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Teacher Motivation and the Conditions of Teaching: A Call for Ecological Reform*

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From the beginning of educational research, the study of student motivation has been a prominent topic. In contrast, teacher motivation has received little attention. It has been assumed until recently that teachers are motivated and that the profession provides its members with the support needed to maintain dedication and carry out their duties effectively.

Two lines of research, one into the conditions of teaching and the other into teachers' efficacy attitudes, suggest that these assumptions are mistaken. The last National Education Association (1982) poll which investigated the status of public school teachers revealed that their motivation has been severely threatened in recent years. A national sample of teachers was asked, "Suppose you could go back to your college days and start over again, in view of your present knowledge, would you become a teacher?" Only 25 percent of females and 16 percent of males indicated that they "certainly would" choose teaching again. These numbers represent a significant erosion of teacher morale. When the same question was asked in 1961, 57 percent of females and 35 percent of males indicated that teaching "certainly" would be their career choice.

Research into the conditions of teaching suggests that declining morale among educators is due to such interacting factors as the failure of salaries to keep up with inflation, the lack of a career ladder that rewards teacher competence, the loss of public confidence in the quality of American teachers and the education they offer, school violence, hostile or apathetic parents, and a lack of professional autonomy (Boyer, 1983; Sizer, 1984; Webb, 1982). Teachers further report that heavy work loads, lack of time, growing responsibilities, classroom interruptions, poor discipline, negative student attitudes, and incompetent administration have diminished their morale and hindered their efforts to teach competently (NEA, 1982, p. 789). These data suggest that the quality of education and the conditions of teaching are closely linked and that we are unlikely to significantly improve the former without first enhancing the latter.

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"Sense of efficacy" refers to teachers' beliefs regarding their ability to teach and students' ability to learn. The construct was introduced to educational research in two Rand Corporation studies that reported a strong association between teachers' sense of efficacy and student achievement (Armor, *et al.*, 1976; Berman *et al.*, 1977). In their evaluation of reading programs in Los Angeles schools, Armor *et al.* reported that teachers' sense of efficacy was "strongly and significantly related to increases in reading" achievement (p. 23). In the second study, an evaluation of teachers' willingness to adopt educational innovations, Berman *et al.* found a "strong positive relationship" between teachers' sense of efficacy and such dependent variables as the percentage of goals achieved during innovation projects, the degree to which teachers maintained project innovations over time, the amount of teacher change occurring during those projects, and student achievement (p. 137).

Past efforts to identify specific attitudes that are related to student achievement have been discouraging (Dunkin and Biddle, 1974; Getzels and Jackson, 1963). The findings of the Rand studies represent a significant breakthrough because of correlations they found between teachers' sense of efficacy and student achievement and because they suggest that efficacy attitudes are a component of teacher motivation. More recent studies have further established the link between teachers' sense of efficacy and student achievement (Gibson and Dembo, 1984; Ashton, Webb, and Doda, 1983; Ashton and Webb, 1986).

While we are encouraged by the findings of the "efficacy research" and look forward to more work being done in the area, we are concerned about how the findings will be interpreted by policy makers. The path from research data to policy prescription is slick and steep and must be travelled with care. The current pressure to improve schooling in the United States encourages policy makers and researchers to run that path with reckless abandon. A purpose of this paper is to offer an interpretation of the teacher efficacy attitude studies so that a careful policy debate might begin.

At least two mutually exclusive assumptions appear to drive current interpretations of the teacher efficacy research. The first assumes that efficacy attitudes are akin to character traits and that low sense-of-efficacy teachers are somehow flawed and unable to carry out their duties effectively. The obvious policy implication to come from this assumption is that teachers should be screened in order to keep those with "bad attitudes" out of the nation's classrooms. A shorter prescription, drawn from the same assumption, suggests that teachers with a low sense of efficacy must be helped to change their views so that they can become more productive workers. We refer to this set of policy prescriptions (screening and re-education) as having an "individualistic" orientation.

