Research on teaching is a pragmatic enterprise that seeks justification in its contributions to a knowledge base for teaching and teacher education. Because professions are generally considered to be occupations that possess specialized knowledge, research on teaching is logically at the heart of discourse about teaching as a profession. This paper assesses the extent to which research on teaching has served as a suitable resource for the profession of teaching and suggests ways in which that service might be enhanced or extended. It is pointed out that an attempt to relate the notion of profession to the study of teaching requires clarity about what the term "profession" means and what role knowledge plays in the process of being or becoming a professional. Issues of professionalization are explored with particular reference to education. The status and utility of the knowledge that has emerged from teaching research is examined. Ways are suggested in which research on teaching can build upon its recent successes to become an even more powerful resource for the professional practice of teaching.
Teaching as a Profession: What We Know and What We Need to Know about Teaching

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Research on teaching is a pragmatic enterprise that seeks justification in its contributions to a knowledge base for teaching and teacher education. And because professions are generally considered to be occupations that possess specialized knowledge, research on teaching is logically at the heart of discourse about teaching as a profession.

My goal in this paper is to assess the extent to which research on teaching has served as a suitable resource for a profession of teaching and to suggest, if necessary, ways in which that service might be enhanced or extended. To my mind, an attempt to relate the notion of profession to the study of teaching requires that we be clear about what the term "profession" means and what role knowledge plays in the process of being or becoming a profession. I will begin, therefore, by exploring issues of professionalization with particular reference to education. I will then examine the status and utility of the knowledge that has emerged from teaching research. Finally, I will suggest ways in which research on teaching can build upon its recent successes to become an even more powerful resource for professional practice in teaching.

Teaching as a Profession

The term "profession" is more often than not used symbolically to aggrandize and persuade rather than to describe and analyze. To understand the relationship between research on teaching and the professionalization of teaching, it is necessary then to clarify the meaning of this label. For present purposes, two general conceptions of
a profession are especially relevant: (a) one which emphasizes the
technical and moral attributes of members of an occupational group, and
(b) one which stresses social power and occupational status. For a more
thorough discussion of these issues, see Doyle (1976).

The Concept of Profession

A technical-moral conception of profession. A profession is
conventionally defined as an occupation whose members are reputed to
possess high levels of knowledge, skill, commitment, and trustworthiness
(see Lieberman, 1956). At the core of this definition is the idea that
a profession bases its practices on a body of specialized technical
knowledge. There are two major components of this body of knowledge:
(a) validated practices, that is, practices which have been
systematically tested by tradition or science; and (b) propositions,
including theoretical models and descriptions of specific indicators,
that guide the application of these practices to particular cases.
Professionals, in other words, are equipped through specialized and
prolonged preparation to use validated practices and apply them
intelligently.

Compared to the established professions of medicine and law,
teaching is generally considered to fall short of being a profession, to
be at best a semiprofession (Dreeben, 1970; Etzioni, 1969). In large
measure this assessment is made because teaching lacks a core of
specialized, technical knowledge. In this context, the role of research
on teaching is to build this technical core so that teaching will
eventually become a profession.

Professional power and status. There is an alternative to this
standard view of the nature of a profession. Freidson (1970), for
example, contends that an emphasis on the competence and moral dispositions of members of a profession misses an important aspect of the professionalization process. Professionals may or may not be morally superior or more technically proficient than members of other occupations, but a profession enjoys a preeminence in a division of labor to the extent that it "gains control over the determination of the substance of its own work" (Freidson, 1970, p. xvii). A profession, in other words, monopolizes its sphere of practice.

This dominance is achieved and maintained through social and political processes designed to secure wide social acceptance of an occupation's claims to technical and moral superiority. All occupations make such claims; a profession is simply an occupation whose claims are in fact believed by the general public, or at least by influential segments of that public, and supported by government policy. The key to professional status is not the existence or even the validity of such claims, but rather the public acceptance of the legitimacy of what the occupation asserts about itself. The professional ethic of exemplary skill and virtue serves, therefore, not to define a profession but to aid in the processes of "establishing, maintaining, defending, and expanding the legal or otherwise political advantage of the occupation" (Freidson, 1970, p. 200).

Achieving professional dominance also depends upon two additional beliefs. First, the work of the occupation must be seen as having significant personal and societal consequences. Second, the public must perceive that it is unable to conduct this work on its own or to evaluate adequately the available options within this sphere. These beliefs set the conditions for identifying an occupational group that
appears to have the moral and technical qualities necessary to handle public affairs in a particular domain. Occupational groups, in turn, bid for this special status by claiming to possess these qualities.

