

# Sustaining the Momentum of State Education Reform: The Link Between Assessment And Financial Support

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by Michael W. Kirst

The crucial policy question is whether the reform movement will maintain its momentum, says Mr. Kirst. As the pace of new reforms slows over the next year, implementing, evaluating, and researching the cost-effectiveness of the various reforms becomes an urgent priority.

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**P**UBLIC SCHOOL policy making is embedded in a complex societal matrix. It is not possible to consider the future of U.S. schools without examining the size and distribution of future populations, the future state of the economy and its effect on funds available for the schools, and the political context within which decisions will be made. The public school system is a "dependent variable" of larger social and economic forces.

These forces are sometimes cyclical.<sup>1</sup> For example, the launching of Sputnik I in 1957 triggered a series of policies that funneled resources into the training of gifted students, especially in science. In the mid-1960s President Johnson's War on Poverty produced a counter-trend: policies that redirected resources

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to the disadvantaged and the handicapped. In the 1980s concern about the economic position of the U.S. in world markets has focused public policy on higher academic standards and a more rigorous education for all students.

In addition to their cyclical tendencies, education policies are often determined by the actions of special interest groups outside of education. For example, Proposition 13 in California and spending caps in other states had their roots in the resentment of taxpayers about high property taxes and soaring inflation. Although the schools were affected deeply by these spending caps, they were only incidental targets.

In recent years, special interest groups within education have been less able than before to influence the directions taken by state education policy. The influence of these groups has been weakened not only by broad social forces and taxpayer groups, but by external authorities — including governors, business leaders, and the courts — whose connections to education policy have traditionally been more distant.

In 1979 Walter Garms and I made some predictions about the demographic, fiscal, and political contexts of public education in the decade between

1980 and 1990. We predicted that expenditures on education would keep up with inflation but not show considerable real growth.<sup>2</sup> This was a more pessimistic scenario than the one we had witnessed during the preceding decade. Despite much discussion in the 1970s of declining enrollments and diminished public approval of education (as measured by the annual Gallup Poll of the Public's Attitudes Toward the Public Schools), that decade actually produced an after-inflation growth of \$23 billion in total expenditures for education. Moreover, the ratio of pupils to instructional personnel dropped from 29:1 at the start of the 1970s to 20:1 at the end of that decade. Had this trend continued, the pupil/teacher ratio would have stood at 12:1 by the 1990s.

Between 1970 and 1980 state governments increased their total spending on education from \$16.6 billion to \$46.5 billion, an impressive 44.5% increase in real dollars. The state share of funding for education rose from 37% to almost 50%, while the local and federal shares declined.

All these positive fiscal trends occurred despite the fact that in the Seventies the education journals were focusing on the "management of decline."

## \$ REFUELING REFORM \$

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Falling enrollments and school closings during that period were painful, but hold-harmless fiscal distribution formulas cushioned the impact in most states. As the states focused on providing equity for the handicapped and the disadvantaged, there was a continuing trend toward state initiative in policy making and a narrowing of the zone in which local school authorities were free to make discretionary decisions.

Garms and I doubted that the growth in expenditures for education that had taken place during the 1970s would continue at the same pace during the 1980s. Our reasons included:

- *Demography.* Enrollment would drop in the high schools during the 1980s; even more important would be the rapid increase in the number of older voters, who tend to want lower property taxes. Only about one voter in five would have children attending public schools. The fastest-growing segment of the school population would be immigrants, who have a low rate of political participation. All these factors would make voters less likely to approve increases in property taxes.

- *Declines in commodity prices.* Declining oil prices seemed likely to hurt the southern and western states that rely on extraction taxes. Declines in farm prices would adversely affect the Midwest.

- *Public alienation.* The annual Gallup Polls showed a growing dissatisfaction with the performance of schools — a feeling that might translate into diminished political support.