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The second assumption used to interpret the research is that efficacy attitudes are not personality traits, but rather responses to teachers' cultural, social, institutional, and personal environment. The policy implication that flows from this assumption is that efforts to improve teachers' efficacy attitudes must change the conditions of teaching rather than teachers. We refer to this prescription as an "ecological" orientation because its intervention is directed at the school environment and not focused narrowly on the personalities and beliefs of individual teachers.

We believe it is more warranted to apply an ecological perspective rather than an individualistic orientation when interpreting the efficacy attitude research in education. The purpose of our paper is to document that belief.

Data and Method

The data for our analysis were drawn from in-depth interviews with 42 middle-school and high-school teachers working in five schools in a southeastern city and a rural town. Interviews lasted from a half hour to two hours, were taped, and then transcribed. In addition, more than 80 hours of observational data were collected in the classrooms of middle-school teachers. We searched the data for "What is going on here? What are teachers doing, and what meaning do their acts have for them? What do teachers make of the actions of others and the everyday events of their own professional lives?" To answer such questions we were attentive to the "minute particulars" of everyday events and the reality constructs that teachers used to make sense of those events. We stayed close to the teachers, but at the same time we consciously detached ourselves so that we could view their social reality from the objective perspective of a sympathetic stranger (Schutz, 1971, p. 37). Thus our actions in gathering and analyzing data were governed not solely by the rules of etiquette or the customs of the classroom, but by the pre-established rules of the scientific method.

The process of data analysis is complex and cannot be detailed here. It is enough to say that it is from the standpoint of a sympathetic but detached observer that the subjective world of teachers can be made an object of analysis. Following Spradley (1980), data were analyzed line by line for "domains" or categories, and domains in turn were organized into broader themes. Thus we discover patterns of thought and action, or what phenomenologists call "typifications" (Schutz, 1971, pp. 59, 73, 281). The goal of technographic research is not simply to report the utterances and actions of teachers, but to find order in them and to place them in a wider social context.

It was our objective to render the social world of teachers intelligible. The aim of social science is to gain understanding by making the subjective objective, by making what is taken for granted in everyday life seeable and

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thus knowable. This is the point of the stanza from T. S. Eliot's "Little Gidding":

> We shall not cease from exploration
> And the end of all our exploring
> Will be to arrive where we started
> And know the place for the first time.

Rendering the social world intelligible (making it knowable for the first time) is perhaps the greatest single contribution of social science. It is only when others become intelligible to us that we can empathize with their situation and enlarge and enlighten our sense of community and common purpose. A warranted interpretation of the lives of teachers, a sense of community, and a commonality of purpose are sadly lacking in education today. Their absence constitutes a significant impediment to school improvement (Ashton and Webb, 1986). Certainly knowing something about how teachers interpret their world is essential if we hope to make policies that will improve teacher performance.

Teacher Efficacy Attitudes: A Situation Specific Variable

Bandura (1977) has noted that a person's sense of efficacy varies from one situation to another. One may feel quite competent at computer programing but utterly incompetent at interpreting poetry or carrying on lively dinner-table conversation. Teachers in our study made similar observations. They reported that their sense of competence was influenced by what they were being asked to do and, more specifically, by the conditions under which they were expected to work. Some teachers felt more able to teach high-achieving students than low-achieving students. Some felt they taught one subject quite well and another subject rather badly.

Teachers also reported general (what we call "ecological") threats to their ability to teach and their sense of professional competence. We asked teachers to describe their work and to discuss the conditions that most helped or hindered their teaching. They reported that their sense of competence was threatened by one or more of seven factors, each of which we discuss below.

Seven Ecological Threats to Teacher Efficacy

(1) Excessive Role Demands.

