), pp. 31-36.

(Although this paper has something to say about definition and rationale for PBTE, it is placed in this section of the Source Book because it is addressed to state agencies and discusses implications of PBTE from their perspective.)

People who know only a little about performance education often make dangerous leaps in their assumptions. They believe that

(1) A lists exists which includes the basic competencies all teachers should possess and be able to demonstrate;

(2) Techniques exist to evaluate objectively whether or not a candidate actually has these competencies;

(3) Research has shown which teacher competencies are related to children's learning; and

(4) Developing a competency system of preparation and evaluation is a relatively simple task and not likely to be more expensive than present systems.

All these assumptions are false.

Before any state makes a commitment to competency education, it should prepare a description (a management plan) of how each of these four statements will be handled in that state.

Opinions and prejudices are abundant, but the best way to approach each issue is to ask the classic performance question: "What evidence will you accept?"

Examining each of the statements will more clearly illustrate what we know and what we don't know.

(1) *A list exists that includes the basic competencies that all teachers should possess and be able to demonstrate.*

What does exist are lists of competencies. The best resource now available is the *Catalog of Teacher Competencies*, which resulted from an intensive search of the literature and a year's review and revision by educators throughout the United States.[1] Well over one thousand competencies are included. However, no attempt is made to indicate which competencies are most, or even more, appropriate. The purpose of the catalog is described in the introduction: "The catalog should provide users with an array of competency statements from which descriptions of teachers can be built."[2]

The difficulty of preparing a list of basic competencies revolves around both a human and a philosophical problem. The human problem is that of obtaining consensus about an area of extreme controversy. According to Peter Airasian, selecting the competencies is the most crucial issue in competency education: "I would argue that the most powerful individuals are those who frame the competencies to be attained. These are the individuals who explicitly define what is a good teacher."

States have varied in their approaches to the selection of competencies. Some states have pushed that decision out to local and/or regional consortia; others have established a state list of required competencies.

The philosophical problems is whether any competency is so broad that all teachers should possess it. If schools and teacher roles are changing and if local systems make extremely different demands on their teachers, is it possible to establish competencies that are needed by all teachers? If that is true, are educators with a competency approach not again risking the creation of an irrelevant system?

Some people have been attracted to the competency movement because they see it as a way to describe the unique strengths and weaknesses of each teacher. The goal is not to hold all teachers to the demonstration of required competencies, but the creation of a system that would allow teachers to do what they do best and at the same time facilitate the restructuring of the public schools to give children greater opportunities to learn.

(2) *Techniques exist to evaluate objectively whether or not a teacher actually has these competencies.*

This is simply not true. Much of the enthusiasm for performance education results from the accountability thrust permeating all aspects of our society. People believe that objective evaluation of a prospective teacher (and/or inservice teacher) will reveal whether the person possesses the competency and whether the program is meeting its objectives. The assumption is valid, but no evidence is now available to indicate that assessment techniques are sophisticated enough to validate any program. If the reader doubts this conclusion, he should look at the performance programs and modules presently in use.

Florida funded the development of the *Annotated Listing of Competency Based Modules*, another excellent resource. The Florida Center for Teacher Training Materials set only three criteria for the inclusion of materials:

(1) Performance objectives are stated in explicit terms.

(2) Instructional activities or resources are specified for the attainment of the stated objectives.

(3) Evaluation indicators are linked to stated objectives.

The center reviewed thousands of modules and in its first catalog found only 288 that met the three criteria. (Note the word "linked" in the third criterion--no one was asked to validate the evaluation system.)

Many people are using behavioral objectives to develop performance programs. In most cases the activity of the teacher or the student is described in detail. However, far too often the evaluation consists of one person's subjective judgment about whether or not the person being evaluated demonstrated the competency, usually on a rating scale of 1 to 3, 1 to 5, or 1, 2, . . ., 9, 10. In some instances several raters evaluate the performamce, but the evaluation is still subjective.

One should not be overly critical of such approaches. They are a significant improvement over previous rating scales, which had no performance criteria and were totally subjective: e.g., "Friendly--1-10." However, such systems are not truly objective (philosophers would argue that nothing is). It is essential, however, that those making policy decisions recognize the limitations that exist in the assessment area.

While some modules do possess objective evaluation systems, no one would maintain that an entire program can now be evaluated objectively. The most difficult evaluation problems occur in the affective area. At best we are using indicators rather than absolutes for measuring effectiveness. Does the fact that a teacher calls on minority children as often as nonminority children prove the person is not prejudiced? This is not an atypical example of an indicator. One might compare the best evaluation systems in competency programs to an iceberg: The most visible part may well be using modules with objectives and criteria, but the greatest part lies submerged; the areas that truly make a difference are not so easily measured yet are really the foundation for the entire program.

Another difficult problem involves the issue of whether the desired performance is totally discrete (it either exists or it does not) or whether it is subject to qualification (ten times in twelve attempts). How one feels about this issue can vastly change the nature of the assessment program. Researchers have shown us that consistency of performance is exceptionally difficult to predict. Therefore, the demonstration of a discrete performance does not assure anyone that the performance can or will be duplicated when appropriate. Setting cutoff levels (e.g., seven out of ten times, with 80 percent effectiveness, or three out of four) is even more misleading. The measure is very accurate; however, the criteria level established is unrelated to any validation that, for example, three out of four is ultimately and more meaningful in terms of student learning (or predictability) than two out of four.