- *Growing child-care needs.* The rate of participation in the labor force by women with school-age children had increased so rapidly that between 70% and 80% of mothers would be working by 1990. At the same time there was also rapid growth in the number of single-parent families. In our view, in-

creased expenditures for child care would compete with government funding of the schools.

- *Federal budget priorities.* Federal policy favored defense, social security, and health programs. Federal spending was increasingly shifting from children to older people.

For these reasons, we felt that state governments would be the primary engines for real growth in school spending. Changing federal priorities made the federal government an unlikely source of new school funds, and the changing profile of local voters made significant increases in the local property tax unlikely.

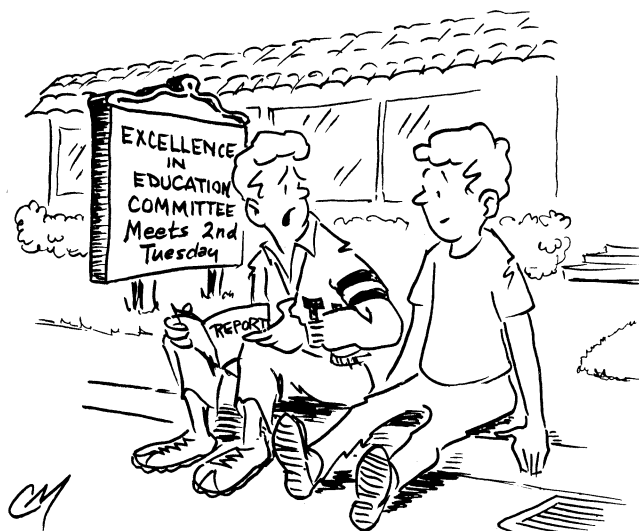
**I**N THE EARLY 1980s, a pessimistic view of the funding prospects of education prevailed; real revenues for education (after inflation) declined between 1980 and 1982. The U.S. suffered a recession that devastated many of its basic industries. However, in 1983 the fiscal and political picture for education changed drastically and unexpectedly. Education became the top priority in most states, as a wave of concern about academic excellence swept the nation. The underlying negative trends that Garms and I cited in 1979 were overwhelmed by a new willingness to fund "reforms" in the name of quality. Education was featured as a solution to the problems of economic stagnation at home and a shrinking share of markets abroad. More than 300 state commissions and many more local groups pushed for a new agenda for education. Per-pupil expenditures shot up by about 9% in real terms during

1983 and kept increasing faster than inflation during 1984 and 1985.<sup>3</sup>

In my view, the crucial policy question for the next five years is whether the reform movement will maintain its momentum. If it does, then expenditures for education will outstrip inflation, and the underlying negative trends will remain in the background. However, if the public and key policy makers perceive that education reform has failed or has not been properly implemented, then a less favorable future is likely.

The public must not see professional educators as having subverted the aims of the reformers. Consequently, implementing and evaluating these reforms should be a top priority for state policy makers and educational researchers. In 1986 the pace of new reforms will slow significantly as fewer and fewer states and local districts enact omnibus bills. Moreover, national economic growth is slowing dramatically, sparking tough competition for public funds. Therefore, researching the cost-effectiveness of the various education reforms becomes urgent, because not all of them can be expanded or even maintained.

Education policy has now passed through the "alarmed discovery" and "crisis activity" phases of the "issue-attention" cycle. Other reform movements, such as the movement to clean up the environment or the movement to revitalize the inner cities, have now degenerated into the subsequent policy phases of "disillusionment with results" and a "return to neglect."<sup>4</sup> In education the processes of implementation and adaptation, along with the elimination



*"When schools are under pressure for 'academic excellence' we don't learn any more — we just get worse grades!"*

of unworkable reforms, have begun in earnest.

If education is not to go the way of the other reform movements and fall once again into neglect, these processes must work to the satisfaction of the public and of policy makers. For example, there is a widespread belief that teacher quality is crucial to increasing the academic attainment of students, but states are unsure what mix of reforms will work best to improve the teaching force. Few states can afford to fully fund the entire range of possible reforms. Consequently, the states are trying all kinds of interventions — including career ladders, higher base salaries, improved working conditions, sabbaticals, and forgivable loans — without a clear notion of which approaches will yield the best results.