Teachers mentioned that they felt overwhelmed by the sheer quantity of their workload and consequently were unable to perform effectively. One teacher explained:

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> My objection is that I'm spread so thin. I can't do a good job. I've been about a C− teacher [this year], and I'm better than that. I'm not in a situation where I can succeed, and everybody likes to succeed. I can't do a good job. I not only [have to teach] different grade levels, I'm in four different classrooms. That really hurts. Unless you've taught, you don't understand how much you can do in those five minutes between classes [if] you don't have to run [to another classroom when the bell rings].

Another teacher explained that the amount of work he had to do was discouraging:

> I've gotten to the point where I've stopped making the superhuman effort. I still make the extra effort. I used to take a lot of work home with me, work nights and weekends, and I don't do that anymore. How much can you take? How long can you take it? You just reach the point where you've got other needs, and you have to meet them. And that's the problem that all teachers have.

Class size was a major contributor to teachers' perceptions that they were not as effective as they wanted to be and thought they were capable of being. One teacher said:

> I have a lot less learning going on [in my larger classes] than in my smaller classes, the larger being around 30, and the smaller being around 20.

A remedial reading teacher explained that in a large group she couldn't "have much effect" on individual students. Another teacher contended that classes of "25 students and no more" would help teachers "survive."

Glass and Smith (1979) concluded from their meta-analysis of class size research that there is a relationship between the number of pupils in a class and student achievement. Although their research indicated that significant effects were not usually evident until class size decreased to approximately 15 students, the teachers we interviewed perceived positive benefits from more modest reductions. They believed they could get more done in small classes because they would have more control over their pupils and a more manageable workload.

Confrontations with students who were difficult to control diminished teacher efficacy. A first-year teacher described how the classroom environment deteriorated when she lost control of her students:

> God, the abuse you had to put up with. The first thing that happens [when I am challenged by students] is that I get a killing headache. I begin to feel physically bad. And then [I] kind of want to get back at

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> them. That's especially true just before vacation time. I'll find myself almost going down to their level. Rather than sending them out or telling them that this has to stop, I'll come back at them. And that's when it gets bad. You get physically exhausted and you say, "I'm not going to let you do this to me any more," and you try and get back at them. And that's a mistake because things just get worse. They get defensive and they come back at you again. It's a vicious circle.

(2) Inadequate Salaries and Low Status.

Teachers might be able to bear the burden of large classes, excessive expectations, and difficult students if they felt that they received fair remuneration and respect for their efforts, but they receive neither, and many spoke with bitterness about it:

> Teachers are not recognized the way they should be. I feel that with my ability in mathematics I could have easily become an engineer, any kind of scientist, a medical doctor, anything like that. I'm not sure I'd necessarily have been happier doing that, but I would have had more recognition in society. I would have had more financial rewards.

Another teacher asserted:

> I'm getting out of teaching. It's not so much that I don't like teaching. It's because I'm not making any money. I think I do too many things too well to sit around here and make ten or twelve thousand dollars a year. It's the money. It's a real problem. I think we're just above the poverty level right now. We're just not doing well at all.

Webb (1983) explained that the problem of low pay goes beyond economics and strikes at the heart of teachers' professional self-esteem:

> Teachers come to their work with aspirations of vertical mobility, but today they find little opportunity for advancement in their chosen profession. They come with the hope that they will earn an adequate income, but they find that their salaries are not keeping pace with inflation and that the pay of many blue-collar workers equals or exceeds their own. They come with the expectation that white-collar work will afford them respectably high status in the community, but they find that their prestige is damaged by the decline of public confidence in education. It would appear that teachers are suffering what C. Wright Mills [1959, pp. 254–259] once called "status panic." Such anxiety is damaging to their professional self-esteem and has diminished their commitment to education (pp. 41–42).

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(3) Lack of Recognition and Professional Isolation.

Teachers are further demoralized by lack of recognition and support from their administrators and colleagues. One discouraged teacher admitted:

> I think this year I have suffered from what they call teacher burnout. There is very, very little recognition here. Even a dog needs to be patted on the head, but we don't get that here. It makes you question whether it's worth it.