The Professionalization of Schooling

The conventional focus on teachers in discussions of the education profession diverts attention away from an extraordinary event in American education: During the 19th and 20th centuries, schooling professionalized. That is, public elementary and secondary schools came to monopolize the domain of education. As a result, the terms "schooling" and "education" are often used synonymously and one's level of education is typically defined in units of schooling. Similarly, schooling in America is frequently linked with social mobility, vocational success, and equality of opportunity, and schools are seen as key instruments for eradicating social ills and securing national prestige and defense.

The story of how schools came to dominate education is instructive (see Doyle, 1976). Social order in the 19th century was threatened by industrialization, urbanization, and immigration, and private and philanthropic initiatives were no longer seen as adequate mechanisms for counteracting these forces. Free, universal, public schooling -- the common school -- became the instrument to achieve social control and preserve traditional American values.

In the spirit of the 19th century evangel, the reformers crusading for common schools in the 1830's and 1840's preached a ritualistic sermon of sin, promise and salvation. The American experiment -- perhaps all humanity -- had entered a critical phase, they began, with dangers threatening on every side. The trusts and traditions
that only a generation ago had cemented society were disintegrating before the rush of the masses. (Wiebe, 1969, p. 147)

These moral sentiments set the stage for growth of schooling, but professional dominance was propelled by the schooling professionals' claim that they had control over the means of education. These claims were substantiated, in part, by the development during the last half of the 19th century of a professional literature and occupational specializations in administration, curriculum, and teaching. This effort was enlarged in the late 19th and early 20th centuries to include scientific research on problems of curriculum, teaching, and supervision to justify policy decisions in schooling (see Joncich, 1968). For example, in 1917 Cubberley, an influential professor of educational administration, found in standardized tests a valuable tool for the superintendent because "it means the changing of school supervision from guesswork to scientific accuracy, and the establishment of standards of work by which he may defend what he is doing" (as quoted in Buros, 1977, p. 10).

There are two key points to this story. First, the key actors in the professionalization of schooling were school superintendents rather than teachers. Administrators, in other words, were the focal group around which the issues of power and control in the education of American youth were resolved. Second, knowledge about the processes of schooling -- administration, supervision, curriculum, and teaching -- grew in part as a resource for substantiating administrators' claims to have control over the means of educating America's children. So the knowledge of most worth -- that is, practical knowledge -- tended to be
that which administrators could use to control how schooling was conducted.

**Knowledge for control.** An emphasis on knowledge for control is especially apparent in the origins of research on effective teaching in the early decades of the 20th century. If clear indicators of teacher effectiveness could be identified, superintendents could gain control of the work force in their school systems, link their actions directly to the outcomes of schooling, and validate their claim to be able to control the quality of the service schools provided. In Cubberley's words, identifying effectiveness indicators would change school administration "from a job depending upon political control and personal favors to a scientific service capable of self-defense in terms of accepted standards and units of accomplishment" (as quoted in Joncich, 1968).

Sears (1921), another influential figure in school administration, was even more lyrical:

> What a saving in energy would be effected, what financial waste would be checked, what an amount of justice would be established, and what a professional stimulus would result, if we had tests or instruments of measure by means of which we could predict the success of an applicant for teacher training or for a teaching position, measure the rate of progress of the teacher in training, and evaluate the work of teachers in service. (p. 82)

This administrative perspective appears to have shaped the structure of the effectiveness question itself. In the first place, the question is essentially about teachers. If one is faced with the problem of making decisions about teachers, then one is interested primarily in information about teacher characteristics or behaviors.
Second, the question is cast in the form of a search for evaluative criteria. If one is required to make decisions about teachers, then one is interested not simply in what teachers commonly do but rather in what qualities or actions of teachers are the best. And the most direct route to this information is to identify "good" and "poor" teachers and then describe only those characteristics that distinguish between these two groups. Third, the best answers to the question are simple and broadly applicable. If one is making decisions about a large number of teachers for an entire school or school system, then indicators of effectiveness need to be few in number, easily applied, and highly generalizable across teaching situations. If several observations are needed to apply an indicator or if many different indicators must be applied to different teaching areas, the answers are considerably less practical. Finally, the answers must be indisputable. Because the decisions administrators make about teachers have large personal and professional consequences, the closer the answers to the effectiveness question approximate immutable laws the better. In sum, the effectiveness question is designed primarily to generate context-free indicators for evaluating teachers or selecting content for teacher education.

