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ABSTRACT

Fewer competencies should be used as the organizing structure for teacher education programs, since all relevant topics cannot be covered thoroughly anyway. One variant of an outcomes-focused approach to teacher education is an objectives-oriented strategy. The criterion is not what the teacher does but what happens to pupils as a consequence of what the teacher does. Objectives help teachers identify more clearly, prior to instruction, the kinds of changes which should be promoted in the learners. Since it is easier to improve a low-density program by supplementing it than it is to delete segments of a high-density program, only three competencies for an objectives-oriented teacher education program are recommended: (1) teachers must be able to achieve prespecified instructional objectives with diverse kinds of learners; (2) teachers must be able to both select and generate defensible instructional objectives; and (3) teachers must be able to detect the unanticipated effects of their instruction. The assessment tactics recommended include teaching performance tests, inventories, simulation approaches, and allowing students to develop or select their own objectives. (For related document, see TM 002 697.) (KM)

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IDENTIFICATION AND ASSESSMENT OF MINIMAL COMPETENCIES FOR OBJECTIVES-ORIENTED TEACHER EDUCATION PROGRAMS

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Classroom teachers have hundreds of things to do. It should follow, then, that prospective classroom teachers have hundreds of things to learn. But too many well meaning teacher educators have used these two premises to draw the conclusion that they therefore have hundreds of things they must teach. And that represents a serious error.

Given the instructional time available in typical teacher education programs, we must be more modest in our aspirations. When we ask teacher education candidates to swing an axe at every tree in the forest, they may fail to fell even a sapling. Far too many teacher education programs are predicated on a cover-the-waterfront concept, that is, give 'em the works in cultural foundations, educational psychology, and instructional methods. And the use of the verb "cover" is quite deliberate. Most teacher educators feel compelled to cover content in their courses that they perceive as germaine to the teacher's responsibilities. When these professors have covered such content, they sleep easier at night. But few of these coverage-culprits ever verify whether their extensive coverage of subject matter ever results in any payoff for the teacher candidate, other than the ability to pass a memory-oriented final examination. And as in so many content-coverage courses, not just those in a teacher education sequence, what was covered one semester has faded from the student's memory by the first week of the next term.

Particularly at a time when teachers are being weighed more scrupulously on the public's accountability scales, teacher educators who persist in covering all relevent topics are probably doing an injustice to the teachers they are responsible for preparing. It makes more sense for the teacher educator to select a limited number of competencies which teachers should acquire, then focus the program's resources on making certain these skills are acquired.

Now even if this point of view (i.e., a focus on the attainment of a modest set of competencies) were assiduously followed, there would still be considerable disagreement regarding which competencies to promote or, in more general terms, what kinds of content to emphasize. Some would prefer to focus on the teacher's attainment of a wide repertoire of instructional techniques. Others might attend more directly to the teacher's becoming a more integrated human being. Still others would emphasize the teacher's acquisition of subject matter expertise. The alternative emphases are myriad.

An Objectives Orientation

The remainder of this analysis will describe a particular orientation which can be described in general terms as an outcomes-focused approach. An outcomes-focused approach emphasizes the results that a teacher's efforts produce in modifying the behaviors of learners, and can be contrasted with more process-focused strategies which attend to the instructional ploys a teacher utilizes with pupils. Because instructional objectives can serve as a convenient way of describing the intended results a teacher wishes to achieve with learners, we may

refer to one variant of an outcomes-focused approach to teacher education as objectives-oriented. An objectives-oriented strategy for educating teachers will be treated here.

The rationale for an objectives-oriented approach to teacher education characteristically rests on a central assumption, namely, that the raison d'être for a classroom teacher is to bring about worthwhile changes in learners, i.e., important kinds of improvements in their knowledge, attitudes, skills, etc. Proponents of an objectives-oriented teacher education program believe that even if a teacher lectures with consumate skill, but the students are left unchanged, the teacher has failed. Similarly, they contend that even if the teacher has led a nondirective discussion with the artistry of Carl Rogers, but the students are basically unaffected, then the teacher has failed. The criterion, quite clearly, is not what the teacher does, but what happens to pupils as a consequence of what the teacher does. Few objectives-oriented teacher education programs are not somehow wedded to this basic view of a teacher's mission.

