

The Ecology of School Improvement

A study of four California high schools—
from the perspectives of the teachers and
students who occupy them—highlights five
interactive dimensions requiring attention.

In our study of four high schools in four California school districts, my colleagues and I spent 1,600 hours shadowing 19 students in all of their classes for two full weeks. We also shadowed eight teachers. Our aim was to learn about the schools from the inside, that is, from the perspectives of those who spend a major portion of their lives there.

We also asked four teachers, selected by their principals, to shadow four students in their own schools. Never before had these veteran teachers had an opportunity to see their schools from a vantage point beyond their own classrooms or the teachers' lounge. For the first time, they saw their colleagues in action and got a sense of their schools as a whole.

In addition, we interviewed teachers and students in two of our schools. We asked both students and teachers about their satisfactions and frustra-

tions, the amount of school work they do at home, and whether they had part-time jobs. We asked teachers what feedback they receive concerning their teaching and how they decide what to teach.

The qualities of any school are influenced by various interacting factors. To provide a sense of what these factors are, I will summarize what our research and the research of others have to say about the state of our schools.

Problematic Features of Schools

One questionable feature of schools is what I call their "structurally fragmented character." High schools are structured so that what we teach is broken into little chunks. Each chunk, about 50 minutes in length, is assigned a subject; each subject is assigned a room and a teacher; and every 50

minutes the entire student population of the school moves from one chunk to another. This pervasive feature of secondary schools defines a way of life and sets the tempo for almost everything within the school day.

What does such a structure mean for teachers who have only three to five minutes to get ready for another group of 30 or more students? How does it affect the way students learn or their attitudes toward what they study? Not surprisingly, the high school students we interviewed said they don't expect to encounter connections between one subject and another; that's just the way school is. Given the prevailing assumptions about maintaining the integrity of subject matter and the power of tradition, it's easy to understand why we have such a structure. But if it's not really necessary, what are the alternatives, and what are their costs as well as their benefits?

A second characteristic of schooling is the isolation of teachers. Not only does the chunking of the school day fragment the subjects of the curriculum, but it also insulates teachers. The teachers we interviewed said that they can go a whole day without speaking to an adult. What assistance can teachers secure from their peers? What structured arrangements are in place in schools to assist teachers in the course of their work?

The art, even the craft, of teaching is a complex and delicate affair, and what can make or break a lesson can be very subtle. The muted cues given to children over a 40-week school year may collectively be far more influential in shaping what students learn than their 3-week excursion into "the westward movement." How can teachers recognize these muted cues?

Do we really believe, as our behavior seems to indicate, that more years in the classroom are directly correlated with better teaching? I think not. Yet the regular provision of genuinely useful feedback to teachers about their teaching is not a normal part of our school structure. We train teachers in universities far removed from practice, credential 21-year-olds to take their places in classrooms, and then provide them with hardly a fraction of the assistance or support that is given to young professionals in industry.

A third feature of schooling deals with the incentives we employ to motivate students. In our culture we demand to be paid for our work, and our schools reflect our culture. In schools we place far too much emphasis on the use of extrinsic motivators. Now, I recognize that we believe children need material rewards to make learning meaningful; but in using positive reinforcers, we probably misguide their understanding of what schools are for. Surely they exist for more than the collection of points and grades. I suspect that we undermine pleasures of inquiry by singlemindedly tying extrinsic rewards to performance.

Another problematic feature of schooling we observed is the distinction students make between life-rele-

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vant and school-relevant learning. The really important dependent variables in education are not limited to those within curriculums. They are evident as well in the ways in which students voluntarily use ideas and skills learned in their lives outside of school. To evaluate school effectiveness by the extent to which students do so would be an arduous criterion to meet, but it is an important one.

The distinction between school-relevant and life-relevant learning is a likely source of the student apathy that we saw in the schools we studied. A veteran high school English teacher, regarded as one of the best in her school, shadowed a student in her school for three days. See "A Teacher's View of a Student's Life," p. 27, for her telling description of the experience. Her perception that "whatever they are as people gets dropped by the door as they come in and picked up again as they leave" is an apt description of the average high school student's experience in her school. It is important to note that the school in which this teacher works is not considered a problem or a marginal school. On the contrary, it is regarded as excellent.