The fact that the search for generalizable indicators of effectiveness was not always successful did not diminish the importance of the question or discourage attempts to answer it. In the absence of scientific "cures," all professions justified their special competence by calling attention to the amount of effort being expended to solve a problem (see Burnham, 1972). The existence of teaching effectiveness research was important in legitimizing claims to professional
competence. Research had value, then, "as an activity expected of an
expert group, and not (necessarily) for its substantive contribution to
either theory or practice" (Joncich, 1968, p. 559).

I hasten to add that I am speaking about effectiveness research in
the early decades of this century. I do not mean to imply that
contemporary effectiveness researchers are necessarily motivated by a
concern for administrative power and control. In contrast to the
founding father of effectiveness research, many of whom had careers in
school administration (e.g., A. S. Barr), today's teaching researchers
are less concerned with personnel selection and evaluation than they are
with how teachers can use research findings to improve their
effectiveness.

Knowledge and Professionalization in Schooling and Teaching

I have taken this somewhat convoluted route to my topic because it
brings into focus two conflicting notions of the use of knowledge about
teaching. If "profession" is taken to mean that an occupation has
achieved dominance in a sphere, then teaching will never be a
profession. Schooling has already professionalized at the level of
superintendents so teachers will never dominate education. In this
framework, however, knowledge about teaching, and especially knowledge
about teaching effectiveness, is important because it enables
administrators and supervisors to control teaching better so that it
will be effective. And certainly this use of research on teaching is
quite prominent these days. If, on the other hand, "profession" is
taken to mean that an occupation has a specialized and validated
technical core of knowledge that is applied intelligently, then teachers
are the primary users of research on teaching and the findings of this
research are useful to the extent that they empower teachers to understand their work, reflect systematically on the practical problems they encounter in classrooms, and formulate solutions which increase the educational benefits of schooling. These two uses of knowledge about teaching lead to different answers to the question of what we need to know about teaching.

My own view cuts across both perspectives to some degree. From the viewpoint of status, teaching is not and will never be a profession, regardless of how much we learn about teaching, because teaching will never control schooling. On the other hand, we cannot limit the study of teaching to knowledge that administrators or policy makers can use to control teachers. The practice of teaching is professional in the sense that it cannot be effective by remote control. Teaching occurs in concrete situations of enormous complexity, and administrative policies, directives, or surveillance cannot substitute for the decisions teachers have to make in these situations. Teachers need to understand and think, and the way they understand what happens in classrooms and how they think about these events had enormous consequences for curriculum and for learning. In the end, we need to professionalize the practice of teaching even though the status of the occupation is likely to remain what it is today.

We are left, then, with questions: (1) What do teachers need to know to carry out their tasks professionally? and (2) Is what we currently know teaching as teaching suitable for this purpose? I will answer these questions by first examining the legacy of research on teaching effectiveness.
Research on Effective Teaching

Research on effective teaching is one of the important success stories in educational research. Programmatic classroom research on the relationships between teaching variables and student learning outcomes began in the 1920's and has continued with remarkable vigor ever since. In recent years, this tradition has produced an impressive body of findings concerning the instructional and managerial conditions that are associated with high levels of pupil achievement particularly in basic skill subjects in the early elementary grades (see Brophy & Good, 1985).

In very general terms, we have learned that effective teachers at this level are direct: They focus on academic goals, are careful and explicit in structuring activities and directing students in how to accomplish assigned work, promote high levels of student academic involvement and content coverage, furnish opportunities for controlled practice with feedback, hold students accountable for work, and have expectations that they will be successful in helping students learn. Effective teachers are also active in explaining concepts and procedures, promoting meaning and purpose for academic work, and monitoring comprehension. From a management perspective, effective teachers design a workable system of classroom rules and procedures and communicate this system clearly to students at the beginning of the year. In addition, they monitor compliance to rules closely and stop inappropriate behavior early. Effective managers, in other words, take classroom organization seriously and devise specific procedures for helping events run smoothly.

At one level, the answers to the effectiveness question have contributed to professionalizing teaching by providing knowledge about
valid classroom practices. It is now possible for teachers to ground some of their decisions about instruction and management on information about effects on students engagement and achievement. This is clearly an important contribution to professionalizing the practice of teaching. At the same time, information about valid practices is limited as a knowledge base for teachers in at least two respects. First, information about process-product relationships per se does not illuminate the processes that connect teaching events with outcomes. That is, effectiveness studies do not directly provide teachers with a way of thinking about how teaching effects occurring classrooms. Second, process-outcome studies do not directly address the question of how one orchestrates events to establish conditions of effectiveness in classrooms. That is, effectiveness studies do not tell teachers very much about how classrooms work.