But how do objectives enter the picture? Well, their chief value is in helping teachers identify more clearly, prior to instruction, the kinds of changes which should be promoted in the learners. Statements of instructional objectives are nothing more than that, convenient descriptors of intended changes in learners. In the early 1960's, advocates of the oft-maligned behavioral objective endorsed such formulations vigorously because of their focus on the learner's post-instruction behavior, not on what the teacher was going to do or the content that the course would cover. It is unfortunate that some educators have

become so entangled with behavioral objectives they have made them a fetish. Precise instructional objectives, in the main, are simply statements of what teachers want to happen to learners as a result of instruction. The more explicitly these intentions can be formulated, the better we can tell whether the intentions have been realized, and it is for that reason that most proponents of objectives strive for measurability as the sine qua non of an acceptable objective. But remember the central purpose of an instructional objective -- it is to help an instructional planner conceptualize the kind of changes to be promoted in learners.

Proponents of instructional strategies featuring measurable objectives should forthrightly admit that their conception of the instructional process is generally one based on rational decision-making. Some critics of an objectives-oriented approach denigrate such strategies as "industrial models" of education and therefore somehow unworthy of man's truly humanistic capabilities. They would prefer less systematic and intellectualized approaches, favoring instead more intuitive, dynamic models. But when Aristotle isolated the essence of man as his rational animality, and held that a person's potentials were realized to the extent that those rational powers were actualized, he offered objectives-oriented teacher educators a satisfactory counter-argument. To plan one's actions on the basis of the action's likely consequences is less industrial than it is rational. To be clear-headed is not to be mechanistic. To define anticipated outcomes in advance does not relegate one to an assembly line mentality. On the contrary, to be rational in our education decisions will

give our students the best chance of prospering from the education we provide them.

Are Instructional Techniques Unimportant?

With most objective-oriented teacher education programs, it is proper to assert that a distinction is drawn between instructional means and instructional ends, with the stress typically on ends. But as anyone who has attempted to achieve a significant end will agree, it is brought about by employing appropriate means. Hence, an outcomes-focused teacher educator must be particularly attentive to instructional techniques, enhancing the teacher's skill in employing a wide repertoire of teaching tactics, for it is only through the judicious use of such procedures that significant kinds of results in learners can be attained.

Minimum Competencies

Programmed instruction specialists are familiar with an approach to the development of instructional materials known as "lean programming." In such a strategy the programmer tries to accomplish a given instructional objective with the least possible amount of instructional stimulus material. Aside from its obvious economic advantages, lean programming carries with it a dividend when an early version program is unsuccessful. It is easier to improve a low density program by supplementing it than it is to delete segments of a high density program, for in the latter approach we may be excising the very ingredients that contributed to whatever effectiveness the program possessed.

Similarly, what is being proposed here may be described as

lean competency promotion, for only three competencies of an objectives-oriented teacher education program will be recommended. Now surely teacher education candidates will learn other things as they complete their preparation programs; they may even learn some of the hundreds of things referred to at the outset of this paper. But, since it will be easier to supplement a few minimal competencies than to delete from a more diverse array, it is proposed that only three such skills be emphasized in an objectives-oriented teacher education program.

The remainder of this discussion will isolate these three minimal competencies, offer some support for their importance, and describe alternative methods of assessing the degree to which each has been attained. These three competencies may be used as the guiding goals of either a preservice or inservice teacher education effort. The differences in strategies for promoting the competences for experienced or beginning ~~teachers~~ teachers are only superficial and the differences in assessment tactics almost nonexistent.

