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ABSTRACT

An overview is presented of recent research that has improved the understanding of teaching, effective teaching functions, and the processes which can be employed to improve teaching. This research has been used by those writing national reports on education, and plays an important role for state policymakers who are considering legislation to improve teaching and teacher preparation, school districts implementing school improvement programs, and staff developers working with teachers to improve instruction. Brief summaries are offered on research findings on the topics of: (1) what is teaching; (2) the teacher as executive, classroom manager, and expert communicator; (3) collegiality among teachers; (4) the teacher as a clerical worker; and (5) the teacher as a potential researcher. The changing role of the teacher in today's society is also examined. A discussion is offered on research findings on effective teaching and exemplary teacher behaviors, as well as the characteristics of effective classrooms. In conclusion, some reflections are offered on how research can improve the quality of teaching. (JD)

INSIDE THE CLASSROOM

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TEACHING: A SCORNED QUASI-PROFESSION?

A recent Newsweek article (Sept.,1984) described teaching as "the most scorned quasi-profession in America". How did the American public (or at least the press) arrive at this view of an occupation which, in the past, while not highly paid, at least commanded the respect of the community? And does the occupation deserve the public scorn described in Newsweek and many other newpapers, magazines, and speeches? A series of events and views, including the accountability movement, lowered student scores on standardized tests, and concern about the quality of individuals entering teaching and their preparation programs have combined to focus heavy public attention on the quality of teaching. Recently, a series of national reports have decried the quality of teaching and teacher preparation as well as the conditions of teaching, and have offered prescriptions for the improvement of practice.

Societal expectations for schooling have always been high. Schooling was meant to improve society, to perpetuate the finest aspects of the culture, to prepare the best individuals in all fields of endeavor from artist to scientist to citizen, and to expose others who wil not be "the best" to all of these areas and to raise them to their highest possible level of proficiency. More recently, schooling has been expected to ameliorate societal problems

that other institutions such as the family, church and social agencies have failed to solve. But these high expectations have clashed with current realities. Extensive publicity has surrounded the poor basic skills of high school graduates. Accounts of chaos, confusion, and violence in our junior and high schools are widespread. There are frequent reports of lowered test scores of those entering the teaching profession as well as disturbing accounts and examples of poor basic skills on the part of some teachers.

At the same time, frequent accounts of the conditions of teaching cause one to wonder why anyone would enter the occupation. Beginning salaries of teachers, adjusted for 12 months, are lower than than for any other field requiring a bachelor's degree, and they top-out sooner and at a lower level than other college degree-level occupations (NEA, 1983). Accounts of school violence, of extremely poor facilities and equipment, large class sizes, and disrespectful attitudes on the part of students explain problems of stress and burnout in many teachers. The teacher is, after all, one of the few professionals for whom a telephone is not readily available except in the school office or at the public booths for which he or she must compete with the students. It is not surprising that the better teachers leave and burnout is prevalent among those who remain.

Fortunately, the recent increased attention toward the quality of teaching and the poor conditions under which

teachers must work has generated a number of state and local reforms which should help alleviate these conditions, and build the quality of teaching in our schools. Perhaps more important is a significant body of research over the last decade on teaching and teachers. This research has improved our understanding of teaching, effective teaching functions, and the processes which can be employed to improve teaching. It was used by those writing the national reports, and plays an important role as state policy-makers consider legislation related to improved teaching and teacher preparation, school district officials implement school improvement programs, and staff developers and school administrators work with teachers to improve instruction. This paper will explore this research to raise and answer questions about teaching and to provide a more thorough understanding of the day-to-day lives of teachers and their teaching functions.

WHAT IS TEACHING?