(3) *Research has shown which teacher competencies are related to children's learning.*

Some evidence is beginning to appear linking certain teacher behavior to student learning. Researchers Barak Rosenshine and Norma Furst have indicated that eleven variables appear to be worth beginning to train teachers for: clarity, variability, enthusiasm, task oriented and/or businesslike, student opportunity to learn criterion material, teacher indirectness, criticism, use of structuring comments, types of questions, probing, and level of difficulty of instruction. The best results were obtained on the first five variables.

But even Rosenshine and Furst indicate that much research needs to be done to completely validate these characteristics. Beyond this, research tells us nothing. Actually, what is reported is more disturbing than nothing.

James Popham completed a study that compared student learning in classes instructed by students prepared in a teacher education program with learning in students selected at random. He found that there were no measurable differences in learning.

If a state takes the position that the ultimate test of a teacher's effectiveness is student learning, then deciding which competencies are related to student learning is the overriding task. Many knowledgeable people accept the logic of that position but still reject it. Not only is there no positive evidence that any competency is related to student learning, but there is also no way to control the many human factors that influence the student, before or during the time that he is in class. Such critics also maintain that the ultimate goals of education are not revealed in whether the student can pass a cognitive exam but in the decisions he makes as an adult many years later.

Another problem is related. The competencies needed for effective teaching may not exist separately; the successful teacher may be the one who can utilize a variety of skills within a short time. Effectiveness is really the unique combination of competencies, not the capability to demonstrate each singularly. Many people believe that competencies are situationally specific, that is, in a given class on a given day certain competencies may be highly related to student learning, while on different days and/or with different students the same competencies may be irrelevant.

(4) *Developing a competency system of preparation and evaluation is a relatively simple task and is not likely to be more expensive than present systems.*

The complexity of developing a competency based program will be described later in this book. The cost factors are no less complex to determine.

Competency based teacher education programs will cost more money. No one argues too much about that. But how much more money will be needed? Bruce Joyce did a cost analysis for one state, and estimated that the development of one program would be between five and six million dollars--one program at one institution. Joyce

is assuming that the program is totally competency based, and that the appropriate technological support is available. He estimates that the cost of turning the whole country's programs around is easily 100 million dollars and will probably take twenty years.

Herbert Hite, who did a similar analysis for another state, saw a rise of 150 percent in program costs as compared with traditional programs. In both estimates a significant amount of the cost appears as faculty time necessary to develop the program.

Neither Joyce nor Hite is trying to paint a totally negative picture. The costs are manageable, but only through careful development. Joyce recommends borrowing and sharing the work that others have done, while Hite proposes a different faculty load ratio that will provide the needed resources.[3]

In conclusion what we do know is:

(1) Competency statements are available for review and consideration.

(2) Objective evaluation is not yet perfected.

(3) Research relating student learning to teacher competencies still needs to be done.

(4) Developing a competency system is a complex and costly task.

NOTES

1. Norman Dodl et al, A Catalog of Teacher Competencies (Tallahassee: Florida State University, November 1971).

2. Ibid.

3. Theodore Andrews, Assessment (Albany, N.Y: Multi-State Consortium on Performance Based Education, 1973).//

2. Allen A. Schmieder, "Profile of the States In Competency-Based Education, "PBTE 3, no.5 (November 1974). Published by the Multi-State Consortium on Performance-Based Teacher Education.

ABSTRACT

The introduction to this chart states that it is intended to present a brief outline of where each state was as of September 1973 in regard to the introduction or prospective introduction of competency-based education. States are listed individually; for each state, the name, position, and address of an individual to contact are given. The chart provides space for the following information: competency-based education goals; major developmental activities; key publications; and unique features.//

F. ACCREDITATION AND PERFORMANCE-BASED TEACHER EDUCATION

1. Rolf W. Larson, Accreditation Problems and the Promise of PBTE (Washington, D.C.: American Association of Colleges for Teacher Education and ERIC Clearinghouse on Teacher Education, 1974).

ABSTRACT

This paper examines the relationship between the accreditation of teacher education institutions and performance-based teacher education. After a brief historical review, the author discusses four basic accreditation problems: (a) the need to allow for institutional differences; (b) the need to base decisions on substance rather than on form, (c) the need to determine the actual qualifications of the graduate, and (d) the need to determine the focus or function of accreditation. Institutional statements of objectives for teacher education are frequently vague and provide little guidance for the accrediting team. The objectives of one institution are examined in detail to illustrate these problems. Performance-based teacher education, which requires the explicit definition of expected competencies, could help to move accreditation toward being based on elements of substantive achievement and could encourage a rethinking of admissions criteria. Finally, the two purposes of accreditation are considered; whether it should be used to identify institutions which meet a minimum set of standards or to stimulate institutions to improve their programs significantly.//

SECTION FOUR

CRITIQUES OF PERFORMANCE-BASED TEACHER EDUCATION

"Everyone's a critic!" goes the usual reaction to criticism. Criticisms of PBTE have been abundant. But criticisms are useful and, indeed, necessary for any new concept or program if they are studied, reasoned analyses of pros and cons. Such critiques only aid in our understanding. They provide an extra pair of eyes and show us things that we did not think to see or could not see because we were standing too close. There follow two such critiques of performance-based teacher education.