Another teacher said:

> My general complaint is how quickly administrators forget what it's actually like to be working in classrooms. They forget some of the problems and frustrating times that you go through. They forget that you need some support and understanding, and it's very seldom that you have someone who's genuinely interested [in what you're doing] and willing to lend you an ear and listen to your problems.

The isolation of teachers described by Lortie (1975) continues to be the norm in the schools we studied. One teacher desribed her need for collegial support:

> Anybody's input would [have been] a help. If they would just share some of the things they have tried. But you know, teachers get hold of a good idea and instead of sharing it, they hoard it. A lot of teachers are that way. They get some material and hoard it and won't let you see it. But I need some ideas and materials. I'm dying for information.

Another teacher described feeling abandoned by her colleagues and supervisor:

> At the beginning of the school year I was faced with no books, no materials and a class to teach. I essentially received no help from the people I thought should have helped. I walked in and [was told], here, you're teaching this.

(4) Uncertainty.

Isolation from peers deprives teachers of the opportunity to see others at work and develop a shared technical culture (Dreeben, 1970; Lortie, 1975). An apparent absence of professionally sanctioned goals and the paucity of scientifically verified instructional techniques force teachers to make their own classroom decisions and ultimately to calculate their own professional competence. Yet teaching provides few day to day (or year to year) assurances that one's decisions have been wise and effective and that students are making progress academically, socially, or psychologically. As a conse-

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quence, teachers are perpetually vulnerable to self-doubt. The teachers we interviewed expressed their uncertainties in many ways:

> I don't know that what I'm teaching will make any difference. [Teaching the basic skills] doesn't do my students a whole lot of good. It makes me sad to see some of my students leave. I think, "Oh, boy, what's going to happen to you?" I feel they need the basics. But I wish I had something else to offer them. The problem is that we're not teaching them anything they can use later on.

A first-year teacher contemplated leaving the profession because, as she put it,

> I don't think I've done a great deal of good. When they had to take a test [at the end of the semester] they didn't do much better than they did at the beginning. That was when it really hit me. I tried to give a review assignment that would get them ready for the semester test. But they acted as if they had never seen the material before. And I just sat there and thought, "There has got to be a better way to teach."

We asked an enrichment teacher how he could tell if he had met his objectives at the end of the year. He shook his head slowly and answered, "I don't know. I really don't. In fact, I really *don't* know. I suppose I use my own subjective judgment."

Teachers usually hold at bay their doubts about their competence, but they cannot completely push such doubt from their minds. They find it difficult to convince themselves and their several audiences that, in fact, they are as competent as they think they can and should be. Questions that can never be conclusively answered keep returning. Why did so many students fail the mid-term exam? Am I doing enough? Do I know enough? Should I be teaching in another way? How can I be sure that students are learning, and, if they are, how can I be sure that what they are learning will help them later on? Such questions are worrisome and make teaching an uncertain profession. If uncertainty becomes too pronounced, teaching becomes unrewarding, and teachers' efficacy attitudes plummet.

(5) A Sense of Powerlessness.

Teachers were frustrated because they were unable to influence important decisions that affected their work. For example, one teacher explained that the inability to influence decision-making had a detrimental impact on her sense of efficacy:

> Sometimes I think we're not treated very professionally. I mean all the teachers. I might be asked to give my opinion, but it really doesn't matter, and I know it doesn't. So it's hard not to say, "Well, why

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> bother.'' So issues that are very important, like teaching assignments, are messed up and that makes a difference. People are assigned all kinds of classes, and it makes a difference in how effective you are and how much you can get done.

(6) Alienation.

At least for some teachers, the combination of excessive demands, inadequate salary and status panic, lack of recognition and support, uncertainty, and powerlessness engender attitudes of quiet conformity and unreflective acceptance of the status quo. In their eagerness to find security in an uncertain profession, many teachers took care not to rock the boat or offend colleagues, parents, or supervisors. Minds so set on survival were unlikely to entertain suggestions for change or to instigate reforms. Thus, when we asked teachers to suggest changes that might improve their morale and classroom performance, many were stymied by the question. When pushed, they suggested that teachers should work harder and that administrators should ''get tough with incompetent faculty members.'' No teacher suggested changes in the organizational structure of the school, and only a few recommended that teachers work together to solve common problems.