No single description of teaching can capture and describe the complexity of the occupation. Recently, however, research on teaching conducted from a number of different theoretical frameworks has provided many valid descriptions of it. When added together, these conceptions can help those who are involved in policy-making designed to improve teaching to understand the various functions and roles that teachers must perform and assume in their classrooms. Six of these are briefly presented below:

Teacher as Executive

After a number of years of highly productive research which produced a model of teaching called Academic Learning Time (Fisher, Berliner, et al, 1980), David Berliner (1982) compared the teaching role with that of executives in the business world. Pointing out that schools and classrooms are workplaces, he identified nine executive functions that the person who runs a workplace must perform. They include: planning, communicating goals, regulating the activities of the workplace, educating new members of the work group, coordinating the work of the site with that of other units in the system, supervising and working with other people, motivating those being supervised, and evaluating the performance of those being supervised. He then described these functions in terms of a teacher's activities, noting that the most important decisions teachers make in planning are related to choosing content, scheduling time, forming groups and choosing activity structures. These decisions are very powerful in determining what is learned in classrooms, and they can have positive or deleterious effects. Work at the Institute for Research on Teaching of Michigan State University, for example, has pr ed information on the factors which influence the choices of teachers about the content they will teach. Even though textbooks are prescribed and used in classes, teachers exert a powerful influence by what they choose to teach, and how long they spend with the topic (Schwille, Porter, Belli, Floden,

Freeman, Knappen, Kuhs, and Schmidt, 1981). Further, teachers make, on the average, 30 interactive decisions each hour (Clark and Peterson, 1984). The implications of this view of teaching are that teachers should be honored and paid well for these skills just as executives are in industry. In addition, business expends considerable effort on developing programs to train individuals in these skills. The educational system should do the same in both preservice and inservice teacher education programs.

Teacher as Classroom Manager

Classroom management has become an increasingly popular topic of consideration in research as well as pratice. This is due, in part, to the concern about discipline, and in part to a number of studies which have identified efficient classroom management which maintains student attention to academic tasks as one of the more critical elements in effective teaching. Walter Doyle (forthcoming) has recently summarized the management literature and placed it within an ecological framework. Doyle's work specifies aspects of the environment which affect student and teacher behaviors. He points out, for example, that certain social conditions in schools such as mandatory attendance, students in arbitrarily formed groups, and such administrative duties of teachers as accounting for pupil attendance, create the need for skills in classroom management. Further, the nature of the classroom environment affects teachers and learners in certain common ways, regardless of the curricula or the

teachers' views of education. These elements are: multidimensionality, or the large quantity of tasks and events in the classroom; simultaneity, or the fact that many of these tasks and events happen at the same time; immediacy, or the rapid pace of events; unpredictability; publicness, the fact that the teachers' actions are witnessed by a large number of students; and history, the fact that classes meet five days per week over nine months, thereby establishing their own cultures and understandings. It is within these conditions that classroom management and effective practices can be understood. For example, while classroom management is often associated with discipline, Doyle points out that a focus on misbehavior rather than on work-related behavior may be unproductive. The need to reestablish order in a classroom is a sign that earlier attempts to establish and maintain order have broken down. He notes that effective management should therefore be viewed as processes designed to avoid disorder, and those processes should be identified rather than mechanisms designed to reestablish order once things have broken down. Bossert (1979) points out that ways of organizing classrooms also strongly affect what the students learn. For example, small groups in which students cooperate in learning tasks affect not only students' learning of the academic tasks but their social understandings of participation and cooperation as well.

Teacher as Expert Communicator

Ever since the Coleman, et. al (1966) report which identified the teacher's verbal ability as the most important in-school factor affecting student learning, researchers have been investigating the ways in which teachers communicate to their pupils. The most exciting of these attempts has been the work by socio-linguists. This view of teaching places communication at the core of the construction of classroom events. Through interactions, teachers and students work together to produce and build upon their own and others' meaning or understandings. Students must learn to attend to communication regarding academic tasks and procedures as well as other cues such as facial expressions, and they must also learn the rules of classroom communication (when and how to participate). A number of these studies, organized and summarized by Judith Green (1983), provide insight into the nature and effects of classroom communication. For example, messages from teachers can be sent across different channels of communication at the same time. It is therefore possible for teachers to present formal messages through speaking and to contradict those messages with informal nonverbal gestures. The teacher, then, has to pay attention to his or her own formal and informal channels of communication, and also to those of the students. The patterns of communication differ considerably depending upon the task or activity, and these differ from classroom to classroom. The rule of

communication concerning when and how to answer a question--whether to raise your hand, call out, or wait to be called on by the teacher--is just one of many rules the student mustmaster in each classroom and each activity. An effective teacher therefore determines his or her own informal and formal rules of communication, and communicates these carefully to the students at the beginning of the year. This reduces the complexity for the student, and leads to fewer misunderstandings. The teacher also continuously monitors verbal and non-verbal cues which indicate attention and inattention, comprehension and noncomprehension, and social adjustment and understanding.

