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By-Openshaw, M. Karl

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It is not only possible but immediately imperative that the substance and experiences pertinent to the education of teachers be identified, defined, and organized--with teaching behavior and teaching performance skills used as the focal point--so that teacher education can contribute maximally to teacher effectiveness. Educators must immediately concern themselves with reconstituting the substance of teacher education through empirically validated knowledge. Studies concerning teaching methodology, the systematic observation of classroom behavior, instruments and media of instruction, the open and closed mind, concept development, paradigms for research on teaching, and the dynamics of group interaction should be at the heart of the reconstruction process. Although teaching behavior is being studied and research is beginning to have an impact on some programs, much remains to be done. Research is needed on education as a social institution and on the school as a social system so that educational objectives can be set for schools in the setting in which the schools function. The impact of sociological factors on the role of the teacher needs study, and recent trends and developments such as team teaching and programed learning need further analysis and evaluation. (Twenty-four references are cited) (JS)

VALIDATING THE CONTENT OF TEACHER EDUCATION

M. Karl Openshaw

Presented at the Conference Honoring

Florence B. Stratemeyer

French Lick, Indiana, June 10-12, 1965

VALIDATING THE CONTENT OF TEACHER EDUCATION*

M. Karl Openshaw
Co-Director, Research in Teacher Education
The Ohio State University

Good teachers are essential to the preservation and improvement of the American way of life. It follows that the more capable teachers are, the stronger and more productive the individuals in the society, and, thus, the nation itself may become. The scientific, intellectual, and social changes characteristic of twentieth century America demand that education contribute to the development of new skills and knowledges, in developing the nation's youth for increased scientific and technological understanding, constructive social interaction, and creative use of their potentialities. The man of tomorrow must be educated to meet challenges and conditions that cannot be adequately predicted today. The logical place to initiate the formulation of the needed prophetic system of education is within the ranks of the teaching profession, as teachers contribute greatly to the achievement of creating such men. Increased efficiency of teachers can only be brought about by more effective preparation.

Present Practice Inadequate

Currently there is intense concern about the preparation of teachers to perform certain specialized functions in meeting the demands of problems within our society. For example, great efforts in time and resource have been expended in attempting to meet the educational challenges resulting from the problems of disadvantaged youth in the depressed areas of the large cities. Suggested revisions in teacher education programs to cope with these problems have included such notions as internship service in schools in disadvantaged areas, combination preparation programs in social work and education, participation experiences in social work agencies, and the addition of special courses. Despite the apparent lack of impact any such practice seems to have had in resolving the problem in these areas, one element of common agreement has emerged from attempts to meet this challenge: Conventional teacher preparation is inadequate for teachers placed in such situations.

The term inadequate has not been restricted to teacher preparation of a specific group or for a specialized function. There is widespread dissatisfaction with teacher preparation in general, a feeling that the substance of professional education has been only superficially identified, is organized poorly, or is missing altogether in our present professional programs of teacher education.

Symptoms of Deficiency

Critics of teacher education from within and outside the profession have identified a number of symptoms of deficiency in current preparation

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which tend to be supported by the observations of those who are participating in and studying the process of educating teachers. The major criticisms center around:

> The duplication of content in education courses within a single program.
>
> The proliferation of courses by grade level and subject matter distinctions, when these distinctions appear not to represent a real difference in the theory and practice which supports the course content.
>
> The complaint of practitioners that education courses and the practice of education are unrelated or that the relationship is obtuse.
>
> The lack of agreement on a common substance for the education of teachers in contrast with preparation programs in other professions.
>
> The lack of satisfaction expressed by students in the intellectual stimulation derived from the study of education.
>
> The gaps in professional preparation when the content of the courses is contrasted with the emerging knowledge about the field of education, and the inability to integrate this new knowledge, when it is identified, into existing preparation patterns.
>
> The failure to incorporate substantive elements from closely related disciplines into the study of education.

Most of these criticisms might be categorized under the general criticism that it is difficult to identify a logical structure or theoretical framework which undergirds the professional education of teachers and which is directly related to the teaching act.