My last point, regarding teachers' perceptions of personal efficacy, is that they are caught up in the teaching role as it is defined and that role is focused on their own classrooms, the only places where they feel they have any control. Perhaps this is exactly where the focus belongs, and yet it is important for professionals to help shape the policies that affect them and their work, and to assume some responsibility for their school's direction and its evaluation. To what extent do administrators fear such shared power? How might such initiatives conflict with the rights and legal responsibilities of the local school board? If we wish to create a deeper vision of what schools might become, these are questions worth asking.

Dimensions of Schooling

The problems I have identified—the structured fragmentation of the school day, the isolation of teachers, the emphasis on extrinsic rewards, the split between life-relevant and school-relevant learning, the weak sense of ownership by teachers of the school in which they work—will not be remedied by demanding higher standards, requiring longer school days, or adding more courses to the curriculum. The problems of school improvement are ecological in character, and one important feature of an ecosystem is the interactive nature of its components. What follows are five major dimensions that I believe need to be considered in the process of school improvement. These five major dimensions are: (1) the intentional, (2) the structural, (3) the curricular, (4) the pedagogical, and (5) the evaluative.

First, intentions establish direction and priorities. How they are operationalized has two consequences. Because intentions legitimate what schools pay attention to, they influence the kind of opportunities students will have to develop their minds. And intentions tell the young what adults think is important for them to learn: they convey our values.

"Many students come from homes where the single parent with whom they live works, where relatives are often hundreds or thousands of miles away, and where neighborhoods lack a sense of community. . . . Given these circumstances, what do we offer them. . . ? We replicate the conditions they encounter at home. Fourteen-year-olds enter high schools of over a thousand persons with no adult formally responsible for their pastoral care."

Structure, the second dimension, defines the organizational framework within which intentions are pursued. When structure and intentions are in conflict, structure, rather than intentions, is likely to dominate.

The curriculum, the third dimension, defines the specific areas of study students will encounter and therefore, the modes of thinking and forms of literacy they are likely to acquire. It is the curriculum in its explicit form that provides the essential, formal content of education. Structure establishes the organizational parameters within which this content can be encountered and creates the constraints, which in turn influence how that content is likely to be addressed.

Fourth, the pedagogical dimension provides the means through which the curriculum is mediated. It is through pedagogy that content is fine-tuned to suit the particular needs and backgrounds of individual students and specific communities. It is through pedagogy that aims are rendered meaningful and that the curriculum becomes more than merely the good intentions of curriculum developers and educational policymakers.

Finally, the evaluative component operationally defines for the community, for administrators, for teachers, and for students the aims that influence school practices. It is the evaluative dimension that most directly reflects and controls our priorities. Our evaluation devices, usually achievement tests, tell teachers what and how to teach and what their priorities should be. They tell students what to study for and what is worthwhile. And they tell the community, for good or for ill, how well we are doing. Unless our evaluation procedures support rather than undermine the educational aspirations we cherish, no effort to improve the schools will succeed.

What we have in schools, then, is an

interactive, mutually determined system of tremendous stability, which can adapt to pressures without significant change or even discomfort. Indeed, some administrators and teachers have become very skilled at riding out new fashions—they refer to them, often cynically, as pendulum swings. And as everyone knows, pendulums swing without going any place.

Let me turn next to each of the five dimensions I have identified and describe what we can do within each of them.

Intentions

Given the findings of recent studies of schools, we need to reaffirm our commitment to making teaching personally relevant to students. This intention has implications for increasing rather than decreasing teachers' curricular discretion. It is teachers who deal with real children, not abstract 7th graders; and it is teachers who must make the curricular adjustments, not only in pace and in mode of teaching, but in content and example so that students are motivated by more than a superficial compliance to other people's de-

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A Teacher's View of a Student's Life

Three days of shadowing an average student through her typical junior schedule left me with an odd feeling. I can only compare it to spending several days on Broadway visiting one theatrical production after another, each one with a different director. Of course, in my analogy, there is no need to tie the various parts together nor to tell the jaded audience what it was supposed to carry home after all the stimulation. Yet theater often presents some way of relating to what we all think of as the "real world," and, even if we subject ourselves to an overdose of the stage world, one part of our minds glimpses that real world through the shadowy one.