Competency Number One

Since the chief assumption of an objectives-oriented program is that teachers should promote worthwhile changes in learners, it is not surprising that the initial competency to be fostered deals with that basic skill:

1. Teachers must be able to achieve prespecified instructional objectives with diverse kinds of learners.

This competency implies that a skilled teacher should, when

presented with clear statements of intended changes in learners, be able to devise instructional sequences which will work, that is, which will bring about the sought-for changes in the learners. Further, the competency indicates that this skill be manifest with different kinds of learners, for example, children of differing ages, ability levels, ethnic backgrounds, socioeconomic status, etc.

The truly professional teacher not only will need to be conversant with tested instructional principles in order to design such instructional plans, but will have to discover what kinds of teaching tactics personally prove effective. Not all violinists can get good music from the same fiddle. Different people must adopt different teaching styles. For some teachers a nondirective approach will work beautifully, while for other teachers such a strategy would be a disaster. It is imperative that a teacher discover what communication style, coupled with relevant instructional principles, typically results in the attainment of prespecified instructional objectives for that teacher.

Assessment Tactics. There are two prime contenders for assessing the degree to which this initial competency has been attained. The first of these involves the use of teaching performance tests (or instructional minilessons) whose rationale and applications are described elsewhere.[1] Briefly, a teacher

[1] Popham, W. James, "Performance Tests of Teaching Proficiency: Rationale, Development, and Validation." American Educational Research Journal, January, 1971, 8(1), 105-117; Popham, W. James, Applications of Teaching Performance Tests to Inservice and Preservice Teacher Education, paper presented at the annual meeting of the American Educational Research Association, New Orleans, Feb. 26-March 1, 1973

is given a measurable instructional objective (typically dealing with a novel topic) along with any necessary background information needed to understand the objective. The teacher plans a short lesson (e.g., 15-20 minutes) designed (1) to accomplish the objective and (2) to be interesting to the learners. The lesson is then taught, either to a small group of 6-8 learners, or to an entire class. At the conclusion of the lesson a posttest is administered to the learners. The posttest has not been previously seen by the teacher, but its nature is readily inferrable from the clearly stated objective. A form requesting the learner to "rate how interesting the lesson was" is also provided. The teacher is judged on the basis of whether both the cognitive intention (the objective as measured by the posttest) and the affective intention (the promotion of learner interest as measured by the rating form) have been achieved.

The recency of serious research attention given to teaching performance tests as an evaluative tool probably renders them inappropriate at the present time for assessing individuals, other than those at the extremes of a distribution, i.e., the particularly good or particularly poor goal achievers. Performance tests may also be used to evaluate the efficacy of a teacher education program by administering them on a pre- and post-program basis to the teachers involved. For example, suppose two teaching performance tests ($\underline{X}$ and $\underline{Y}$) were employed, one of each could be administered to half the teachers (or teacher candidates) at the beginning and at the close of the program. The prediction would be that $\bar{X}_{pre} < \bar{X}_{post}$ and $\bar{Y}_{pre} < \bar{Y}_{post}$.

Although the reliability of different teaching performance tests has not yet been established with sufficient precision to warrant their use for individual evaluation, with more systematic delineation of the key elements constituting such tests we may find that in the future they can be used for more fine grained analyses of individual teacher's mastery of competency number one.

A second approach to the assessment of the initial competency is to allow teachers to posit their own instructional objectives, develop a congruent mastery examination, then instruct a group of learners in order to attain the objective. Interest ratings can also be employed here. Because an objective generated by a teacher can be less readily compared with objectives pursued by other teachers, there is the additional responsibility of the educator to appraise the quality of the teacher's objective, not to mention the consonance of the test with the objective. The advantages of this second approach is that the teachers do most of the work in generating the objectives, tests, etc. Further, because the topic need not be novel, the objective may be designed for longer periods of instructional time as part of the ongoing curriculum activities. With topics which fall within the learner's probable experience base, a pretest must be administered to establish entry behavior level.

There are, of course, a number of en route skills which a teacher should master on the way to attaining this initial competency, but by employing one, or possibly both, of these assessment tactics the teacher educator should be able to determine whether competency number one has been satisfactorily

promoted.