The Tenuous Nature of Present Programs

While the art of teaching is of ancient lineage, a science of teaching has yet to be developed. Historically, professional fields have developed as research findings and empirical knowledge provided a foundation for progress. Pre-eminent among the many problems with which teacher education is fraught is its apparent inability to provide for its own systematic improvement. To be sure, efforts to examine selected aspects of the educative process abound and have done so for many years, but how do these efforts relate to teacher education *per se*? Education courses characteristically draw their substance from psychology, philosophy, sociology, history, and practical experience, but the relationship of these disciplines to actual teaching has not been made explicit as yet. No systematic effort has been made to assess the knowledge from such sources as a basis for evolving valid substance for teacher education. The selection of content has been left essentially to textbook writers or individual professors, but the profession of teaching cannot continue to relegate the important task of determining the substance of its program to individual authorities however competent they may be. The result of this practice has given rise to programs that are

replete with useless theoretical speculations about teaching and learning, pedagogical opinion and folklore, and unjustified appeals to philosophical concepts about the nature of man, knowledge, and society.

A program of teacher education can be no better than the substance of which it is composed. Many of the assumptions, curricula, and procedures which characterize programs today are of uncertain validity. Teacher education has proceeded as though the content now included in education courses was adequate, as though the important task was merely to find other ways of organizing and presenting what has been taught traditionally. A concerted effort must be made to rectify this condition, to weed out fads, doctrines, immediate remedies and replace them with content that has been validated. To function adequately, the practitioners of any profession must be educated to select appropriate methods of handling persons, subjects, or substances. The value of a professional program, then, depends upon the validity of the selections made, else the preparation is superfluous.

Strong Knowledge Claims Needed

When one peruses the changes made in teacher education over the past ten years, one is struck with undeniable evidence that virtually all of those who are planning improvement of teacher education are using assumptions growing out of practical experience as a basis for reorganizing portions of programs. There are neither pre- nor post-innovational empirical data concerning the validity of changes. Most of the efforts are superficial in a research context; new knowledge is ignored or missing altogether. This makes little sense in light of the widespread dissatisfaction with teaching. For too long too many teacher educators have enjoyed the comfort of opinion without the discomfort of evidence. Supporting this view, Stinnett wrote, "In spite of increasing criticism of the nation's procedures for the education of teachers...there has been remarkably little basic research in teacher education during the past decade."(1) A recent publication in the field takes the position that: "Any systematic and disinterested examination of the research relating to teacher education will suggest that strong knowledge claims are not possible."(2)

The dilemma which faces teacher educators was stated succinctly in a presentation at a meeting of the Advisory Council of the Associated Organizations for Teacher Education:

> Thus it is that when our critics utter distasteful generalizations about Educationism, we can only retort with instances that falsify it; we cannot, however, offer a counter-generalization which is true; that is why, even though we disprove each false generalization separately, we cannot deny the basic attack which is that no generalizations are possible. And where no generalizations are possible, knowledge is impossible, and where knowledge is impossible, no excuse exists for a college or school of education.(3).

Such a condition gives rise to some probing questions:

What is the substance which should make up the content of teacher education?

On what logical and/or empirical bases does it rest?

What relationship does it bear to the teaching task?

How can this knowledge be integrated into a program of education for teachers so that curricular experiences can be devised which will affect positively the performance skills of a teacher in the job?

This paper supports the crucial significance of these questions and accepts the assumptions which lie behind them, namely that: (1) the substance and experiences pertinent to the education of teachers have been poorly identified, defined, and organized in current professional education programs; (2) the field of professional teacher education can be characterized as not possessing an organized body of substance and experiences which contribute to the performance skills desired from teachers in the practice of their profession; and (3) it is not only possible, but immediately imperative that this substance and these experiences be identified, defined, and organized so that the education of teachers contributes maximally to teacher effectiveness. Educators must immediately concern themselves with the development of a logical structure for the organization of the content of professional education. The long-range development of the substance of professional education must be nurtured through the initiation of an intensive research effort which will result in strong knowledge claims.