In school, where we are ostensibly preparing our students for that step into reality, I saw no attempt to make connections between each 50-minute segment of their journeys through their days; and, only in certain obvious cases, was there an attempt to point out the importance of each day's work to some larger scheme of events. What this all comes down to is that the average student is remarkably unquestioning, accepting as normal that one moves from little box to little box, collecting one's gear about three to four minutes before the bell, and moving ineluctably to the next little box, though the instructor be in midsentence.

Public high school students are examples of resiliency and acceptance. The few rebellious ones create waves only out of boredom or some private pique with the instructor. Each classroom forms its own blend as streams of changing students come in for their daily segment of learning, only to split apart once more as the bell rings. They accept, they listen, they respond, they write, they daydream, they whisper, they worry—and then they move on. Whatever they are as people gets dropped by the door as they come in and picked up again as they leave (Eisner 1985).

—Elliot W. Eisner

sires. Students need to have a stake in what they learn, and not simply in the grades they might receive. In our desire to standardize curriculums and to apply common standards, we have undermined the importance of genuinely meaningful learning.

Related to meaningful learning is the need to provide programs that give students opportunities to pursue intellectual and artistic interests without penalty. There is a status hierarchy among subjects that penalizes those whose aptitudes and interests are in low-status subjects. Such practices are unfair and socially counterproductive. The arts, for example, are areas of human activity that represent the quintessence of individual and cultural achievement; they are regarded by

some school districts as "semi-solids," something akin to mush.

It's high time those responsible for public school policy took charge of their educational values and ceased allowing universities and test manufacturers to determine what children study. We need greater curricular equity in our schools; we must give equal credit for equal work. By developing school programs that give students opportunities to develop their special abilities and talents, we can better serve them and our culture. In totalitarian societies, the state shapes children into its own image. In democracies, we say we wish to cultivate the talents and aptitudes that all of us possess. Surely, such values should be reflected in our school programs.

"The aim of curriculum and teaching is not simply to help students meet the demands of schooling, but to help them use what they learn to meet the demands of life. . . . We must move away from programs and methods and incentives that breed short-term compliance and short-term memory."

Structure

The existing secondary school structure not only separates teacher from teacher and divides what is taught into small units with virtually impenetrable boundaries, but it also exacerbates the anonymity of students. Reflect for a moment on the fact that in America today about one out of six students comes from single-parent families (U.S. Department of Education Statistics 1984). Not only has the nuclear family weakened, but, given the mobility in our nation, the extended family is largely an abstraction. Many students

come from homes where the single parent with whom they live works, where relatives are often hundreds or thousands of miles away, and where neighborhoods lack a sense of community.

In short, our students often have limited contact with caring adults who know them well. Given these circumstances, what do we offer them in high school? We replicate the conditions they encounter at home. Fourteen-year-olds enter high schools of over a thousand persons with no adult formally responsible for their pastoral

care. Teachers are focused on other matters; and where counselors are employed, the ratio of students to counselors is often about 1:400. It is unreasonable to expect counselors to provide care to students with whom they can have such little contact and cannot really know. We must think of ways to structure the school day so that such care is provided.

Curriculum

Given the fragmentation of the curriculum, students have difficulty seeing relationships between the subjects they study. The subjects are usually treated as independent entities without any conceptual relationships. Students study American history and American literature as if these came from two worlds that have nothing to do with each other. Coherence in curriculum is unlikely unless some of the content areas are related to a central idea that the content illuminates.

For example, the impact of science and technology on American social life in late 19th century America can be revealed through novels, history, art, and science. If our major aim in science education is not to train professional scientists but to help the ordinary citizen understand science as a part of the ebb and flow of culture, then examining its relationship to culture is crucial. A curriculum that isolates science from its cultural and historical context diminishes its relevance and its appeal for most students.

Building bridges between subjects has another potential benefit for one of the serious problems we encountered in schools, namely, the tendency for students to separate life-relevant from school-relevant learning. The aim of curriculum and teaching is not simply to help students meet the de-

Lively Activities Punctuate U.S. History Class

One of the most impressive features of the high schools we studied is the superb instruction that certain teachers provide. We saw teachers who manage not only to excite students, but to teach them important ideas and skills; who relate their teaching to the interests and needs of students; and who are imaginative in their transformation of subject matter content into curriculum activities. The following vignette, drawn from our study, shows one such teacher in action.