A. CRITIQUES OF PERFORMANCE-BASED TEACHER EDUCATION -- GENERAL

1. Harry S. Broudy, A Critique of Performance-Based Teacher Education (Washington, D.C.: American Association of Colleges for Teacher Education, 1972). Extract: pp.3-11.

(Omitted from this extract are the author's introductory references to definitions of PBTE and his concluding discussion of the necessity of apprentice training. Footnotes are enumerated as they appeared in the original issue.)

The assumptions underlying the PBTE approach seem to be as follows:

1. The teaching act is the sum of performances into which it is analyzed.
2. The performance unit is a matter of indifference, i.e., the number and character of the performance units can vary from one program to another.
3. The criterion for the "product" is demonstrated competence in the selected set of training performances.

It is to the tenability of these assumptions and the consequences of basing teacher education upon them that this paper is addressed.

I shall devote a little space to the assumption that in teaching the whole is merely the sum of the parts. This is a notoriously inadequate description of any human action, let alone one so complex as teaching. Teaching can, of course, be thought of as broken down into parts, but as a concrete action it is guided at every moment by a sense of its total pattern. This pattern--in swimming, reading, classifying, judging--integrates the analyzed constitutents into a meaningful functional sequence, not merely a mechanically additive one. We are told, at least by some psychologists, that after the pattern has been sensed or felt or understood, the details can be perfected separately, but until the pattern has been discerned, drilling on the separate parts yields disappointing results.

It would seem, therefore, that either the PBTE mistakenly assumes teaching to be a mechanical addition of discrete performances, or that performance units must be equated with the whole teaching act, or segments of it that are large enough to be functional wholes in themselves. On the first alternative PBTE gives up analysis altogether; on the second, it analyzes the teaching act into functional patterns. The second alternative is the one PBTE seems to want to defend. If so, how small must such units be in order to exploit the benefits for discreteness, definiteness, identifiability, and measurability? For example, how small a segment must "explanation" or "definition" be to qualify as a unit that can be described in advance and unambiguously identified as a performance?

This takes us to the second assumption: what shall count as a performance? The term can cover as simple an episode as ringing the school bell or writing a lesson on the chalk board and operations as abstruse as explaining the proof of the binomial theorem or the principle of oxidation and reduction. Are there agreed-upon classifications of and criteria for the scope and cognitive level of peformance units in analyzing teaching for teacher education? Or is this simply a matter of preference?

The importance of this question lies in the fact that the definiteness, and therewith the testability which is overtly or covertly claimed for the PBTE, relies on slicing up the teaching act into small, easily identifiable, behavior sequences. However, when the PBTE is accused of reducing teaching to such bits, the retort is that no sensible PBTE would think of doing such a thing; that performance is to be taken broadly to include such abstract and complex operations as diagnosis of reading difficulties and mistakes in logic; of conducting class discussions on social issues. But insofar as this is so, what becomes of the definiteness of both the task and of the criterion for successful performance of it? And without this ease of task identification, what becomes of the presumed advantages of the PBTE over conventional programs?

Furthermore, if there is no wide agreement as to the task-sets to be used as targets for the training of the teacher, what assurance is there that school systems can employ teachers trained on different task-sets? How are certifying agencies to judge highly diversified task-sets? To which set of tasks shall textbooks and other instructional materials be calibrated? The practicability of the analytical approach depends heavily on general agreement as to what constitutes a relevant unit. In production assembly lines such agreement is the rule. How common is it in the analysis of teaching.*

One is led to suspect, therefore, that the popularity of the PBTE may well rest on the vagueness which surrounds the term "performance." But why do we not have a wide consensus as to the way teaching should be analyzed? Why, after nearly a half century of very active and expensive research into the nature of learning, teaching, and traits of the good teacher, are we still piling up monographs which do little but demonstrate the scholarly competence of the researchers? Why, after all this effort, do we still lack consensus on the criteria of good teaching? Why are we unable to test the "product" of teacher training curricula as industry tests its product, and as we are being urged--with no lack of threats--to do? In this field of inquiry, mountainous labors have produced puny mice, so that one recent well-known summary of research had to conclude: "There are no clear conclusions."2**

This is not the place to rehearse this research; summaries are available. The point is that the teaching-learning transaction can be viewed from any one or more of an indefinite, if not infinite, number of aspects; there is no theoretically plausible way of precluding any one of these aspects or limiting the total number of them, because learning can be in any domain and about any subject in any human situation. Has any approach to the analysis of learning or teaching been ruled out by a crucial experiment? We have a surfeit of analyses, not a paucity. Nothing human is irrelevant to education, including human interest in the non-human. The research merely reflects the endless diversity of the phenomenon itself. Picking one mode of analysis rather than another is not decidable by research--at least it is not so decided.

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*/ Since highly individualized and personalized instruction is one of the advantages claimed for PBTE, the uniformity of the units apparently is of little importance, but elsewhere we are told that the instruction is "modularized" so that the individualization is in pacing rather than in the nature of the performance unit. (Elam, pp.7-8) I do not know what to make of these two claims, but it does seem that some agreement on the performance unit is needed for modularization.