Though dissatisfied with teaching, many of the teachers we interviewed traced the causes of their dissatisfaction to the individual failures of ''dumb students,'' ''incompetent teaching,'' ''ineffective administration,'' and flaws in themselves. Few teachers attributed their dissatisfaction to structural problems within the school itself. They were unable to achieve what Mills (1959) called a ''lucid summation of what is going on in the world and what may be happening within themselves'' (p. 5). They had reified what they called ''the system'' and did not see it to be within their power (individually or collectively) to fully comprehend, let along change, that system. As the German sociologist Arnold Gehlen (1980) has pointed out, ''reified . . . operations . . . resist criticism and are immune to objections'' (p. 154). Within reified systems, most criticism is self-criticism or is leveled at specific functionaries or policies. There is no Promethean vision that change is possible, but only a creeping resignation that, in the end, ''the system'' will triumph over the human spirit.

A teacher described her feelings of resignation:

> I still have the capacity for [effective teaching]. But in some instances, I'm not sure that I care. But other times, I care a great deal. Sometimes I feel, what's the use? Teaching can be [a] very frustrating, *very* frustrating experience. I'm not going to mince words about it. That's the way I feel. I feel threatened too.

Yet even as this teacher gave herself over the system, she criticized younger teachers who are going through the same process:

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> It bothers me that a lot of teachers come into . . . the system and after a short while are just as jaded as the rest of us. I'd think that at least their enthusiasm would stick with them for a good three or four years. But it doesn't.

The conditions of teaching promote the loss of a meaningful relationship with one's work—a form of alienation that social psychologists have called "self-estrangement." Blauner (1964) explained, "When an individual lacks control over the work process and a sense of purposeful connection to the work enterprise, he may experience a kind of depersonalized detachment rather than an immediate involvement in the job task" (p. 27).

Many of the teachers we interviewed confessed sadly that teaching provided them with only a weak sense of accomplishment. They did not feel fulfilled through their work and were frustrated because teaching did not tap their potential. Blauner (1964) described how the loss of connection with one's work reinforces a negative professional self-image:

> Self-estranging work compounds and intensifies [the] problem of negative occupational identity. When work provides opportunities for control, creativity, and challenge—when in a word, it is self-expressive and enhances an individual's unique potentialities—then it contributes to the worker's sense of self-respect and dignity and at least partially overcomes the stigma of low status. Alienated work—without control, freedom or responsibility—on the other hand, simply confirms and deepens the feeling that societal estimates of low status and little worth are valid (p. 31).

(7) The Decline in Teacher Morale.

The morale of teachers is declining at an alarming rate. In a national survey of teachers (NEA, 1982), only half of the respondents indicated that they definitely planned to stay in teaching until retirement. Twenty-seven percent of teachers surveyed by the Metropolitan Life Insurance Company (1985) said it was likely that they would leave their profession within the next five years (p. 26). The reasons they gave for their dissatisfaction centered on the conditions of their work. Sixty-two percent said low pay was a major reason for considering another occupation. Forty-one percent identified excessive paperwork, long working hours, and overcrowded classrooms as primary causes of dissatisfaction (pp. 3–5). Thirty-four percent said that they experienced "great stress" at least once a week; 20 percent experienced great stress "several days a week;" and another 16 percent experienced great stress "nearly every day" (p. 34). The degree of teacher dissatisfaction was directly related to the inadequacy of the work environment, the frequency of felt stress, the hours teachers worked, and the relative poverty of the school district (pp. 51–52).