Teacher as Colleague

The teacher not only operates within the individual classroom but contributes as well to the social organization of the complete school. In conceiving of the school as a workplace, Judith Warren Little (1982) investigated a number of effective schools and determined that the social organization of the school contributes to a teacher's learning on the job. She found that in effective schools, as compared with ineffective schools (identified on the basis of student learning scores), the teachers communicated with each other more on professional matters and shared norms of colleagiality and continuous improvement. They shared a common language, were involved in experimentation for improvement, observed each other, discussed instruction, and shared planning or preparation. Raywid (1984) also found

that these norms of collegiality are even more prevalent in schools of choice, that is, in public and private schools to which parents elect to send their children. In these schools, teachers interact considerably on professional issues, and depend on each other extensively. Teachers, then, not only must learn to interact in the classroom, they must also spend productive time with other adults in the school, learn to appraise each other's work, discuss professional issues, and work toward improvement.

Teacher as Inquirer

Recent research on the planning, and decision-making processes of teachers (Shavelson, 1983 and Clark and Peterson, 1984) emphasizes the extremely complex nature of the mental life of teachers. We are also accumulating evidence on the ways in which these processes develop in experienced teachers from their beginning years in the field. But the effective teacher of today may require more than the standard skills of planning and decision-making. As school contexts, goals, curricula, and students change from year to year, teachers need to adjust their approaches accordingly. Effective teaching behaviors differ depending on such contextual factors as subject matter, grade level, and type of student (Koehler, 1979). These changing contexts require the teacher to have an understanding of cause and effect, and a willingness to experiment. Schon (1983) describes life for all professions in terms of "complexity, uncertainty, instability, uniqueness, and value conflicts."

(p. 18). What this means is that top-down cookbook techniques or sets of behaviors will not solve the problems in an individual teacher's classroom without some adaptation of that technique by the teacher. Adaptation requires teachers to think about what they are doing and about how their teaching affects their students. They must develop alternatives to test, and they must constantly assess their classroom performance. In effect, they must be inquirers in their own classroom.

One way in which teachers have become involved as inquirers in their own classrooms and schools is through collaborative research projects. Tikunoff and Ward (1983) described projects in which teachers, researchers and sometimes other professionals such as staff developers have worked together on problems identified by the teachers. In all of these studies, teachers mentioned how excited and renewed they had become because of being able to think about and experiment with their classroom activities. The common research problem provides a language which the teachers can use to think about their own classroom behaviors and talk with other teachers about improvement. However, it is not now the case that all teachers are inquirers. Ward (1984), for example, estimates that only 10-20 percent of the teachers in their various samples have been inquirers; while another 50 percent have high potential because they do understand relationships between cause and effect in their classrooms. Many policies which attempt to dictate minute

elements of the teacher's day-to-day life make inquiry extremely difficult and can discourage those who are inquirers.

Teacher as Clerical Worker

A complete view of teaching must include not only the preceeding views of teaching which indicate a highly professional and complex set of functions, but also one which describes the more mundane activities of the teacher. Linda Darling-Hammond (1984) discussed the coming crisis in teaching that the increasing demand for and decreasing supplies of qualified teacher may soon cause. She illustrated her concern that negative conditions for teaching will drive away many potential candidates with a hypothetical want-ad for a teacher:

> College graduate with academic major (master's degree preferred). Excellent communication and leadership skills required. Challenging opportunity to serve 150 clients daily, developing up to five different products each day to meet their needs. This diversified job also allows employee to exercise typing, clerical, law enforcement, and social work skills between assignments and after hours. Adaptability helpful, since suppliers cannot always deliver goods and support services on time. Typical work week 47 hours. Special nature of work precludes fringe benefits such as lunch and coffee breaks, but work has many extrinsic rewards. Starting salary $12,769, with a guarantee of $24,000 after only 14 years. (p. 1)