**/ Notes from this extract appear on pp.105-6 of the Source Book.

Another reason for the futility of the search for definitive teacher behavior is that although teaching behavior can be discussed apart from learning results--teaching as a "product"--it is almost never so judged. There is no more consensus on the kinds of learnings that teaching ought to achieve than on the methods for achieving them, because discussions of education are a mixture of assertions about the good life, the good society, the success routes of an epoch, the infirmities of individuals and their children, of societies and their institutions. Some talk about education has to do with schooling, much more does not. The attempt to reduce this welter of talk to overt performances that a teacher should be able to execute on demand is another naive try at ignoring the organismic nature of human experience and therewith of learning.

One must sympathize with educators who would like, for once in their lives, to be able to point to a tangible product of their efforts, no matter what that product might be. And clearly not all aspects of schooling are equally resistant to useful analysis. There is a type of teaching which lends itself to the statement of explicit objectives (not necessarily behavioral ones always), and to demand explicit criteria for their attainment is more defensible for this kind of teaching than some others. Yet even here the explicitness refers primarily to content and logical structure rather than to the use of the learned materials by the pupil. As I shall indicate later in this paper, the way a body of knowledge is learned is not necessarily identical with the way it is used in a nonschool task.

Didactics, Heuristics, and Philetics

I shall not attempt to add another sophisticated analysis of teaching to the already crowded list of taxonomies. There is, however, a fairly simple familiar distinction that many have made among styles of teaching, viz., the didactic, heuristic, and philetic, which may help us see where PBTE has its best chance of success and the greatest risk of failure. Didactics refers to the impartation of knowledge by the teacher to the pupil; heuristics refers to the effort to help the pupil discover for himself either the contents of a body of knowledge or the methods of arriving at such knowledge and assessing it; philetics is merely a Greekish name for love or securing rapport with pupils or, as the current jargon has it, "relating to pupils."[3,4]

Performance-based programs can accommodate didactics, which aims at more or less rote mastery of a repertoire of explicitly formulated knowledge and skill. Heuristic and philetic teaching do not lend themselves to the precise analysis, specification, and evaluation which is the presumed glory of the PBTE. Apropos of which, one might remind the namers of teaching machines that Plato and Socrates were exemplars of heuristics, not didactics.

When a fairly reliable measure of learning is available--as it is in didactics--we can take a Skinnerian position and say, "Given teacher performance P, there will ensue pupil performance S," and we can perhaps ignore (for heaven alone knows what concomitant learnings take place) teachers, parents, and school boards. This is the tough line adopted by the proponents of behavioral objectives, educational contractors and contractees, and the directors of the budget, local, state, and national. Such toughness makes no sense in heuristic and philetic teaching, where learnings are insights and transformations of attitude for which unambiguous behavioral indices are hard to find, inasmuch as tolerance of ambiguity and lack of structure is an avowed outcome of philetics. What behavior, for example, shall we regard as criterial for a pupil's insight into his hostility to the teacher?

Success in heuristic and philetic teaching cannot be judged by prespecified appropriate pupil behavior because such behavior--even when we can identify it--is not manifested on demand or at a specific time. Critical thinking, the use of the imagination, warm feeling toward peers, achievement of identity cannot be inferred from one segment of behavior used as a test pattern. And what pattern shall we use as a test? Indeed, the vulnerability of general education to attack lies in the very fact that many of its benefits do not appear until fairly late in life. Our speech and reading habits, a thousand attitudes, our interests often represent the tacit functioning of explicit learning inputs made during school and college, but which we can no longer recall.[5] This may help to explain why correlations between academic achievement and success in life are so low. The academic grade measured learning of items that have since been largely forgotten; functioning now are the residual conceptual and affective schemata, which were never tested on examinations. Nor need it be added that the life outcomes we claim for heuristic and philetic teaching are from the first contaminated by noninstructional variables, which we are never able to control adequately in our research or schooling.

The paper thus far has been giving some reasons for questioning the assumptions that (1) the teaching act can be equated with a specified set of performances and (2) that the nature and scope of a "performance" is a matter of indifference. I come now to the assumption that PBTE gives us a way of evaluating the "product" by demonstrating competence in a preselected set of performances. I shall argue that if teaching competence is judged as a product, certain consequences for teacher education would follow, and that some of these consequences PBTE advocates would not relish.

Aristole remarked that,

> With a view to action experience seems in no respect inferior to art, and we even see men of experience succeeding more than those who have theory without experience. The reason is that experience is knowledge of individuals, art of universals, and actions and productions are all concerned with the individual....But yet we think that knowledge and understanding belong to art rather than to experience, and we suppose artists to be wiser than men of experience... and this because the former know the cause, but the latter do not. For men of experience know that the thing is so, but do not know why, while the others know the "why" and the cause.[6]

If we translate art into "professional practitioner" and the man of experience as the experienced craftsman, then this passage just about sums up the larger problem to which this paper is addressed. The question is whether the performance-based approach to teacher preparation is a commitment to producing men of experience only, i.e., competent craftsmen, or whether the performance approach is compatible with producing what Aristotle refers to as the artist or what we could call the technologist, the practitioner informed by knowledge and understanding.

Is Theory Necessary?