Existing Knowledge Ignored

Existing teacher education research has had only a minimal impact upon teacher preparation curricula. Current content and method have been generated almost exclusively on logical grounds without explicit empirical reference to a clear definition of criterion behavior. The utter complexity of teacher education has discouraged a disciplined search for useful criterion measures and their appropriate predictors. Criterion measures with demonstrable reliability are difficult to find, and when such are found, there is an uneasiness about their fundamental validity. A degree of concurrent validity is possible with the expenditure of reasonable effort, but predictive validity with effective performance in future teaching as the criterion has not been realized. Criterion measures of immediate and longer range learner behavior for both the teacher education student and for the student of the teacher education student must be established. John Carroll has written, "Consideration of what things should be taught to prospective teachers and what actions they should take as teachers sometimes seem (sic) to proceed as if educational research never existed."(4) Since educational research fails to achieve a conceptual interlock, that is, it has not been put together into a functional discipline, it has had little impact upon the product of teacher education programs. One can hypothesize that new knowledge may not be essential or wanted if educators are completely absorbed with questions such as the control of teacher certification rather than with questions about what teachers do and should learn to do. Perhaps this concern with elements of the tangible periphery is why teacher educators have not investigated and assimilated data of foundational value. They have sought to <u>improve</u> teacher education rather than to <u>understand</u> it.

Basic Trends

How does the profession move to solve the dilemma of building effective programs for preparing teachers when strong evidence for practice is yet undeveloped? Certainly the exchange of general views concerning the state of the art and the defending and extending of organizational or manipulative approaches to the education of teachers has proved, time and again, to be ineffective. With due regard to those facets of existing programs which appear to assist prospective teachers, the time has come to face the problem of providing a continuing flow of new knowledge pertinent to teacher education so that not only may the preparation of teachers be understood and systematically improved, but also that the substance of teacher preparation can be reconstituted and redefined through empirically validated knowledge. The truisms that certain facets of teaching are unpredictable and creative and involve the tools of the artist, or that some of the substance of extant teacher education curricula is producting positive results, or that research is not the sole avenue to improving teacher education, do not negate the need for an immediate projection of the roles which research efforts could and must play in the area of teacher education.

A renaissance of teacher education research in terms of its scope, significance, methodology, and utilization is now taking shape. Much of the research which might lead to the restructuring of teacher education is not found in the literature of teacher education. Studies concerning teaching methodology, the systematic observation of classroom behavior, instruments and media of instruction, the open and closed mind, concept development, paradigms for research on teaching, and the dynamics of group interaction are not considered to be teacher education literature under present definitions. Gage's chapter in the Handbook of Research on Teaching, "Paradigms for Research on Teaching,"(5) Medley and Mitzel's discussion of "Measuring Classroom Behavior by Systematic Observation,"(6) and Wallen and Travers' treatment of "Analysis and Investigation of Teaching Methods"(7) serve as excellent examples of compilations of research which should be at the heart of the study of teacher education, but which are currently outside the usual definition of research in teacher education.

In the past decade research has been completed relating to teacher characteristics and the attitudes and values held by teachers. More recently, various dimensions of teacher classroom behavior have been examined from certain logical and psychological vantage points. Variables falling into a number of classes have been identified as a result of these efforts, and some descriptions of the relationship of those variables to the education of teachers have been drawn. Exemplary of attempts to understand teacher performance skills in broad terms are Ryans'(8) delineation of teacher characteristics and Barr's(9) review of eighty-three studies dealing with teacher effectiveness.

Gibb's(10) and Bales'(11) work with group behavior, Guilford's(12) analysis of human interests, Stein's(13) summaries of knowledge about creativity, and Nix's(14) study of role stress are illustrative of research in social process fields related to education which have significant potential for helping to delineate the tasks of the classroom teacher. The next step toward a more complete understanding of classroom behavior appears to be one which synthesizes recent studies of these phenomena and insights from parallel disciplines.

The Search for Crucial Questions

Studies of the type noted above constitute sources of valuable data for teacher education. They do not appear to provide the essential basic concepts around which preparation for teaching might be constructed. Smith has posed two important questions that may give direction to efforts to identify such basic concepts. He has asked, "Could it be that we do not know enough about the actual phenomena of teaching and classroom learning to ask fruitful questions here? Could it be that we are stumbling around in a loose conceptual system and are thus unable to ask questions that will guide research along fruitful paths?"(15) These questions emphasize the need for a multidimensional, theoretically consistent framework for studying teacher education.

A Focal Concept for Teacher Education

For many years, attempts at improvement of teacher education in general have focused upon what the teacher is as a person, what the teacher needs to know, and/or what the teacher values. As noted previously, such attempts have yielded useful information for certain improvements. They have not provided, however, the essential basic concepts around which the disciplined study and development of education could center. What, then, might form a focal concept around which teacher education could be constructed? What concept might provide a base for the substance of teacher education which is demonstratively relevant to actual teaching? The nearly self-evident response is--the teaching task itself. It is recognized that past efforts to analyze the job of the teacher have not provided sufficient content for teacher education. Lack of success to date can be blamed more on the vantage point employed to analyze the job of the teacher rather than on any inherent weakness in the idea that the teaching task should provide relevant cues to the substance of teacher education.