Colorful collages of class photographs spill over the bulletin boards and capture the essence of classroom life in John Baldwin's U.S. history classes. Crowded with familiar faces, the frozen segments of activity depict simulation trials, hearings, presentations, and full-scale productions. Dour-faced judges in blue robes sit behind majestic candlesticks with clasped hands. Witnesses in military uniform take the stand, swearing in on a Bible before commencing testimony supporting U.S. involvement in Vietnam. A row of convicted Salem witches hang their heads as a bewigged preacher rails against evil. Testimony on Senate Bill 1509 concludes with a roll call vote of all class Senators as history is relived and remade.

Such activity regularly punctuates Mr. Baldwin's history routine of chapter reading, writing, lecture, discussion, and film. Teasing reminders remain scattered about the classroom. . . . the raised tile platform of the tribunal rests on its side against the back wall. Royal blue judicial robes hang outside the classroom entrance. A number of folding chairs and extra tables are liberally sprinkled about: the outskirts of the room are within arm's reach of a jury or Senate committee. Bits and pieces come together in the photographic collage strategically placed at the front of the classroom in full student vision, illustrating the idea that people such as themselves make history (Eisner 1985).

Considering that high school teachers teach more in one month than university professors teach in three, that they teach more students in one day than most university professors teach in a month, that their time between classes is barely long enough to meet the demands of nature, the achievements of people like Mr. Baldwin are truly remarkable.

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mands of schooling, but to help them use what they learn to meet the demands of life. What this means practically is that both the curriculum and the teaching should help students internalize what they have learned and relate it to life outside of school. We must move away from programs and methods and incentives that breed short-term compliance and short-term memory.

Pedagogy

Educational aims and curriculum goals have little reality for students unless teaching practices are consistent with those aims and goals. Consistency is a delicate matter; the factors and cues that support or undermine educational intentions are complex and subtle. And yet we have structured our schools in ways that make it difficult for teachers to improve their teaching abilities. School administrators, in this regard, are no better off than teachers. How can we de-isolate teachers and administrators? How can we provide the support and the critical feedback that will help us become reflective practitioners? Again, I am not talking about mandated certification reviews, but something much more sustained and constructive. Most of it will need to take place within the context in which teaching occurs. Ballet dancers, who practice their art to perfection, have mirrors to see for themselves how they are doing. Where are our mirrors?

Evaluation

What we evaluate and the ways in which we evaluate have a profound effect on what we pay attention to in school. We cannot achieve a balanced curriculum and better teaching if our evaluation procedures emphasize forms of performance that contradict or are inconsistent with such aims.

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One cannot expect teachers or administrators to pay serious attention to one kind of educational aim and be held accountable for another.

Our standard evaluation mechanisms—essentially a narrow range of achievement tests—are inconsistent with much of what we need. They are too narrow, they neglect personal forms of achievement, they encourage educationally conservative practices, they foster an instrumental view of education, and they direct our students' attention to very limited goals. One of our major tasks is to invent better ways to reveal to the public what they have a right to know, namely how we perform as professionals and how their children perform as students. As yet, we have made little headway in inventing such methods. For instance, UCLA's Center for Educa-

tional Evaluation estimates that schools devote a full month each year to the testing of students (Baker 1985). Is this use of time in our students' best interests? How can teachers become a part of the process of school improvement so that they can secure the sense of empowerment needed to vitalize their work?

The Whole Picture

None of the five factors I have described—the intentional, the structural, the curricular, the pedagogical, and the evaluative—operates in isolation. Schools are like ecological systems. Given a critical mass, what one does in one place influences what happens in another. When the mass is not critical, changes made in one place are returned to their earlier position by the others, almost as a cybernetic mechanism keeps a rocket on a steady course. If significant changes in our schools are to occur, our educational system needs to be viewed as a whole, as an ecosystem of mutual dependence. The ecology of the school requires attention to each of these five factors, which collectively give shape and direction to our schools. □

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