Sustaining the reform movement becomes even more urgent when we consider that enrollment will grow by 2.1 million by 1990. Allan Odden estimates that a 5% real growth in total revenues will be required each year just to pay for this enrollment increase. He points out that the reforms recommended by the National Commission on Excellence in Education would require about a 20% increase in per-pupil expenditures. Yet only three of the reform states Odden studied have approached this level of increase.<sup>5</sup>

Since funding increases as large as 20% are unlikely, we must sort out which of the many possible state reforms should be expanded, which should be eliminated, and which should be left at their current funding level. This task will become even more pressing if a federal tax reform bill should end the deductibility of state and local taxes from the federal income tax. The elimination of such deductions would make it still more difficult to raise state and local taxes.

#### EVALUATING REFORMS

Although the reform movement has unquestionably had a positive effect on the setting of state education policy, politicians are already clamoring for results. And the reforms already in place do raise numerous unanswered questions. How does one assess omnibus bills, such as California's S.B. 813 with its 80 different reforms? Evaluators have focused on program evaluation, but these state reform packages are not programs. They are a welter of specific state interventions aimed at curriculum and instruction, and appropri-

ate methodology for evaluating them is not well-developed.

Other urgent questions are raised by these state omnibus reforms. What is the proper balance between state and local control of education policy? Will bottom-up commitment at the school site reinforce top-down leadership at the state level or subvert it? Although most local districts are increasing the number of academic courses they offer, what will motivate students to enroll or be interested in these courses? Do some reforms, such as merit pay plans, outrun the present level of our technology? As science and mathematics enrollments increase (by about 20% between 1982 and 1984 in California high schools), who will teach these courses? And what will these reforms do to the dropout rate?

In the next five years, the major policy issues in education will focus on the problems, successes, and unanswered questions of state reform. We need to involve a variety of scholars and practitioners in helping to answer these numerous questions quickly. Fortunately, there is such diversity in the approaches to reform taken by the states and local districts that we have what amounts to a nationwide experiment to determine which approaches work best. For example, some states (Texas, Tennessee) have imposed a statewide career ladder, while others (Arizona) have relied on locally generated changes in career structures. An evaluation of all the policy issues raised by the state reforms between 1983 and 1985 will be very expensive. Only a few states, such as South Carolina and Tennessee, have earmarked significant money for in-depth analyses of the impact of the reforms. It is ironic that, with so much riding on the public perception of these reforms, education is devoting so little of its resources to assessing their outcomes.

Several kinds and levels of evaluation might be appropriate for the complex and multipurpose state reform bills.

1. *Performance indicators.* Performance indicators are statewide numerical measures of trends in educational variables. In some cases these standardized state measures can be supplemented by locally devised indicators that vary in definition and concept depending on local conditions. Performance indicators pick up changes that are easily measured, but they can rarely penetrate behind the classroom door to measure such things as the content actually taught, teacher morale, or the type of

intellectual tasks students are performing. Performance indicators are useful parts of a statewide assessment strategy, but if used alone they tend to overvalue what can be measured at the state level. Bill Honig, the state superintendent of schools in California, has created a system of statewide targets and individual school profiles for numerous uniform indicators, including changes in course-enrollment patterns, test scores, number of dropouts, and performance of college

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freshmen. These statewide indicators are supplemented by locally devised indicators in areas not easily measured at the state level, such as school climate, time spent on writing, and amount of homework.