Competency Number Two

It has been observed elsewhere that one of the consoling features of conventional instruction is that it is characteristically so impotent we need not worry too much about what its goals are. Similarly, if a teacher is not particularly proficient at accomplishing instructional objectives, then we need not be too concerned about what the teacher is attempting to do. But just suppose that a teacher has achieved competency number one, that is, has become skilled in promoting the learners' accomplishment of prespecified objectives -- then it becomes extremely important to have the teacher direct this instructional prowess toward the proper goals. Accordingly, the second minimal competency of an objectives-oriented teacher education program becomes:

2. Teachers must be able to both select and generate defensible instructional objectives.

Since teachers who are skilled goal-achievers must become able to either generate or select worthy goals, it is fortunate that curriculum specialists are finally discarding their customary intuitive approaches in favor of more practical goal-determination procedures. For example, the current refinement of large scale educational needs assessment approaches can be translated into practical guidelines for teachers who wish to determine educational objectives in a more rational fashion. Screening of goals by the use of various taxonomies of educational objectives, such as those devised by Gagné, Mechner, Bloom, and Krathwohl, also can lead to the adoption of more appropriate goals. Without

going into those technical procedures more intensively, it can be established that these are schemes now available which, albeit imperfect, can aid a teacher in the attainment of competency number two.

Since there are now available to teachers an increasing number of extant pools of instructional objectives, thereby permitting teachers to select objectives rather than be obliged to generate ~~them personally~~, it seems wise to develop the teacher's proficiency in objectives-selection as well as objectives-generation.

Assessment Tactics. There are several procedures available for assessing the teacher's mastery of competency number two. One procedure would require teachers to generate a set of measurable objectives, then have these judged by others (using criteria of significance, suitability for learners, etc.). A description of real or fictitious learners could be given as part of the goal-generating task, and then descriptions could be examined by judges prior to the appraisal of the goals. Teachers could be asked to generate such objectives at the beginning of the teacher education program and at its conclusion. These papers could be coded and rated by judges without knowing the time at which the papers had been written. The prediction, of course, is that the end-of-course objective would be rated higher.

Another approach to assessment might consist of having a teacher select a specified number of objectives from a larger pool of such objectives, then have the selections appraised by others. As with the previous assessment approach, subsequent

judgments of the teacher's objectives (either generated or selected) can be rendered according to very general or very specific criteria.

Additional assessment tactics might involve the teacher's describing, in an exam-like setting, alternative procedures for selecting or generating defensible objectives. These descriptions, as with the first two assessment tactics, might then be evaluated by judges, and if desired, on a pre-program and post-program basis.

Variations of these approaches are possible, of course, such as having teachers themselves rate the adequacy of objectives selected by other teachers, such ratings being subsequently appraised.

Competency Number Three

The first two competencies have been highly related to instructional objectives, their determination and accomplishment. The third minimal competency of an objectives-oriented teacher education program is, unlike the first two, quite unrelated to objectives. In fact, it is almost antithetical to a concern about objectives:

3. Teachers must be able to detect the unanticipated effects of their instruction.

In spite of good intentions, even combined with good intention-achieving skills, a teacher's efforts will often produce unforeseen detrimental and beneficial results with students. Hence, all of the outcomes of instruction must be considered. The teacher must be skilled in determining the totality of what

happened to students, including of course what was supposed to happen.

There are several different techniques a teacher might employ to assess unanticipated effects of instruction, such as the use of (a) relatively unstructured anonymous student questionnaires (e.g., "List the best and worst things that happened to you because of this course."), (b) structured anonymous questionnaires which attempt to isolate the positive and negative effects, cognitive as well as affective, which might occur because of instruction, (c) quasi-projective techniques such as the assignment of an essay to the class dealing with topics such as "My reactions to Biology I," or "Autobiography of a U.S. History Student," and (d) the investigation of the results of a teacher's efforts by a colleague who follows Scriven's Goal Free Evaluation strategy, that is, who attempts to discover (without even knowing what the teacher's objectives were) what happened to the students.