Analysis of the teaching task can degenerate into a job-time study concentrating on the technical aspects of what a teacher does or should do. A more relevant clue might be found in an examination of teacher behaviors which are directed toward eliciting changes in student behaviors. To justify this position, one might begin by asking, "Why do we have professional schools and colleges for the preparation of teachers?" To answer this question in general terms is not difficult. Education is an applied, social process field. The objectives of education vary from one time to another or from one culture to another and will, consequently, effect changes in, but will not change the basic purpose of teacher education. This purpose will continue to be the development of behaviors on the part of a teacher which, when applied in the teaching-learning situation, will affect the behavior of the learner in such a way that the attainment of certain behaviors on the part of the learner becomes likely. If this statement appears too self-evident or glib to be useful, refer again to the status of teacher education as reviewed in the previous sections of this paper. Teacher classroom behavior has apparently <u>not</u> been used as the test of relevance of content in teacher education and a concentrated effort has not been made to test empirically and experimentally either the nature of critical teacher behaviors or the impact of teacher education on the development of these behaviors.

Teacher Behavior Studied

Fortunately, some teacher educators are moving rapidly toward the acceptance of the point of view stated by Smith that, "The question of what knowledge is relevant to the control of teaching behavior is an empirical one, because teaching is a natural phenomenon. It has its own forms, its own constituent elements, its own regularities, and its own problems. It takes place under a stable set of conditions--time limits, authority figures, systems of knowledge, social structures, psychological capacities, etc. If we would understand teaching and thereby gain control over it, we must first study it in its own right."(16)

In recent years there have been several significant attempts at analysis of selected dimensions of the teaching act itself through study of teacher behavior in classroom situations. This approach holds promise for providing knowledge to generate conceptual framework from which the substance of teacher education and future research might be deduced. The following illustrations serve to give a sample of the types of investigation that have significance for these problems.

One of the early studies, conducted by Hughes and associates,(17) investigated teaching in elementary classrooms through an analysis of the patterns of interaction between teacher and pupils. Extensive specimen records of teacher behavior were secured and used in developing a means for categorizing the acts performed by a teacher. Description and categorization were made in relation to the function the behaviors performed for an individual or group to whom the teacher was directing his influence. This information made it possible to describe teaching based on what teachers actually do in classrooms. It was found that the functions performed were separate and definable. Providing a means for the empirical description of teacher behavior was thus realized.

Flanders(18) was concerned with the spontaneous interaction between teacher and student, the interplay between verbal acts of the teacher and reactions of students. His work centered on the degree of direct influence by the teacher in the learning situation. An important contribution of this research was the development, refinement, and validation of a usable system--interaction analysis--for describing and assessing teacher influence.

Another approach to the study of classroom behavior is characterized by the research of Bellack(19), Smith(20), and Wright(21), all of whom focused on the teaching process through analysis of the linguistic behavior of teachers and students. This approach was influenced by concepts developed in the study of language and meaning by contemporary philosophers and psychologists. The abstract, theoretical concepts from those sources were adapted and modified as the investigators developed systems for the classification of the distinctive functions of language in classroom discourse.

Smith concentrated on the logic of teaching as reflected in the degress to which a given teacher followed certain rules of logic in the development of content. He assumed that rule-following and logical response behavior were essential and desirable conditions to concept achievement by students and that the logical structure of an operation is independent of the nature of the subject matter to be classified. His work holds potential

for the expansion of some presently held conceptions of nature, scope, and method in the fields of logic and psychology. In addition, he identified distinct types of logical operations present in teaching behavior and described how these types differed in frequency from teacher to teacher and from one content area to another.

Wright investigated the patterns of verbal interaction in differing types of mathematics lessons. While she did not attempt to relate her model for the study of mathematical discourse to a broad learning model, she made a valuable contribution to a general paradigm of teaching and learning based on empirical evidence.