2. *Overall studies of the financial impact of reforms.* Rather than carefully compare the cost of each reform, states have backed into allocating funds to the local districts according to the amount of uncommitted state revenue. Often money was provided through a state's basic finance formula, and the money was not tied to any specific reforms. Consequently, states need to know where the districts have spent the increased funding and whether some components of the reform effort have been over- or underfunded. For example, states need to know how much money was actually needed to institute state-mandated science courses or to create new approaches to local teacher evaluation. They also need to know which areas of the curriculum gained by the funding increases (usually math and science) and which areas lost (often home economics and industrial arts). States also need to know whether the reforms became more or less expensive as they became part of collective bargaining and whether local use of money var-

ied according to the prior spending level of a district.

In order for a reform to have any chance of working, some new resources must usually be provided. Cost analysis will help determine how much was spent in what areas, but it will not tell us anything about the results.

3. *Analysis of cost-effectiveness of various state interventions with the same specific objectives.* Henry Levin states the case for cost-effectiveness this way:

[Cost-effectiveness] integrates the results of [program] costs in such a way that one can select the best educational results for any given costs, or [programs] that provide any given level of educational results for least cost. It is important to emphasize that both the cost and effectiveness aspects are important and must be integrated. Just as evaluators often consider only the effects of a particular alternative or intervention, administrators sometimes consider only costs. In both cases, the evaluation will be incomplete.<sup>6</sup>

Cost-effectiveness can provide important policy information, but it is limited to comparisons among programs with similar objectives. A possible example would be the use of loans, scholarships, or higher base salaries as a magnet to attract better-quality beginning teachers.

4. *Program evaluation.* Some states have created programs that can be evaluated as discrete activities, such as career ladders, preschool programs, or increases in the numbers of high school counselors. These programs can be evaluated by means of well-developed techniques of program evaluation that have been used to assess such programs as Title I.<sup>7</sup> As a first step, program evaluation can research what components of a program were actually implemented. It can then move to include costs, outcomes, and processes. A comparison of several programs with very similar objectives could constitute a study of their comparative cost-effectiveness.

Program evaluation cannot address well the interaction of several different state initiatives, however. Nor can it give us much insight into the cumulative impact of omnibus state reform activities.

5. *Impact of evaluation of several state interventions with the same general goal.* It is probably still premature to ask whether state reform is working in terms of student achievement. It is sen-

sible, however, to explore whether or not a reform has been implemented and, if so, whether its implementation is consistent with the broad objectives of state policy makers. Numerous state policies are directed toward the goal of increasing the "rigor" or "challenge" in the high school curriculum. The primary strategy is to increase the time students spend studying traditional academic subjects. Minimum state graduation requirements, tougher college entrance requirements, model state curricula, and the addition of science and social studies sections to statewide tests are some examples of policies designed to make secondary education more rigorous.

An example of an evaluation of this type of reform is a recent California study that examined changes in high school course offerings between 1982 and 1985. A sample of secondary schools was surveyed, and numbers of class sections in each departmental area were taken from teachers' master schedules. After adjusting for changes in enrollments, it became clear that substantially more sections of mathematics, science, and foreign languages were being offered, while the numbers of courses in home economics, industrial arts, and business were decreasing (see Figure 1). In science, the largest increase in offerings occurred in the physical sciences, apparently in response to the new graduation requirement of one year of physical science. All areas of mathematics increased, but computer science showed the largest increase

(91%), followed by more advanced math courses, such as calculus, geometry, analytic geometry, and trigonometry. Calculus and analytic geometry were offered 33% more often, while general math courses increased by only 11%.

The same study showed an even more substantial increase in the number of advanced placement course offerings. By 1984-85 the number of such courses offered in chemistry, physics, and European history had increased by 34%. In addition, new advanced placement courses were offered in computer science, foreign languages, art history, and music.