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Teacher dissatisfaction and attrition, high levels of stress and eventual burnout, and declining efficacy attitudes are indications that the teaching profession is in a state of crisis. Drawn to teaching because they saw it as an exalted profession (Doda, 1982), many educators have come instead to view teaching as a precarious occupation. A sixth-grade teacher told us:

> I haven't handled [stress] too well. I've been breaking into perspiration lately [and] I think it's nerves. Yesterday, I told you I felt like I [was suffering] from the D.T.'s. I was really trembling and that, I know, [is caused by] stress. Unfortunately, I want students to learn, and I can't cope with the idea that they don't want to learn.

The Individualization of Reform

What can be done to help teachers who suffer from a sense of occupational futility? How we answer that question depends on where we think the problem is located. The staff-development and teacher-burnout literature often locates the problem of teacher stress where its symptoms are most evident, in individual teachers. Thus remedies are designed to train "stress-prone" professionals to cope with the pressures of school life, not to make teachers' work less stressful. One expert (Cedoline, 1982) acknowledged that negative work settings contribute to job stress, but he went on to describe burned-out professionals as cynical, negative, inflexible, resistant to change, subtly paranoid, helpless, emotionally fatigued, dehumanized, non-empathic, irritable, game-playing, accident-prone individuals who have not learned to cope adequately with realities of everyday life. He suggested that administrators help teachers "learn to cope with stress" (p. 164) by offering programs in meditation, progressive relaxation, thought-intrusion exercises, focused breathing, desensitization, yoga, biofeedback, and more. He advised teachers to learn to control their griping, be more effective disciplinarians, improve their communication skills, develop attitudes of "detached concern" for students, and "look for something pleasant in their encounters with students, colleagues, and administrators" (p. 151).

At at time when so many educators suffer from the effects of teaching, it is difficult to oppose programs that may bring some relief, no matter how superficial it may be. Yet, our interviews with teachers suggest that their dissatisfactions are not often caused by their own "maladaptive responses" to their work, but rather by the circumstances in which they are expected to perform their duties. The sheer number of teachers who report that they are unhappy with their work suggests that burnout is a structural rather than a personal problem (see Mills, 1963). If we focus remedies for teacher burnout on the behavior of individual teachers, we not only mistake a symptom for a cause, but we subtly shift the responsibility for burnout from a "maladaptive" school system to its victims.

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The individualization of issues in education blinds professionals to the system in which they work and invites them to see school problems as a series of unconnected case studies. Each case has its own story, but these tales are never woven together into a larger plot with explanatory power. Problems are defined in terms of the individuals who express them, and those individuals are encouraged to take responsibility for solving their own troubles. This is a cruel hoax for three reasons: (1) Individualized reforms have little or no effect on organizational problems and social issues; (2) they erroneously trace the causes of organizational and social problems to victims of those problems; and (3) they divert attention from teachers' shared experiences and analysis of their work environment. Though the stated goal of individualized reform is always to improve the quality of schools by improving teachers, the result of such reform at best is to maintain the status quo and, at worst, to further demoralize the teaching profession.

Teachers' Sense of Efficacy and the Individualization of Reform

In a quantitative study of basic-skills high school classrooms, Ashton and Webb (1986) found significant and positive correlations between teachers' sense of efficacy,[1] teacher behavior,[2] and student achievement.[3] Such findings are grist for the mill of the "individualizers" of educational reform. If they ignore the fact that correlations do not prove causality, individualizers can make the claim that student achievement will be raised if teachers go through an in-service program of motivational training. The aim of such training would *not* be to help teachers analyze the conditions that erode their motivation and alienate them from their profession. Instead, teachers would be asked to reflect on their own "shortcomings" and to take responsibility for improving their own "bad attitudes." When such programs fail, as they inevitably will, the same logic that tempted the individualizers to call for motivational training will tempt them to blame the failure of that training on the recalcitrance of teachers rather than on the futility of their own plan.

Ecological Reform

Our interviews with teachers and observations in their classrooms suggested that the logic of individualized reform is flawed at its root. Teachers' efficacy attitudes are not simply mistaken ideas to be corrected. Rather, we agree with Goodlad's (1984) contention that greater attention must be paid to the quality of work life within the school. It is neither fair nor prudent to expect educators to alter their negative attitudes toward teaching without attending to the workplace circumstances that fostered those attitudes.