It is imperative that objectives-oriented teacher education programs promote this third competency, for without it there is too much danger that teachers may have marvelous intentions, accomplish them beautifully, but at the same time promote harmful side effects which more then cancel out the anticipated results.

Assessment Tactics. Even more clearly than the first two competencies, this third is heavily dispositional in nature, that is, we must strengthen teachers' dispositions to attend to the unanticipated effects of instruction.

One rather primitive method of getting at this disposition

is to employ an inventory such as that presented in the Appendix. The rationale and scoring scheme of this inventory, Looking at Teaching, is supplied along with the inventory. In brief, a student is asked to register various degrees of agreement with a series of statements regarding instruction, some of which deal with the use of unanticipated side effects.

On the skill side of this competency, we could always ask a teacher to describe as many ways as possible whereby a teacher who wishes to can detect such effects.

Perhaps simulation approaches offer the greatest promise with respect to ascertaining whether this competency has been mastered. Instructional situations could be presented to the teacher, either on paper, videotape, or film, in which there are clearly intended objectives plus some evidence as to the degree to which they had been achieved. In addition, there would be some subtly identified unanticipated effects of instruction. The teacher would be asked to evaluate the worth of the instruction, and a record would be made of the extent to which attention to the unanticipated side effects had been incorporated in that evaluation.

Getting teachers to describe their general evaluation strategies is another alternative, for one could then inspect such descriptions to see, if in response to this largely unstructured stimulus, unanticipated side effects were built into the teacher's analysis plan.

A Beginning

In review, an attempt was made in this analysis to defend

the proposition that fewer competencies should be used as the organizing structure for teacher education programs. An objectives-oriented teacher education approach was described and three minimal competencies for such a strategy were isolated, along with alternative assessment tactics for each.

These three competencies were identified on the basis of the writer's experience with outcomes-focused teacher education programs. They are predicated on the belief that teachers who possess such skills will be able to do a better job for the learners they attempt to serve.

The assessment tactics, however, are certainly not as sophisticated as one would wish. Hopefully, this delineation of possible assessment ploys may stimulate other objectives-oriented teacher educators to share their pet assessment devices. More importantly, perhaps, it may encourage teacher educators, both objectives-oriented and those of other persuasions, to scrutinize the adequacy of minimal skills offered by their programs and the schemes which they employ for their assessment.

Appendix

LOOKING AT TEACHING

Directions. This inventory consists of four brief descriptions of instructional situations, each of which is followed by five statements. Please register the extent to which you agree or disagree with each of the five statements by circling the appropriate letters to the left of each statement according to the following scheme:

SA = Strongly Agree
A = Agree
U = Uncertain
D = Disagree
SD = Strongly Disagree

There are no right or wrong answers to this inventory. It represents an effort to secure your reactions to various views of instruction. Therefore, please be as candid as possible in your responses.

Situation I. Mr. Hill is a junior high school history teacher who believes very strongly in "open education." He designs class sessions so that they are relatively unstructured, with a heavy emphasis on discussions plus individual reports of resource projects students have initiated because of their personal interests. Mr. Hill finds that students are generally responsive to his approach, but some of them register dissatisfaction that they are not learning enough to prepare them for serious high school history classes.

SA A U D SD 1. Mr. Hill has no right to emphasize open education if it deprives students of standard course coverage.

SA A U D SD 2. The type of instruction Mr. Hill is providing will generally be uninteresting to students.

SA A U D SD 3. It is impossible to combine any form of open education with adequate content coverage.

SA A U D SD 4. Mr. Hill should have devised explicit instructional plans, almost day-by-day details, prior to the beginning of the semester.

SA A U D SD 5. Mr. Hill should not try to detect any effects of his instructional scheme other than those he guessed might emerge.