Bellack found that there was remarkable similarity among the verbal behaviors of teachers and students from classroom to classroom, that teachers and pupils obviously followed a set of implicit rules in interacting. An analysis of these common elements that underlie teaching may be used as a basis for a descriptive model of what actually occurs in classrooms. The model of teaching as reflected by this study makes it possible to focus future research specifically on the sequences of teacher-pupil interaction found during the investigation.

Thelen(22) and Travers(23) took yet another approach to an understanding of teacher behavior and performance as they studied some of the personal needs and personality characteristics of the teacher.

Thelen's "teachable group" concept centers on the thesis that success in teaching, as perceived by the teacher, is dependent upon the particular combination of teacher and students in the classroom and that a teacher's "successful" students are those who meet the teacher's most dominant needs. Generally speaking, unless a teacher is driven by compelling personal needs, he is able by selecting his "teachable" class, to do more fully what he tried to do as a teacher. Teacher education programs might well focus on assisting teachers to find out for themselves just how they teach and then assist them in understanding the types of student and conditions under which that way of teaching is most effective.

Travers investigated the relationship between the need structures of a teacher and his classroom performance. The research was designed to determine whether certain projective instruments might be used in predicting the classroom behavior of teachers. The results support the conclusion that it is possible to predict some types of teacher behavior through study of measured needs. Travers suggests that if one desires to predict typical performance, the most fruitful approach might be to ask a teacher how he behaves in various teaching situations. This concept tends to reinforce the conclusions of the Thelen study.

Some Promising Results

Research is beginning to have an appreciable impact on some programs for the education of teachers. While it has not reached the point of national or regional significance, research is exerting influence upon practice at some universities. For example, stronger emphasis is being placed on the critical consumption of research reports for preservice teachers; more research in teacher education has been completed in the past five years than in

the previous twenty years combined; several major universities have continuing research projects in teacher education, and the findings are put to use within those institutions; more funds than ever before have been made available to finance research efforts; and, the psychic and physical energy invested in research has added dynamism to the faculties and programs of some institutions.

A proposal for the revision of programs of teacher education has been released recently by the American Association of Colleges for Teacher Education(24). The bases for the proposal are firmly rooted in major research efforts of the last five years, and the outline of suggested courses presented is geared to developing competence related to the classroom functions of the teacher. The effort describes the essential preservice professional subject matter for teachers and warrants the thoughtful study of all teacher educators. Teaching activities have been utilized as the integrative element for the structure of the content. These are illustrative of scores of research efforts presently being made to reformulate the professional aspects of teacher education. No one of the proposals would claim, however, to be the way to conceptualize the purposes and content of teacher education. Much remains to be done before valid alternatives can be set forth for consideration and evaluation by the profession at large.

The Road Ahead

It is far simpler to identify a problem that exists than it is to devise a plan of action to do something about it. There is no formula available on which content improvement can proceed with assurance of success, as the participants in the National Science Foundation's Course Content Improvement Program can attest. In the search for better ways of preparing teachers, certain arbitrary definitions must be imposed by those who assume responsibility for conducting needed research. Assuming that the classification of knowledge represents the imposition of some schema derived by human beings on a selected body of content chosen from a larger available body of existing knowledge, and that the bases for derivation and selection relate to philosophically derived educational objectives, it is apparent that there is no one route to substance identification, definition, and organization. The justification of the approach chosen must rest initially in the face validity of the arbitrary inclusions and exclusions agreed upon in the light of the process selected.

That approach which holds greatest promise is for teacher educators to concentrate their efforts upon those experiences for which they have direct responsibility and control--the professional sequence. There are those who would argue that there is need to encompass all of the experiences that affect a teacher, including the substantive areas (specialized education), general education, personal characteristics, and professional education. The writer would accept this viewpoint as being ultimately true, but give stress to the point of view that education as a field of study will never become a discipline, as indeed it must, if it continues to be viewed as being as broad as life itself. Therefore, research in teacher education must first concentrate on how the larger field of human knowledge can be applied most effectively in changing the behavior of teachers to the end that those behaviors might foster learning in others.

A Proposal for Future Effort

What is proposed here is relatively simple. Knowledge, to be valid for teacher education programs, must be useful to teachers when teaching and to teacher educators when changing the behavior of prospective teachers. Thus, teacher behavior, or teaching performance skill, is set forth as the vantage point for considering the relevance of content in teacher education and the focal point for continuing research in teacher education. Despite the simplicity of the statement, its implications on practice would be profound if it were accepted by teacher educators.