An alternative to the individualization of reform and the engineering mentality it implies (Callahan, 1962; Tesconi and Morris, 1972) is ecologi-

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cal reform designed to democratize the workplace. The aim of ecological reform is to transform schools so that they no longer alienate teachers, administrators, and students. It is to free the intelligence of those who work in schools so that they might better analyze school problems, invent solutions, and improve the quality of education. Rather than "de-skilling" teachers (Apple, 1981) by lessening their autonomy and subjecting them to pre-packaged solutions to "individualized" problems, the goal of ecological reform is to empower teachers to take greater control of, and responsibility for, their professional lives. John Dewey (1950) observed in 1903 that effective schools are those that provide opportunities for the "free and full play of vigor and intelligence" (p. 64). Such schools permit everyone, "from the first grade teacher to the principal of the high school some share in the exercise of educational power" (p. 65).

An ecological approach to the problem of low-efficacy attitudes would begin by addressing the cause of teacher dissatisfaction and alienation. The elements of satisfying and productive work are not mysterious. We are likely to be satisfied in our work when we value what we do, when it challenges and extends us, when we do it well, and when we have ample evidence confirming our success. In order for our work to be fulfilling, significant others on the job and in the community must appreciate the importance of our task and acknowledge the quality of our performance. We must have opportunities to take part in decisions that affect our work lives and to help solve work-related problems. We must understand clearly how our efforts contribute to the mission of the institution for which we work. (Goodlad, 1984; Herzberg, Mauser, Paterson, and Capwell, 1975; Locke, 1976; Maslach, 1976; Rawls, 1971; Rush, Hershauer, and Wright, 1976.)

Teachers become alienated because, at almost every level, they are deprived of the knowledge necessary to sustain job satisfaction and professional self-respect. Ecological reform will bring teachers into new relationships with their work and with their colleagues. Such relationships cannot be mandated by management fiat or engineered by outside consultants; they must be fashioned by all members of the school community. As Dewey (1950) put it:

> The remedy [for our educational ills] is not to have . . . expert[s] dictating educational methods . . . to a body of passive, recipient teachers, but the adoption of intellectual initiative, discussion, and decision throughout the entire school corps. The remedy . . . is an appeal to a more thoroughgoing democracy (p. 65).

Rather than tighten management controls, ecological reform looks for ways to liberate teachers' problem-solving capacities.

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It will surprise no one that ecological reform is difficult. Norbert Weiner (1954) pointed out thirty years ago that "it is easier to set in motion [institutions] in which human beings [use only] a minor part of their capacities . . . rather than create a world in which human beings fully develop" (p. 524). The logic of ecological reform is deeply rooted in the pragmatic tradition. It is now finding support among critical theorists, for example, Stanley Aronowitz and Henry Giroux (1985), who contend:

> Teachers must take active responsibility for raising serious questions about what they teach, how they teach it, and what the larger goals are for which they are striving. This means they must take a responsible role in shaping the purposes and conditions of schooling (p. 31).

Like Dewey, however, Aronowitz and Giroux understand that teachers cannot simply take responsibility as one might pluck an apple from a tree. In most schools, responsibility is not there for the taking. Responsibility is not a label we give to an act of will; it is the name given to a specific kind of relationship individuals have within their social and intellectual environment. Thus teachers cannot become responsible and act as intelligent professionals until and unless a democratic work environment allows them to develop these skills.

Democracy means a sharing of power and purpose. It entails, as Dewey (1950) said, "the emancipation of the mind . . . to do its work" (p. 62). Dewey explained the role the work environment plays in helping teachers develop intellectual skill and social responsibility:

> Only by sharing in some responsible task does there come a fitness to share in it. The argument that we must wait until men and women are fully ready to assume intellectual and social responsibilities would have defeated every step in the democratic direction that has ever been taken (p. 67).