It seems clear that for the teacher to perform a certain task, it is not necessary (whether it is desirable is another matter) that he be able to give a theoretical explanation for the success of the performance. If a teacher is "trained" to praise a pupil every time he displays a desired behavior, then one can expect that the desired behavior will accrue with increasing probability. Does the teacher have to know the theory of positive reinforcement in order to use it? Ordinary observation and some recent systematic studies confirm Aristole's contention that no such theoretical awareness is necessary. Thus it is asserted that competent performance of paraprofessional duties does not require the common sequence of courses usually prescribed, and presumably many of these courses were in theory.[7] Robert J. Menges,[8] summarizing a great deal of the research on professional education, concludes that "Those in professional training will learn, whenever they are given opportunity for practice, feedback about that practice, and payoff for performance."* Nothing is said about theory of practice. The same writer adds, "More effective than the abstract and theoretical content usually emphasized may be concrete, self-generated data, and practical experience." Indeed, we know that some practitioners achieve good results without being able to describe--let alone explain--how they achieve them. These considerations lend support to the PBTE thesis that in teacher education input and output should approach identity, and that the criterion for a teacher's ability to do a given task is having done it. How often he has done it and over what range is important, but even more important is whether the practitioner can perform a variation of the task not previously practiced.

This is a crucial issue for the strategy of teacher preparation because it is commonly believed that if a practitioner succeeds on an unpracticed task that belongs to the same species as the practiced one but different in significant respects from those practiced, the success is owing to the use of theory to bring the unpracticed task within the class of the practiced ones. For example, suppose a number of pupils in the class do not respond to positive reinforcement. The craftsman without theory can only continue to follow the rules and deal with the exceptions encountered in his experience; the practitioner who knows the theory, realizing that the reinforcement has ceased to be positively reinforcing, may devise a form of reinforcement that is different from the one he had been using. Thus if praise from a teacher who has been identified with the Establishment and rejected by one's peers does not act as a positive reinforcement, an understanding of reinforcement theory can lead to a new ploy--or getting rid of the teacher.

However, the contribution of theory to flexibility and range of effectiveness is offset by the possibility that once the new solution is developed by the application of theory, it can be imitated without benefit of the theory or even the capacity to understand the theory. So a little theory goes a long way; the system as a whole may need it, but many of those working within the system can dispense with it. Do classroom teachers need it? If theoretical study of teaching is neither necessary nor sufficient to guarantee a successful performance, should it be included at all in the program of teacher preparation?

Aside from logical and practical grounds for doubting the need for theoretical study in the practice of a calling, there is statistical evidence that points, or seems to point, in the same direction. One study declares that college grades

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*/ I am indebted to Menges for many of the citations on this topic in my references.

bear little or no relationship to any measures of adult accomplishment.[9] Another says that there is little or no relationship between rated qualities of their work and length of graduate training, medical school admission scores, or class rank in physicians over thirty-five years of age.[10]

Berg found that grades and years of schooling were not predictive of the quality of work on a variety of blue-and white-collar jobs.[11] Even the prestitious curriculum of the Harvard Business School is debunked as a positive factor in managerial success.[12] The acme of education futility seems to be reached when it is reported that experienced teachers were no more effective in learner achievement than nonprofessionals.[13] I say the acme because neither experience nor the study of theory (which presumably had been the possession of the professional experienced teacher) made any difference.

Another line of research is no more optimistic about the efficacy of teacher training. When we are told that learning achievement seems to be about the same regardless of the method of teaching,[14] and that the attitudes toward learning and socioeconomic conditions are more important than the conditions of instruction,[15,16,17] then what is left of the whole enterprise of teacher education? In any event, the whole business is misguided, because students don't want teachers, not even people to help them learn, but only somebody with whom they can learn together.[18]

The lack of correlation between study of theory and "good" performance on the job argues against the inclusion of theory in the curriculum of teacher training; certainly against any direct instruction in it.

It would certainly eliminate what has been called the foundational studies, sometimes called the humanistic foundations of education, e.g., history and philosophy of education, since they do not even pretend to furnish rules for practice. Mr. Conant articulated this belief and has been echoed by critics of educationists too numerous to mention. The basis of Conant's argument was that theory which is not empirical cannot be applied to practice and therefore does not affect it. Philosophy and history not being empirical theory were, according to Conant, useless.[19]

It would be equally useless now, as it has been up to now, to try to show as some of us have done[20] that foundational studies have an interpretive context-building function rather than a predictive, rule-generating function, and that in teaching, proper context building is of paramount importance. However, since the tests applied to the usefulness of a study (in the research cited above) is a performance of one kind or another, the effect of context building would be hard to trace, even if the effects were expected.

I therefore discount considerably the remarks on page 7 of Elam's paper which says PBTE "takes into account evidence of the student's knowledge relevant to planning for, analyzing, or evaluating situations or behavior." Why this knowledge is necessary if performance is "the primary source of evidence" of the student's competency is not made clear. How is it to be "taken into account?" By reciting the knowledge? But this is rejected ab initio as nonpredictive of the desired behavior. By defending his performance or choice of performance? But is the performance justified on logical or practical grounds? Surely not on logical grounds for the unreliability of such grounds is the raison d'etre of the performance approach. But if justification is by result, no logical justification is necessary. All the student has to do by way of proof is "Try it" and see if "we like it."

However, the arguments against the inclusion of the humanistic foundational studies should count against the current requirements in general education as well, for most of these are justified by their contribution to context building rather than by their effects on performance. That prospective teachers are required to

undertake academic studies is usually justified by the fact that they are going to teach this or that subject, but this is hardly a justification for general or liberal education, most of which is not taught in turn to pupils in the schools.