The chief implication for research in teacher education is the need for a considerably expanded definition from that which has been used traditionally. Education is conducted so as to attain diverse objectives. No realistic appraisal of teacher performance skills can be made except in the context of a particular set of objectives. Hence a set of educational objectives for schools in the setting in which education functions in this country is needed. A definition of that setting entails research on education as a social institution and on the school as a social system. Current information on the former is primarily nonfunctional, and the latter has been largely ignored by social scientists. The changing role of the teacher, the impact of sociological factors upon student bodies as our society becomes increasingly diverse and complex, and the effects of the social systems existing within the school upon both the teacher and the student are research targets that hold promise for producing needed knowledge for teacher education. The education of teachers is relevant to what a school does and to what a school is sociologically.

Recent organizational trends and developments (e.g., programed learning, team teaching, the Trump Plan) have been advanced without benefit of careful evaluation. Such developments should be analyzed and evaluated to assess their implications for the educational setting in the future. Information from research efforts of these types will be useful in identifying reasonable teacher performance skills related to educational objectives. For example, if one assumes an educational setting in which it is likely that the existing pupil-teacher ratio will remain constant, it becomes obvious that an educational objective relating to the development of individual pupil talents cannot be brought about by establishing a tutorial relationship between pupil and teacher. The skill required by the teacher to contribute to the achievement of the objective of developing individual pupil talents must be expressed through intermediate means directed toward individual talent development within a group. Such performance skills will serve as a basis for developing an analysis of teacher roles. Such an analysis entails considerably more than the teaching process and associated professional behavior as practiced today. The analysis will include operational statements of the roles which teachers can be expected to assume in achieving the stated educational objectives. The approach will be based not on what good teachers are (traits or characteristics), but rather on what teachers do--the kinds of skills which they exhibit in carrying out their jobs effectively. A teacher performance skill is an ability which can be developed through preparation, not one that is necessarily innate. These skills will be defined operationally and used in developing a taxonomy of teaching performance skills and teacher behaviors.

With reference to curriculum development, the use of teacher behavior as the vantage point will mean that the teacher-educator will submit his con-

tent to examination in terms of the relevance of that content to teacher behaviors and the effect of these behaviors on consequent student learning. With this as the criterion, much of the mixture of personal and professional opinion which currently masquerades as content in teacher education would become irrelevant. On the other hand, gaps in knowledge might well be identified and much of what is presently taught might find both a new validity and a new relationship to the total content of the field of teacher education.

A taxonomy of performance skills developed through research will be applied to a literature search of education and related disciplines. The purpose of the search will be the identification and definition of knowledge pertinent to the defined teacher performance skills. Each skill in the taxonomy will be validated through research and appropriate knowledge and experience identified for its pertinence to the acquisition of the technical, human or conceptual abilities necessary to the performance of that skill. For example, if one of the identified skills were concerned with the ability to deal with special intellectual talents such as creativity, one would be expected to know and internalize the work of Guilford(25), Getzels and Jackson(26), Torrance(27), and perhaps Stein(28), from the literature of general psychology, educational psychology, and the sociology-anthropology complex. The product of this endeavor will be the identification and annotation of knowledge blocks appropriate to each performance skill. Care would be exercised to prevent duplication; knowledge blocks from several fields will be combined when appropriate; and, the classification structure reorganized where necessary.

A series of source books, based on combinable knowledge blocks, will be developed. For example, one source book might be devoted to the teacher performance skills which could be classified under a general rubric such as "diagnosis." The books will be worked out in sufficient detail so that they could form the base for the development of curricular materials. An example in contemporary literature of the nature of the source books is provided by the Stein and Heinze summary and analysis of literature and research in the area of creativity(29).