A dependence on external authority disempowers teachers and perpetuates the very deficits that are used by administrators to legitimate a centralization of power and justify what Dewey called their "regime of authority" (p. 67).

Education will not free itself from the "regime of authority" or the individualization of reform until greater attention is paid to the interactional nature of individual and organizational development. This is the promise of ecological reform. It provides an opportunity for teachers to define school problems, design strategies of inquiry, pool expertise and intelligence, develop community and responsibility, and decide upon a a common course of action. As they take a greater role in school decisions, teachers fashion small reforms that encourage still greater participation. As individuals are empowered and schools are improved, opportunities for further improvements present themselves.

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A growing body of literature exists that relates how ecological reforms and the democratization of the workplace have been accomplished in industry (Carnoy and Shearer, 1980; Cooley, 1980; Emery and Thorsrud, 1976; Emery and Trist, 1973; Herbst, 1974, 1976; Maccoby, 1979; Zwerdling, 1978). Similar work is being developed in education (Joyce, Hersh, and McKibbin, 1983; Stenhouse, 1975; Wirth, 1983). Ecological reform is at once modest and ambitious. The process begins by focusing on small, manageable problems that concern teachers and moves by gradual steps toward the democratization of teachers' work lives. The aim is to transform schools into self-analyzing, self-reforming institutions.

We are not so naive as to believe that ecological reform will gain instant popularity, and that probably is just as well. There is much to be learned about democratizing the workplace and improving the conditions of teaching. Researchers must carefully study both the reform process and its attendant outcomes (Bronfenbrenner, 1976; Schaefer, 1967). As Wirth (1983) noted:

> It would be a salutary exercise in honesty and humility to admit we don't know many of the answers and to permit groups of teachers to design a variety of programs to which they are professionally committed. Then study them in collaboration with researchers to see what can be learned and reported . . . (p. 124).

No greater problem faces education today than the demoralization of its professional workforce. Most teachers enter the profession with great expectations and a high sense of efficacy. Our research indicates that the experience of teaching lowers the expectations teachers have for themselves and their students. Not all teachers entirely lose faith in their ability to teach, or their students' ability to learn, or in the efficacy of public schooling. However, all teachers must struggle against environmental forces that work to alienate them. No quick fix will solve the problems teachers face today. Some of those problems, such as low pay and declining status, lie outside teachers' collective control. However, other problems (isolation, uncertainty, powerlessness, alienation, low motivation, and an eroding sense of efficacy) can be addressed through collective work. Ecological reform is one way to begin that work.

Conclusion

In a recent article on staff development, Goodlad (1983) pointed out that schools with more satisfied teachers differed from schools with less satisified teachers in the conditions of teaching, especially in the collegial relationships among teachers and administrators. The schools did not differ in instructional strategies. Goodlad concluded that teachers' instructional

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strategies are highly resistant to change and tackling this sensitive area of teacher autonomy, before addressing the more pressing problems of the conditions of teaching, will result in ''unmitigated disaster'' (p. 10). Our efficacy research supports Goodlad's conclusion and emphasizes the urgency of the need to address the deteriorating conditions of teaching, not by focusing on changing individual teachers, but rather by fostering efficacy attitudes through democratizing the workplace.

Notes

* The work upon which this paper is based was performed pursuant to contract No. 400-79-0075 of the National Institute of Education. It does not necessarily reflect the views of that agency.

[1] As measured by two Likert scale items borrowed from the Rand studies (Armor *et al.*, 1976; Berman *et al.*, 1977).

[2] As measured by the Florida Climate and Control System, developed by Robert and Ruth Soar (in Coker, Medley, and Soar, 1984) and the Teacher Practice Observational Record (Brown, 1968).

[3] As measured by scores on appropriate portions of the Metropolitan Achievement Tests ($r = .78, < .003$ in basic skills mathematics classes, and $r = .83 < .02$ in basic skills communication classes).

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