Unfortunately, this picture of teaching is quite accurate. In most schools, teachers spend considerable time on clerical, hall, and playground duty. From complex attendance forms to even more complex grading and examination forms to typing and reproducing worksheets and, at times, curriculum materials when textbooks have not yet

arrived, these tasks take considerable time away from instruction. Although teachers have complained about these duties (and have sometimes included restrictions on them in their bargaining contracts), in some settings they have increased. For example, the competency-based curricula have placed extensive book-keeping requirements on the teachers, and many school districts have reduced the number of aides, thereby requiring even more time of the teachers for non-teaching duties.

These very different conceptions should be viewed as ways of thinking about teaching which have been influenced by research. None is adequate in itself to explain the teaching role. Those who are developing policy related to the improvement of teaching need to develop a composite view of teaching which reflects the complexity of the occupation.

HAS THE TEACHING ROLE CHANGED OVER THE YEARS?

Many observers point to the amazing continuity of significant features of American schools and classrooms (for example, Cuban, 1979). Schools are organized much as they were 50 years ago. They are age-graded, and single teachers instruct 25-30 students in self-contained classrooms. Classrooms have been remarkably immune to the introduction of new technology, with textbooks, the blackboard and teachers still the primary deliverers of subject matter. Because of this remarkable stability in the surface structures of schooling, many people think that teaching, in

itself, is similar to what it was a number of years ago. But many factors have changed the occupation and activities of teachers, and what they need to know in order to do an effective job.

Probably the most significant change concerns the changing composition of students in the classrooms. Desegregation, mainstreaming and bilingual education have placed students together in classes which were traditionally homogeneous. Further, more students are staying in school longer than in the past. Teachers must develop ways to deal with different needs of very different populations of students all at the same time. Too, they are responsible for maintaining the interest of students who, in the past, would have dropped out of school. Schools are much more complex organizationally than they were just ten years ago. Such specialists as reading experts, special educators, and speech therapists work in the schools. They draw students away from the classroom at all times of the day. The regular classroom teacher must therefore learn to manage his or her students, a battery of other adults who either work with the students in the clasroom or pull them out to special labs or programs, and supervisors and evaluators.

All of this is happening at a time when society and students in particular have less respect for the teacher. Students have many other activities to occupy their time. Teachers must compete with television and after-school jobs. Information from the High School and Beyond Project

indicates that one-half of the employed males 16-19 are enrolled in high schools (Lewin-Epstein, 1981). McNeil (1983) found that when the numbers of upperclassmen in four high schools who were working were added to those actively seeking employment, four out of five were involved in the labor market. Further, three out of four working students in the High School and Beyond sample were working at least fifteen hours per week, and nearly half worked half-time (Lewin-Epstein, 1981). These distractions cut down on the amount of homework students can do, and can cause fatigue and apathy.

The increased complexity of the occupation requires that we attract the very best individuals to the occupation; however, the poor conditions of teaching, low salaries and public support are making it extremely difficult to do so.

WHAT IS EFFECTIVE TEACHING?

If you were to walk into an effective elementary teacher's mathematics or reading classroom, you would note a business-like atmosphere, and a structured, teacher-centered program. The teacher would be working with the whole group of students or several smaller groups, and discussions between the teacher and students would concern the specific content of the curriculum. There would be few off-task comments or behaviors. The climate of the classroom would be polite, congenial, and cooperative, and all participants would look like they enjoyed being there and working hard.

A rare occurence? Not at all. This profile of the effective elementary teacher's classroom came from observations of many practicing teachers all over the U.S. who had been designated as effective on the basis of how much their students learned in reading and mathematics during the year. These effective teachers were found in low-income, urban mixed-income, suburban, and rural schools. They came from a variety of cultural, social and educational backgrounds and approached teaching in a variety of ways. There was, however, one important common aspect of their teaching: they all managed their instructional programs so as to maximize the amount of time their students spent on reading and mathematics. Summaries of the effective teaching literature (Brophy, 1979; Denham and Lieberman, 1980, Rosenshine, 1983) indicate that effective teachers use the following eight techniques:

- o minimize noise and disruption;
- o accurately diagnose student skill level.
- o provide students with tasks which are appropriate to their skill level, and not too difficult for them; high levels of success in seatwork are important for the students;
- o engage in a considerable substantive or academic but very little social interaction with their students;

- o use highly structured questions and elicit a relatively high rate of correct answers from students;
- o provide immediate, academically oriented feedback praising correct responses and exploring incorrect ones;
- o move quickly and smoothly from activity to activity to minimize time spent on non academic tasks.
- o expect their students to do well because they understand that what they do as teachers makes a difference in terms of student learning.