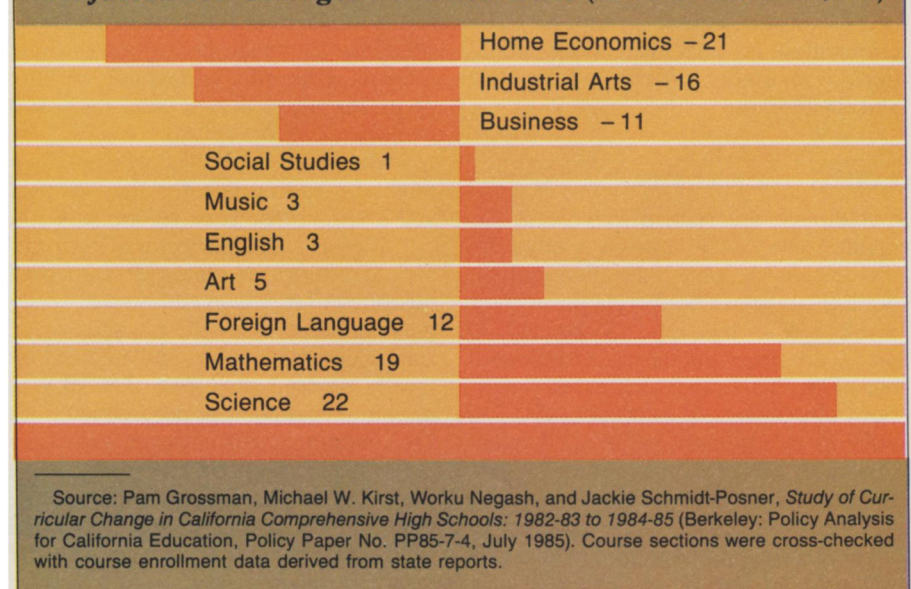
An obvious problem with these simple impact analyses is that there is no way to demonstrate cause-and-effect relationships. For instance, changes could be caused by local school board policies, by state interventions, or by other factors.<sup>8</sup> But if the direction of change is toward more academic coursework, state policy makers will be interested — even without a precise analysis of the unique state role or of the content covered in these courses.

6. *Studies of the cumulative effects of all state reforms in omnibus bills.* The total number of initiatives in many states makes it impossible to conceive of reform as a discrete program, such as Head Start, or a discrete policy, such as a civil rights mandate. Instead, reforms in South Carolina and Texas, for example, contain:

- *Broad, multiple targets.* Reform

Figure 1.

Percent Change in Number of Course Sections Offered, Adjusted for Changes in Enrollment (1982-83 to 1984-85)



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packages seek to alter several components of school and district operations simultaneously.

• *Lack of programmatic articulation.* In several states many kinds of reform elements have been combined under a single statute. Education reform is a set of minimally related policies that will generate various responses at the local level. Given the nature of these state reforms, Michael Knapp and Marian Stearns argue that the evaluator should study the local system, not the state program. Specifically, they contend that school effects will:

derive from many small changes that cumulatively shift the climate for education, the perceived opportunities, the tenor of the curriculum. These shifts will be best detected by "taking the pulse" of the local educational system in ways that capture more than conventional indicators such as student test scores. . . .

The many pieces of the reform agenda compete with a buzzing universe at the school and district levels for the attention of educators. Collectively, the reforms will have their greatest impact if they: first, capture the attention of a critical mass of educators (and their relevant local constituencies); second, provide positive incentives for committing further energy to education (by current staff, as well as by new recruits); and third, generate hope for, and supportive imagery of, the schools among students, educators, and the public. Accordingly, evaluation research must document what is (and isn't) noticed at the local level, and determine the effects reform initiatives have on local motivation and morale (at the administrative, teacher, and student levels). In such reform movements the whole is greater, and far more important, than the parts. Those aspects of the local scene that reflect the whole — such as the commitment educators feel to re-

form goals — are consequently the most appropriate indicators of reform efforts.<sup>9</sup>

In short, local case studies and state-level interviews could be used to determine the level of commitment of local actors to the reform objectives and the adequacy of available resources to support local efforts.