This leaves us with the desirability of including empirical theory in the teacher education curriculum, because this kind of theory is supposed to be applicable to teaching. But even this sort of theory--on performance criteria of teaching competence--can be omitted, for the reasons already adduced: what little applicable theory exists need not be the possession of all or even of most teachers--on this criterion.

However, PBTE advocates may argue that nothing in the approach precludes the study of theory; the approach merely insists that theory be taught only as needed for competence in a given performance. What PBTE does intend to preclude, I suppose, is the study of theory separately at one time with the hope of applying it at a latter time--a sequence that is blamed for the "irrelevance" of the theoretical part of the conventional teacher education program. It is somewhat anomalous that at a time when the abstract intelligence of prospective teachers is higher than it ever has been, their ability to sense the relevance of theory is so meager.

I have tried to show in a general argument that if the correct performance of a task of operation is the sole criterion for competence, then the study of theory at any time is unnecessary. A more concrete analysis may be in order. Let us take, for example, the task of explaining Boyle's law. How much theory and of what kind would a prospective chemistry teacher have to study in order to demonstrate a competent performance? And at what stage in his training would he study it?

Suppose the prospective teacher recited the explanation of Boyle's law verbatim as it was put down in his textbook or the teacher's manual. Suppose he got all his pupils to do likewise. Would not this be proof of performance competence? Suppose, in addition, he could do all the exercises dealing with Boyle's law at the end of the chapter, and suppose most or all of his pupils could do likewise. What more definite and objective evidence of competence could one want--if that is the competence one wants? Yet it is clear that such a performance could be brought off without either the teacher or the pupils "understanding" Boyle's law. (Indeed, many generations learned geometry in precisely this way.) As a matter of fact, a demonstration that would really satisfy us that "explaining" Boyle's law had been performed adequately would not be any specific prescheduled behavior. On the contrary, some sort of dialogue with pupils that allowed us to infer--not observe--that the basic net of concepts we call chemistry is understood by both teacher and pupils is needed. The kinds of examples and counter examples; the way pupil questions are interpreted; the cues used to set the pupil on a more profitable course; not the performance but the state of mind we call understanding is the crucial "product" here. No single observable behavior is likely to be sufficient proof of such adequacy, for a state of mind is not expressible, except under extraordinary circumstances, in a single observable behavior. Skinner quite rightly doesn't worry about whether his pigeons understand what they are doing so long as they do it. If, however, the way a situation is perceived or interpreted is in any way an important ingredient of teaching or learning, then verbal behavior, or any other covert behavior, may not be sufficient indicators of either successful teaching or learning. In other words, performance-based teaching is in danger of capturing everything except what is most significant in many kinds of learning, viz., significance.*

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*/ I have discussed the general problem of behavioral objectives elsewhere and shall not review the arguments here.[21,22]

If this analysis of the situation is correct, where does the teacher get the theory necessary for understanding? Can he get it without formal study of chemistry and physics? Can he pick it up informally? Or when the performance called "explanation of Boyle's law" is the training task, does he go to a handbook to find the necessary concepts? Or does he trot off to a book on the logic of science to get his concepts for "explaining" explanation? Can he explain without defining and inferring? Can he really understand without some familiarity with the principles that guided the experimentation, observations, and the apparatus that resulted in the formulation of Boyle's law? The idea that people can raid theories as they need them, much as they raid encyclopedias for facts, when they need them, betrays a naive misunderstanding of the nature and the mastery of knowledge. Accordingly, if the PBTE insists that it does not exclude theory from its design, it has to make provisions for the study of theory as theory somewhere in the total program. This, it seems to me, is inconsistent with the PBTE approach if taken seriously. Does this conclusion also apply to the sort of theory we call educational theory? I see no reason for believing that it does not.

Notes

2. Berelson, B., and Steiner, G. A., Human Behavior: An Inventory of Scientific Findings. New York: Harcourt, Brace & World, 1964, p. 44.

3. Gage, N. L., "Can Science Contribute to the Art of Teaching?" Phi Delta Kappan. 1968, 49, 399-403.

4. Rogers, Carl R., Freedom to Learn. Columbus, Ohio: Charles E. Merril, 1969.

5. Polanyi, Michael, The Tacit Dimension. New York: Doubleday, 1966.

6. Aristotle, Metaphysics, 981a 13-30.

7. Etzioni, Amitai, The Semi-Professions and Their Organization: Teachers, Nurses, and Social Workers. New York: Free Press, 1969.

8. Menges, Robert J., "Didactic Instruction in Professional Education." Mimeograph, 1971.

9. Hoyt, Donald P., The Relationship Between College Grades and Adult Achievement: A Review of the Literature. Iowa City, Iowa: American College Testing Program Research Reports, 1965, No. 7 (quotation from unpaged summary).

10. Peterson, O. L. et al., "An Analytical Study of North Carolina General Practice." Journal of Medical Education, 1956, 31, (Special supplement) p. 165.

11. Berg, Ivar, Education and Jobs: The Great Training Robbery. New York: Praeger, 1970.

12. Livingston, Sterling, "Myth of the Well Educated Manager. The Harvard Business Review, January-February, 1971.

13. Popham, W. James, "Objectives and Instruction" in W. James Popham, et al., Instructional Objectives. Chicago: Rand McNally, 1969, pp. 32-64.