While we can describe characteristics of effective classrooms, it is more difficult to describe effective teacher behaviors. Effective teacher behaviors vary depending on the students, subject matter, grade level, and other characteristics of the setting. Nonetheless, because these eight statements concerning characteristics of effective teaching and teachers represent fairly complex bodies of findings with extensive information about a variety of teacher behaviors, inservice training programs have been developed and tested in less effective classrooms (Anderson and Brophy, 1976; Good, Ebmeier, and Beckerman, 1978; Stallings, 1980; Gage and Crawford, 1978). The inservice programs review the research, and help teachers think about how to use them in their own classrooms. These experiments have demonstrated that it is possible to turn

the research findings on effective teaching into inservice programs which not only change teachers' behaviors but improve student learning.

Several notes of caution are appropriate. This body of research relates to elementary classrooms and more specifically reading and mathematics. There is very little research on secondary school classrooms, and we are only beginning to look at other subject matter areas such as science and writing. Further, a different body of research indicates that it is possible to organize the classroom quite differently from the traditional one described above, while still promoting student learning. Cooperative learning models (Slavin, 1982), for example, have been shown to be effective in enhancing student learning as well as social attitudes, particularly in classrooms which vary in terms of student ability and background.

HOW DO TEACHERS LEARN TO TEACH?

The strongest influence on individuals who enter teaching is their own past schooling and teachers (Lortie, 1966). Students who enter teaching have had 12 to 14 years in elementary and high school, and many more than twelve teachers. In no other occupation does personal experience exert such a powerful influence. Preservice education constitutes a very small element of the overall preparation for teaching, and, in fact, a relatively small part of post secondary education. In post secondary education, a large portion of the credit hours of a preservice student is

devoted to liberal arts and content courses. The way in which a beginning teacher acts in the classroom thus becomes a function of a long personal history with teachers and schooling, subject matter and liberal arts courses throughout high school and college, and a short, intensive involvement in a small number of pedagogical courses in college.

There is some question concerning the lasting effects of preservice programs on their students. It is clear that individual courses during preservice can develop the instructional skills of students, at least in the short run (Koehler, 1984). However, as the the student moves away from the college courses and into schools and classrooms, those effects are diluted. In fact, there is considerable evidence that instructional styles of practice teachers are more strongly influenced by their cooperating teacher than by the academic courses they had taken in college or by their college supervisors (Seperson & Joyce, 1973). The problem becomes one of transfer of the skills learned in college to the regular classroom. Doyle (1977) speculated and Copeland (1980) provided experimental evidence that the ecological effects of the classroom and school are more powerful than the academic elements of preservice education and that these factors affect the behaviors of both the cooperating and practice teachers. Nonetheless, Tabachnick, Zeichner, Densmore, Adler, Egan (1982) found that a set of characteristics developed in preservice training did, in

fact, carry over into practice and the first year of teaching after graduation.

There appears to be an overall effect of preservice teacher education. A recent review of the research on characteristics of effective teacher preparation programs summarized a number of studies which compared regularly and provisionally certified teachers (Evertson, Hawley, Zlotnik (1984). In all but two studies, the regularly certified teachers were ranked higher than teachers with less formal pedagogical training. The authors of the review concluded: "It is clear, however, that teachers learn how to do things through their education courses that might reasonably be expected to improve student achievement." (p. 8)