In sum, research on teaching effectiveness lacks a theoretical perspective for integrating information about teaching effects and reflecting on the application of practices to specific cases in classrooms. Although scenarios about how teaching effects occur and how classrooms work are often constructed to account for process-outcome findings, there is often little evidence on which to base these formulations. Clearly there is a need for alternative approaches to research on teaching if we are to generate an intellectual foundation for reflective practice in teaching. I will conclude my analysis with an attempt to outline in broad strokes the types of inquiry that might move us toward such an intellectual foundation. This excursion will enable me to address more specifically the questions of what we need to know about teaching.
Toward Knowledge for Professional Practice in Teaching

Two recent developments in research on teaching and teacher education point in the direction of the knowledge for professional practice among teachers. The first development is the enormous growth in the number of alternative approaches to the study of classroom processes (see Shulman, 1985). This growth has extended and enriched our understandings of classrooms and the range of events and processes that occur in these environments. The second important development consists of compelling analyses by such scholars as Fenstermacher (1978), Zeichner (1983), and Zumwalt (1982) on the use of findings from research on teaching for classroom practice. These scholars argue that teaching practice is not merely technical and rule driven, and teachers are not simply passive recipients who carry research-based practice to classrooms. Rather, professional teachers are reflective, that is, they connect knowledge to situations through processes of observation, understanding, analysis, interpretation, and decision making (see Shulman & Carey, 1984). From this perspective, research and theory produce not only valid practices but also concepts, propositions, and methods of inquiry useful in deliberating about teaching problems and practices.

Although the potential for developing professional knowledge for teaching lies within these domains, achieving that potential has been impeded by a formidable conceptual barrier. We tend to understand practicality for research in process-product terms. By this I mean that we tend to assume that research becomes practical when it leads to statements about process-outcome relationships or provides an exemplar for teachers to emulate. But this is not the only form of practical
knowledge. Theories, by which I mean "explanations," which enable us to see relevant factors, understand their interconnections, and anticipate logical possibilities are also quite practical in that they enable teachers to make sense of teaching and learning in classrooms. When we think of theories, however, we tend to think of explanatory systems derived from the social and behavioral sciences. Such theories often have limited practicality for professional practice in classrooms either because they are designed to explain behavior in relatively simply environments, such as learning laboratories, or they are formulated as broadly general and abstract explanations of social or behavioral phenomena, the immediate utility of which is difficult to discern.

What seems to be lacking most as a foundation for professional thinking in teaching are theories that explain the commonplaces of daily events in classroom environments. Following Smith (1983), I will call such theories "clinical" theories and argue that they are not simply derivatives from psychology or philosophy or immediately obvious from data concerning the features of effective teaching behaviors. They emerge, rather, from direct attempts to understand clinical practice on its own terms. Such theories function as intellectual environments within which teachers can comprehend what occurs in classrooms and connect these events to suitable actions. They provide systems, in other words, for systematic reflection about teaching. Such theories often appear as common sense knowledge. This should hardly be a cause for embarrassment as clinical practice requires common sense knowledge, that is, knowledge about relationships in the real world (McCarthy, 1983).
Precursors to the clinical theories that I imagine would be practical for teachers are just beginning to emerge. Kounin and Gump (1984) have, I think, set the pace here with their remarkable work on signal systems in classrooms. I would also argue that some of the work my colleagues and I (Doyle, 1983; Doyle & Carter, 1984; Doyle, Sanford, Clements, French, & Emmer, 1984) have been doing on academic work and activity management in classrooms is moving in the direction of clinical theory.

But rather than list possible candidates, I will conclude by indicating two general characteristics of clinical knowledge as a guide to further work in this area:

1. Clinical knowledge for teaching is grounded in the commonplaces of daily events and processes in classroom environments rather than in the problems and issues of a scientific discipline. In other words, a clinical theorist is interested primarily in understanding classroom teaching and learning rather than extending the frontiers of knowledge in a particular domain of psychology or sociology. This is not to say that constructs, propositions, theories, or methods of inquiry from established disciplines are not useful in the construction of clinical knowledge. But the primary focus is on classrooms.

2. Clinical knowledge is interpretive and explanatory and not simply predictive. That is, clinical knowledge is not limited to information about validated practices. It also includes attempts to make sense of what goes on in the classrooms. Its domain, in other words, is what teachers need to know to do their work rather than what administrators need to know to control teaching.
The argument for a clinical knowledge base for professional practice in teaching obviously has important implications for research on teaching. In particular, it suggests a need to shift attention from features of successful practice to the components of teacher's knowledge about their craft. Although the conceptual and methodological waters in this region are muddy, efforts to push ahead in this direction promise to increase substantially the intellectual and practice power of inquiry into teaching.
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