14. Stephens, J. M., The Process of Schooling: A Psychological Examination. New York: Holt, Rinehart & Winston, 1967.

15. Coleman, J. S. et al., Equality of Educational Opportunity. Washington, D. C.: United States Office of Education, 1966.

16. McDill, Edward L. et al., "Institutional Effects on the Academic Behavior of High School Students." Sociology of Education, 1967, 40, 181-199.

17. McKeachie, Wilbert J., Teaching Tips: A Guidebook for the Beginning College Teacher, (6th ed.). Lexington, Massachusetts: D. C. Health, 1969.

18. Powell, Robert S. Jr., "Participation is Learning." Saturday Review, 1970, January 10, 56-58, 82.

19. Conant, James B., The Education of American Teachers. New York: McGraw-Hill, 1963.

20. Broudy, H. S., "The Role of the Foundational Studies in the Preparation of Teachers" in Improving Teacher Education in the United States. Bloomington, Indiana: Phi Delta Kappa, 1968, pp. 1-35.

21. Broudy, H. S., "Can Research Escape the Dogma of Behavioral Objectives?" School Review, 79, No. 1, November, 1970, 43-56.

22. Broudy, H. S., "Tacit Knowing and Aesthetic Education" in R. A. Smith, ed., Aesthetic Concepts and Education. Urbana, Illinois: University of Illinois Press, 1970, pp. 77-106.

B. CRITIQUES OF PERFORMANCE-BASED TEACHER EDUCATION--TEACHER ORGANIZATION (AFT)

1. Sandra Feldman, "Performance Based Certification: A Teacher Unionist's View," Exploring Competency Based Education, ed. W. Robert Houston (Berkeley, Calif.: McCutchan, 1974), pp.91-99. Extract: 91-92; 98-99.

(The following extract of this discussion and critique of PBTE from a teacher unionist's point of view includes the beginning and end of the original paper.)

My point of view is that of a teacher unionist, and my comments are based on a policy adopted by our union in New York City after considerable discussion and inquiry by a committee of about fifteen classroom teacher activists.

We were not "involved" in the performance based certification moves of the New York State Education Department; we ourselves decided to become involved. Our point of view is important because we have a strong organization and we intend to be heard.

Our committee did a lot of homework. We read all the material available and discussed it at length. We spent a day at the Educational Testing Service in Princeton, New Jersey, met with Fred McDonald and his staff, and looked at what they were doing. We met with a number of other experts in the field and attended conferences. We developed a position paper on the subject.

Since I am going to be critical and, I hope, controversial, I want to say at the outset that we do not oppose performance based teacher education. The concept is a welcome one. I will discuss first our positive feelings on the subject, and why we feel that way, and secondly our strong reservations, our opposition to performance based certification--and why. I will continue with a summary of our recommendations...

[The paper continues with a discussion of both positive and negative reactions to performance-based teacher education. Among the negative reactions is a strong opposition to performance-based certification.--Editor]

CONCLUSION

Therefore, as organized teachers with a strong organization, we came to certain conclusions:

(1) We will cooperate with our universities in the effort to develop performance based teacher education programs with a research component. In the summer of 1972 we recruited over 300 classroom teachers to work with the City University of New York in the beginnings of a project to use the expertise of experienced teachers to work on the development of competency lists that can then be researched.

If we admit that no teaching strategies have been scientifically proven effective, we can begin to build a model based on the research now available and on what classroom teachers believe is valid. Using the classrooms of experienced teachers, we can teach student teachers in that image; its effectiveness can then be measured in the schools when the teachers so taught are on the job. If the research is built in and simultaneous with the development of a preservice training model, we think we'll go a long way toward improving teaching.

(2) We will insist that the much-needed, time-consuming, massive research be done to find out what we need to know about teacher behavior and its effects on learning. We will fight for the necessary funds for this research, and demand that teachers have a meaningful voice in its direction.

(3) We will continue to support the establishment of an on-the-job internship for teachers--whatever their preservice training was--so that during the first year new teachers carry only half a class load and work with experienced teachers the rest of the day. In the second year they would carry three-quarters of a load. They would have full classroom responsibility in the third year of probation.

(4) We will oppose any attempts (certainly here in New York) to institute performance certification before the research is completed.

We believe that in education we ought to stop reinventing the wheel, stop bringing in one tired "innovation" after another. For once, at least, we ought to base a fundamental change on substantive, proven knowledge instead of on public relations and guesswork.

We believe that experienced teachers have an important contribution to make, and if they are truly involved, in a nonthreatening way and with the time and conditions provided for, they will be telling us not just what to do for prospective teachers, but what kind of retraining and help they themselves need. Experienced teachers and the representatives of teachers must be involved in this if it is to succeed.//

SOURCE BOOK JURY MEMBERS

Theodore Andrews, Former Associate in Teacher Education and Certification, New York State Department of Education, Albany, New York 12201

Horace Aubertine, Professor of Education, Illinois State University, Normal, Illinois 61761

Hugh Baird, Professor of Secondary Education, Brigham Young University, Provo, Utah 84601

Caseel Burke, Professor of Education, Weber State College, Ogden, Utah 84403

Ray C. Dethy, Dean, School of Education, Central Connecticut State College, New Britain, Connecticut 06050

Richard Dudley, Chairman, Education Department, Doane College, Crete, Nebraska 68333