What also seems clear is that there is a set of attitudes and processes which teachers develop as they move from practice teaching to their first several years in the field and then to the status of experienced teachers. There is a shift in attitudes from idealistic, progressive or liberal during preservice to more traditional, conservative or custodial in student teaching and the first year of teaching (Veenman, 1984). Beginning teachers have different planning needs (Morine and Vallance, 1976) and different information needs (Wrag, 1980) from those of more experienced ones. For example, the beginning teachers stated that they would want to know everything possible about their new students, but the experienced teachers stated that they wanted to know as little as possible about their new

students, although they might want to take a look at their records after they had gotten to know them. Another study found that beginning teachers were less spontaneous than experienced teachers with student responses and to classroom cues, but they were more responsive to situations which could disrupt their plans. And Erickson (1984) found major differences in the classroom phenomena to which undergraduate education majors, first-year and experienced teachers pay attention. The first-year teachers fell between the inexperienced and experierced teachers in terms of the nature of their attention. Experienced teachers, then, become more global and efficient in their thought processes. This does not mean, however, that experienced teachers make better judgments than beginning teachers. They simply come to their judgments in different ways.

This is an important new area of research which will be of importance to both policy and practice. For example, a number of states are developing examinations for certification and classroom observation measures for beginning teachers based on research on effective experienced teachers. Given the developmental differences between beginning and experienced teachers, it may be inappropriate to judge beginning teachers according to criteria developed for experienced teachers. Preparing preservice teachers to act as experienced teachers may be futile, and further, may not adequately prepare them for the rigors of the beginning years.

HOW CAN RESEARCH IMPROVE THE QUALITY OF TEACHING?

Perhaps one of the best recent stories of the effects of research on practice relates to the time on task work and the the direct instructional model which was developed from it. In most states, inservice programs have been developed to help teachers use the direct instructional model to organize and manage their classroom to maintain their students' contact with the particular curriculum of interest. These programs have been used in many elementary schools, particularly in urban areas. In fact, among the many suggestions for the improvement of secondary education in A Nation at Risk (1983) is a little noted observation: ". . .many large urban areas in recent years report that average student achievement in elementary schools is improving."(p. 34) Fred Hechinger of the New York Times attributes this, in part, to research on teaching: "Stress on the basic skills became fashionable again at the very time when new research in the teaching of reading, writing and mathematics made it possible to teach more effectively." (Dec., 1982).

This paper has furnished other examples of the ways in which research can be used by policy-makers, teachers, and teacher educators/staff developers to affect practice. For example, inservice training programs have emerged from the research on effective teaching and rigorous experimentation has shown that they affect both teacher behavior and student learning (Gage and Giaconda, 1981). In addition, teachers

involved in collaborative research programs have described them as the best inservice education programs they had ever experienced. The collaborative projects themselves have been turned into inservice programs to involve even more teachers in the process. (Tikunoff and Ward, 1983). Many schools of education are incorporating the latest research on teaching and learning into their preservice programs. The National Institute of Education sponsored a program to work with a number of teacher education programs to reshape their programs on the basis of the latest research (see the July/August, 1984 issue of the Journal of Teacher Education for a description of the project). Vanderbilt University-Peabody College, for example, changed its preservice teacher education courses to include research information and structured classroom observation (Myers and Stallings, 1984).

This research helps us understand what teachers do, why, and the conditions under which they work. Fenstermacher (1979 and forthcoming) described the value of research to policy as well as to practice. "The value of research to policy", he stated, "is to advance our understanding of the phenomena that are regulated, not to tell someone how to regulate them." (p. 12, 1979) The value of research to practice, he feels, is to help teachers elaborate and improve on their practical knowledge; once again, not to tell teachers what to do. Raquel Muir described this process in Time to Learn (1980). Muir, a grade six teacher,

participated in a number of workshops designed to disseminate the findings of the Beginning Teacher Evaluation Study related to the Academic Learning Time model (ALT). She used ALT as a tool with which to assess her own behavior and monitor her students' progress. She stated:

> . . .the most general and yet most powerful implication for the issue of ALT is for teachers to be able to take back control of their own classrooms in an indepentent, thoughtful and responsible manner, Using the rationale and application of research findings, self-study, and self-improvement skills, teachers will ne able to resist fads, practices, and programs that seem to run in cycles, often counter to commonsense and intuitive teaching experiments, and use instead concepts presented in research such as BTES. (p. 212)

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