The knowledge source books can then be translated into instructional materials for use in teacher education programs. In addition to the processes of reorganizing and rewriting the content of the source books, attention will be directed toward the preparation of materials in a form so that the methods of presenting the information will be most appropriate for developing the teacher performance skill involved. The researchers involved in this activity will be responsible for reanalyzing the performance skills appropriate to the area of concern, with a view toward projecting the most effective teaching-learning situations from the substance pertinent to the skill. The process of analysis will be guided by such criteria as:

1. How does the nature of the teacher performance skill affect the structuring of the learning experience?

2. In what ways does the nature of the substance itself determine the methods to be used in teaching it?

3. How does an understanding of the teaching-learning process modify the choice of teaching vehicles?

The next stage will involve controlled experimentation with the materials developed. Much of the work will be conducted concurrently with the writing activities. This tryout stage will involve feasibility testing of the materials and techniques, and comparisons of the effectiveness of varying techniques of presentation in regard to particular skills will be measured. Experimentation will not be general in nature, that is, the entire program will not be tested as a unit. Testing will be designed to answer specific questions relating to process, sequence, method, and substance.

The final step will involve the preparation of units appropriate to the development of the teaching performance skills. The final product of such a long-range effort will not be a complete program for the education of teachers but rather a comprehensive series of teaching resource units for use in the preparation of prospective teachers. The materials can be used in different ways by different institutions depending upon their organizational structures, levels of competence attained by their faculties, and types of students preparing to teach.

The key question in the discussion is this: What is the nature of the substance of teacher education and the sources from which it comes? One extreme of the continuum of viewpoints with reference to this question holds that all teacher education content is the product of research and scholarly activity in related disciplines, and that research in teacher education should address itself to the task of determining which knowledge in those fields has relevance for teachers and how such knowledge can be reorganized. The other extreme on the continuum is that the content of teacher education must be found completely within the present area labeled professional education, that this content is unique to education, and that it is generated only through the study of education as an institution and as a process.

The position taken here is that the content of teacher education can be derived in part from the behavioral and social sciences and in part from that which is uniquely and exclusively professional education. But the teacher educator must initiate and assume responsibility for cooperative efforts involving scholars in all of these areas as valid content for programs of teacher preparation is developed. An example of nonexistent research, which must become a part of the substance of teacher education and which lends itself to cooperative development, relates to the structure(s) of the disciplines in which teachers are being prepared to teach.

A point at issue is the relative efficiency of concentrating knowledge development activities on phenomena largely unexplicated and outside of teacher education at the present time, such as teacher and learner behavior, or the focusing of primary attention upon the validation of the content presently existing in teacher preparation courses. The approach to the first problem is now more feasible with the advent of new techniques and media; however, it involves ignoring much of what now exists, with its historical and logical rationale. By attacking both problems simultaneously, and interchanging data, teacher educators will make progress in both areas of knowledge more effectively.

Conspectus

The above proposal is not intended to prescribe the best approach to resolving pressing problems inherent in efforts to validate the content of teacher education. The proposal leaves untouched a variety of problems which would be faced by the researcher or curriculum developer in the conduct of his work. Further, the purpose was not to conjecture about the specific knowledge needed by teachers or even to attempt to construct a logical series of critical teacher behavior dimensions. Rather, the purpose was to reaffirm the necessity of using teacher behaviors and teaching performance skills as the focal point for developing a conceptual basis in identifying and organizing the content of teacher education. It was to present one example of how a programmatic attack might be made on teacher education research using teacher behavior as a base and to advocate a systematic research effort to add to which we now know about teacher behavior.

A comprehensive investigation into the nature and function of teacher behavior gives promises of producing knowledge which is both specific and generalizable, which can be translated into skills through appropriate training, which is directly related to classroom performance, and which is capable of generating explanatory theory. Ultimately, of course, the utility of the research effort would be the continuous revitalization of the substance of teacher education.

While the need to improve teacher education is widely recognized, improvement can result only through extensive research efforts over long periods of time. Leaders in the field of teacher education express increasing concern over the paucity of verifiable knowledge in present curricula. They are equally disturbed by the obtuse relationship between what is learned in teacher education programs and subsequent skill in actual teaching. Scarcely any teacher educator denies that such a state of affairs is intolerable. Solutions to these problems may be close at hand; financial support for research is now available; efforts of certain individuals are providing the essential base for a science of education; valid knowledge is emerging for developing needed teacher behavior skills through preparation. Such strong knowledge must surely be the foundation of the sought-for revolution in the substance of teacher education.

Footnotes

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(4) Carroll, John B., "Neglected Areas in Educational Research," Phi Delta Kappan, Vol. XLII, No. 8, May, 1961. p. 343.

(5) Gage, N. L., editor. Chapter 3, Handbook of Research on Teaching. Chicago: Rand McNally & Company, 1963.

(6) Ibid., Chapter 6.

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