William Drummond, Professor of Education, Department of Curriculum and Instruction, College of Education, University of Florida, Gainesville, Florida 32601

Iris M. Elfenbein, Assistant Professor, Education Department, Herbert H. Lehman College, Bedford Park Blvd., West Bronx, New York 10468

Harlan Ford, Deputy Commissioner of Teacher Education and Instructional Services, Texas Education Agency, Austin, Texas 78701

Tommy Fulton, Immediate Past President of Oklahoma Education Association and Art Teacher, Jarman Jr. High School, Midwest City, Oklahoma 73110

Jesse Garrison, Director of Teacher Education, Oregon College of Education, Monmouth, Oregon 97361

Castelle Gentry, Professor of Education, Michigan State University, East Lansing, Michigan 48823

Richard Ishler, Assistant Dean, College of Education, University of Toledo, Toledo, Ohio 43606

Norman Johnson, Chairman, Department of Education, North Carolina Central University, Durham, North Carolina 27707

Patricia Kay, Director, CBTE Project of the City University of New York, School of Education, Bernard Baruch College, New York, New York 10010

Lorrin Kennamer, Dean, College of Education, University of Texas at Austin, Austin, Texas 78712

Donald Medley, Professor of Education, School of Education, University of Virginia, Charlottesville, Virginia 22903

Paul Mohr, Dean, School of Education, Florida A and M University, Tallahassee, Florida 33207

Tom Nagel, Program Development Specialist, School of Education, California State University, San Diego, California 92015

William Orman, Professor of Education, Prairie View A and M College, Prarie View, Texas 77445

Roger Pankratz, Assistant Dean, School of Education, Western Kentucky University, Bowling Green, Kentucky 42101

Philip Richards, Chairman, Behavioral Arts and Sciences, College of St. Scholastica, Duluth, Minnesota 55811

Rita C. Richey, Assistant Professor of Education, UAE Systems, Department of Vocational and Applied Arts Education, Wayne State University, Detroit, Michigan 48202

Allen Schmieder, Chief, Support Programs, Division of Educational Systems Development, U.S. Office of Education, Washington, D.C. 20202

Michael Shugrue, Dean, Community Relations and Academic Development, Richmond College, City University of New York, 130 Stuyvesant Place, Staten Island, New York 10301

James Steffensen, Program Development Branch, Teacher Corps, 400 Maryland Avenue, S.W., Washington, D.C.

Elaine P. Witty, Norfolk State College, Department of Elementary Education, Norfolk, Virginia 23508

Four jury members chose to remain anonymous.

ORIGINAL JURY LIST OF MATERIALS

This is the list of materials that was sent to the Source Book jury in the first cycle of the selection process. To facilitate the location of this material for those who wish to read a selection in its entirety, ED (ERIC Document) numbers have been provided for those publications that have been announced in Resources in Education (RIE). RIE announcement includes an abstract of the document as well as bibliographic and purchasing information. An asterisk (*) next to the ED number indicates that the document is available for study on microfiche at the over 600 locations that have an ERIC Microfiche Collection and for purchase from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia, 22210. Journal articles are not announced in RIE but are indexed in a supplement to RIE, Current Index to Journals in Education (CIJE). For journal articles in this list or publications not announced in RIE, the reader is referred to the original publisher of the material.

AACTE Committee on Performance-Based Teacher Education. Achieving the Potential of Performance-Based Teacher Education: Recommendations. PBTE Series: No. 16. Washington, D.C.: American Association of Colleges for Teacher Education, 1974. ED 087 748*

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Other materials on PBTE can be found in the ERIC data base. Material in ERIC is indexed and retrieved by use of descriptors or search terms. To use a descriptor: (1) Look up the descriptor in the SUBJECT INDEX of monthly, semi-annual, or annual issues of Resources in Education (RIE). (2) Beneath the descriptors you will find title(s) of documents. Decide which title(s) you wish to pursue. (3) Note the "ED" number beside the title. (4) Look up the "ED" number in the "DOCUMENT RESUME SECTION" of the appropriate issue of RIE. With the number you will find a summary of the document and often the document's cost in microfiche and/or hardcopy. (5) Repeat the above procedure, if desired, for other issues of RIE and for other descriptors. (6) Indexes and annotations of journal articles can be found in Current Index to Journals in Education by following the same procedure. Copies of periodical articles cannot be secured through ERIC.

TOPIC: Performance-Based Teacher Education

DESCRIPTORS

Performance Based Teacher Education; Performance Criteria; Performance Based Education; Teacher Education

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The Association maintains its headquarters in the National Center for Higher Education, in Washington, D.C. -- the nation's capital, which also in recent years has become an educational capital. This location enable AACTE to work closely with many professional organizations and government agencies concerned with teachers and their preparation.

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A number of activities are carried on collaboratively. These include major fiscal support for and selection of higher education representatives on the National Council for Accreditation of Teacher Education--an activity sanctioned by the National Commission on Accrediting and a joint enterprise of higher education institutions represented by AACTE, organizations of school board members, classroom teachers, state certification officers, and chief state school officers. The Association headquarters provides secretariat services for two organizations which help make teacher education more interdisciplinary and comprehensive: the Associated Organizations of Teacher Education and the International Council on Education for Teaching. A major interest in teacher education provides a common bond between AACTE and fraternal organizations.

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