Situation II. An elementary school teacher, Mrs. Price, usually works with third or fourth-grade children. Normally, most students who come to her class can read quite well, but 20-25 percent cannot. She devises special self-instruction learning centers for these poor readers and encourages them to go to the centers during unscheduled class time so that they can improve their reading abilities. Although the performance of these children indicates they have become somewhat better readers, they are subjected to considerable verbal abuse by the good readers in the class whenever they participate in the learning centers.

SA A U D SD 6. Self-instructional materials can be a valuable resource for any teacher.

SA A U D SD 7. Mrs. Price should have done nothing special for the poor readers coming to her class because their deficiencies were the responsibility of previous teachers.

SA A U D SD 8. Even though it was not foreseen, Mrs. Price should realize that the negative effects of the abuse they received may have been more harmful to the poor readers than whatever progress they made in reading.

SA A U D SD 9. It is normal for 20-25 percent of children to read badly; so any gains Mrs. Price can get will be all the more valuable.

SA A U D SD 10. Poor achievers must always expect to experience a certain amount of derisiveness from normal and high achievers.

Situation III. Mr. Cohen is a high school English teacher who plans his instruction with inordinate care. Prior to each class he details every significant level of achievement he believes students should make as a consequence of his course. He also attempts to spell out any major attitudinal or interest shifts he is attempting to promote with the pupils. At the close of the academic year he evaluates his English class totally in terms of whether these intended changes, both intellectual and attitudinal, have been produced in the learners.

SA A U D SD 11. Mr. Cohen should certainly determine whether, at the beginning of the academic year, his pupils can always display the intended behaviors.

SA A U D SD 12. If learners are informed of the clear expectations of an instructor, such as those which Mr. Cohen appears to have, they will tend to be less anxious about the learning situation.

SA A U D SD 13. Beyond the clearly delineated behavioral changes which Mr. Cohen has identified, he should discern whether there were any adverse or beneficial effects of students which he had not considered prior to instruction.

SA A U D SD 14. Mr. Cohen's careful planning, although commendable in the abstract, will probably take too much valuable energy from his actual instruction.

SA A U D SD 15. In general, humanity subject fields such as English are the least amenable to an instructional approach dependent in the prespecification of educational goals.

Situation IV. Ms. Harold is an elementary school's music instructor who must work instructionally with children at all levels. She feels terribly overburdened with the number of youngsters she is obliged to service, thus devises extremely intensified music lessons for each grade level. Although there is little doubt that the children are learning about music, there are a number of indications that they are becoming antagonistic to music in the process. Ms. Harold behaves as though she were oblivious of these negative attitudes.

SA A U D SD 16. Ms. Harold is probably required to undertake instruction beyond what might be expected of a typical teacher, hence we should excuse any negative attitudes she might be creating.

SA A U D SD 17. The negative attitudes the children are developing are relatively unimportant, particularly because the children are learning a great deal about music.

SA A U D SD 18. Only in aesthetic fields such as music and art will intensified instruction lead to student negativism.

SA A U D SD 19. Ms. Harold should abandon any emphasis on music skills and focus instead on promoting positive attitudes toward music.

SA A U D SD 20. Ms. Harold must recognize that unanticipated effects of instruction are potentially more important than intended effects, and should strive to identify such effects as the negative attitudes seen here.

Scoring Directions

LOOKING AT TEACHING

This inventory is designed to detect how predisposed teachers are to detecting the unanticipated effects of instruction and use them in evaluating the quality of instruction. Of the 20 statements with which respondents are to indicate agreement or disagreement, only five deal with this question. The other 15 items are included only to camouflage the real purpose of the inventory so that respondents are not readily able to detect the socially desirable way to answer the items.

The five items and the scores associated with each response are given below. Omitted items should be given a score of 3.

KEY

Item Number	Points				
	SA	A	U	D	SD
5	1	2	3	4	5
8	5	4	3	2	1
13	5	4	3	2	1
17	1	2	3	4	5
20	5	4	3	2	1

Since a person might earn a maximum of 25 points on the basis of these five items, scores approximating 25 should be considered to reflect a predisposition to consider unanticipated side effects important in evaluating the quality of a teacher's instructional efforts.