In conducting this kind of evaluation, it is essential to differentiate initial from long-term impacts and to be aware of changes in local response over time. The initial effects will be evident in inputs and processes, such as changes in course enrollment patterns. Only after several years, however, should we expect significant changes in such areas as standardized testing. This type of research is extremely complex and expensive, and it takes a long time before even the initial results can be reported. It requires longitudinal, in-depth case studies of a sample of local schools within each state. Recent research on school effectiveness and school improvement shares some characteristics with investigating cumulative effects.

7. *Research that isolates cause-and-effect relationships.* State policy makers need to know whether there are identifiable cause-and-effect relationships between student achievement and such interventions as state-mandated curriculum alignment. Finding out will be difficult and expensive. How can we separate the effects of local policies from those of state policies when they either reinforce or work against one another? For instance, such innovations as career ladders may attract better-qualified candidates to the profession of teaching, while state-mandated, test-driven curriculum standards may repel the very same people.

Research on cause-and-effect relationships is probably best attempted in the later stages of assessing the reforms. First we should discover which programs have been implemented and whether a program has had any impact before we undertake sophisticated studies of cause and effect. There is no sense in researching cause and effect with respect to a program that never caught on with local educators.

Some experts contend that cause-and-effect or input/output studies are not appropriate for assessing state reforms.<sup>10</sup> The effects of social programs cannot be proved in the same way that one can prove a geometrical theorem or confirm a principle of physics. There are often multiple causes of educational change.<sup>11</sup>

The best evaluation of state reforms would assess implementation in various states and in local districts and schools within them. To focus first on implementation is crucial because what is delivered to children from state reforms varies greatly according to the specific local setting. Moreover, implementation is a multi-stage developmental process whereby local educators learn and adjust as they install the reforms.

As the education reform movement matures and bears fruit, state policy makers must keep in mind that the decisions made closest to children will always be the most important. Classroom teachers vary greatly in the ways in which they react to and adapt external, state-mandated reforms. And state-level leaders who wish to assess the impact of the reforms they have mandated must begin by assessing implementation at the local level. One cause may be crucial in a particular context, but another cause will be most salient in another local context. Certain state interventions may increase the probability that a local effect will occur, but they won't inevitably produce it.

1. For an elaboration of this point, see Michael W. Kirst and Walter I. Garms, "The Political Environment of School Finance Policy in the 1980s," in James W. Guthrie, ed., *School Finance Policies and Practices* (Cambridge, Mass.: Ballinger, 1980), pp. 47-78.

2. *Ibid.*, p. 65.

3. See Allan Odden, "Education Finance 1985: Rising Tide or Steady Fiscal State?," *Educational Evaluation and Policy Analysis*, in press.

4. Anthony Downs, "Up and Down with Ecology: The Issue-Attention Cycle," *Public Interest*, Fall 1972, pp. 39-50.

5. The states were South Carolina, Tennessee, and Texas. See Allan Odden, "Sources of Funding for Education Reform," pp. 335-40, this *Kappan*.

6. Henry M. Levin, *Cost-Effectiveness: A Primer* (Beverly Hills, Calif.: Sage, 1983), p. 15.

7. Lee Cronbach et al., *Toward Reform of Program Evaluation* (San Francisco: Jossey-Bass, 1980).

8. Study conducted for Policy Analysis for California Education, by Pam Grossman, Michael Kirst, Jackie Posner, and Worku Negash, 1985.

9. Michael Knapp and Marian Stearns, "Improving System-Wide Performance: Evaluation Research and the State Education Reform Movement," in Joe Wholey, ed., *Towards Excellence: Roles for Evaluators* (Lexington, Mass.: Lexington Books, 1986). My discussion of the cumulative effects of reform is based entirely on this article.

10. Milbrey W. McLaughlin, *Implementation Realities and Evaluation Design* (Stanford, Calif.: Institute for Research on Educational Finance and Governance, Program Report No. 84-B1, 1984).

11. For a good overview of the difficulty of determining cause-and-effect relationships in educational research, see David R. Krathwohl, *Social and Behavioral Science Research* (San Francisco: Jossey-Bass, 1985), Ch. 9, pp. 211-28. [K]