

DOCUMENT RESUME

ED 356 528

EA 024 745

AUTHOR Fuhrman, Susan H.; Massell, Diane
 TITLE Issues and Strategies in Systemic Reform.
 INSTITUTION Consortium for Policy Research in Education, New Brunswick, NJ.
 SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
 REPORT NO CPRE-RR-025
 PUB DATE Oct 92
 CONTRACT R117G10007
 NOTE 4lp.
 AVAILABLE FROM Consortium for Policy Research in Education, Eagleton Institute of Politics, Rutgers University, New Brunswick, NJ 08901-1568 (\$10).
 PUB TYPE Information Analyses (070) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120)

EDRS PRICE MF01/PC02 Plus Postage.
 DESCRIPTORS Academic Achievement; *Educational Change; *Educational Policy; Elementary Secondary Education; Equal Education; Holistic Approach; School Support; *State School District Relationship; *Statewide Planning; Systems Analysis; *Systems Approach; *Teacher Participation

ABSTRACT

Since the late 1980s, support has been growing for a "systemic" vision of reform that would pair ambitious, coordinated state policies with professional discretion at the school site. Policymakers at all levels of government, as well as associations, foundations and national agencies, support this approach. This paper highlights issues and strategies that characterize the unfolding of systemic reform in the United States. Drawing from research on state-reform efforts conducted over the years by the Consortium for Policy Research in Education, the paper discusses issues such as the following: (1) What vision drives systemic reform? (2) What policies are included in integrated strategies? (3) Which policy instruments should states use to "lead" systemic reform? (4) How can the public and professionals be involved in the reform process? (5) How is political support for systemic reform built and maintained? (6) How can "bottom-up" reforms be incorporated with state-led curriculum guidance? (7) Do school personnel have the capacity to promote student outcomes? (8) What are the equity implications of systemic reform strategies? and (9) Can the development of systemic reform strategies withstand state fiscal stress? (Contains 66 references.) (Author)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED356528

Issues and Strategies in Systemic Reform

Susan H. Fuhrman
Diane Massell

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CPRE
The Policy Center
The Finance Center

Rutgers, The State University of New Jersey
University of Southern California • Harvard University
Michigan State University • Stanford University
University of Wisconsin-Madison

EA 024 745

CONSORTIUM FOR POLICY RESEARCH IN EDUCATION

CPRE unites six of the nation's leading research institutions in an exciting venture to improve the quality of schooling. The Consortium operates two separately funded, but interlinked research centers: The Policy Center and The Finance Center. Both centers are funded by the U.S. Department of Education's Office of Educational Research and Improvement.

Members of CPRE are Rutgers, The State University of New Jersey; The University of Southern California; Harvard University; Michigan State University; Stanford University; and the University of Wisconsin-Madison.

The research agenda for both the CPRE Policy Center and the CPRE Finance Center is built around three goals:

- To focus research on policies that foster high levels of learning for students from a broad range of social and economic backgrounds;
- To conduct research that will lead to greater coherence of state and local program and finance policies that promote student learning; and
- To conduct research that will increase the responsiveness of state and local finance and program policies to the diverse needs of students, schools, postsecondary institutions, communities and states.

In addition to conducting research as described above, CPRE publishes reports and briefs on a variety of education issues. The Consortium also sponsors regional policy workshops for state and local policymakers.

CPRE Research Report Series

Research Reports are issued by CPRE to facilitate the exchange of ideas among policymakers and researchers who share an interest in education policy. The views expressed in the reports are those of individual authors, and are not necessarily shared by the U.S. Department of Education, CPRE, or its institutional partners. This publication was funded by the U.S. Department of Education, Office of Educational Research and Improvement, grant number OERI-R117G10007.

Copies of this report are available for \$10.00 each, pre-paid. Prices include book-rate postage and handling. Quantity discounts are available. Write: CPRE, Eagleton Institute of Politics, Rutgers, The State University of New Jersey, New Brunswick, New Jersey 08901-1568; attention: Publications. Phone (908) 932-1394.

CONSORTIUM FOR POLICY RESEARCH IN EDUCATION

Issues and Strategies in Systemic Reform

Susan H. Fuhrman
Diane Masselli

October 1992

CPRE Research Report Series RR-025

© Copyright 1992 by the Consortium for Policy Research in Education

CPRE
The Policy Center
The Finance Center

Rutgers, The State University of New Jersey
University of Southern California • Harvard University
Michigan State University • Stanford University
University of Wisconsin-Madison

Contents

Abstract	v
Acknowledgements	vii
Introduction	1
What Vision Drives Systemic Reform?	2
What Policies Are Included in Integrated Strategies?	4
Which Policy Instruments Should States Use to "Lead" Systemic Reform Efforts?	7
How Can the Public and Professionals Be Involved in the Reform Process?	8
How Is Political Support for Systemic Reform Built and Maintained?	11
How Can "Bottom-up" Reforms Be Incorporated with State-led Curriculum Guidance?	13
Do School Personnel Have the Capacity to Promote Ambitious Student Outcomes?	18
What Are the Equity Implications of Systemic Reform Strategies?	21
Can the Development of Systemic Reform Strategies Withstand State Fiscal Stress?	23
Conclusion	24
Bibliography	25

Abstract

Since the late 1980s, support has been growing for a "systemic" vision of reform which would pair ambitious, coordinated state policies with professional discretion at the school site. Policymakers at all levels of government, as well as associations, foundations and national agencies support this approach.

This paper highlights issues and strategies which characterize the unfolding of systemic reform in the United States. Drawing from research on state reform efforts conducted over several years by the Consortium for Policy Research in Education, the paper discusses issues such as the following:

- What vision drives systemic reform?
- What policies are included in integrated strategies?
- Which policy instruments should states use to "lead" systemic reform?
- How can the public and professionals be involved in the reform process?
- How is political support for systemic reform built and maintained?
- How can "bottom-up" reforms be incorporated with state-led curriculum guidance?
- Do school personnel have the capacity to promote ambitious student outcomes?
- What are the equity implications of systemic reform strategies?
- Can the development of systemic reform strategies withstand state fiscal stress?

Acknowledgements

The authors would like to thank James Fox and Thomas James for their helpful comments on early drafts of this paper. They also want to acknowledge the assistance of their CPRE colleagues and associates who have contributed to this paper and to the work of the CPRE Policy Center in general: Jacob Adams, Doug Archbald, Beth Bader, Steve Barnett, Deborah Ball, Martin Carnoy, William Clune, David Cohen, Richard Elmore, William Firestone, Richard Fossey, Patricia Fry, Margaret Goertz, Jane Hannaway, Michael Kirst, Henry Levin, William Massy, Milbrey McLaughlin, Paul Nolan, Jennifer O'Day, Allan Odden, Penelope Peterson, Lawrence Picus, Andrew Porter, Sheila Rosenblum, Marshall Smith, James Spillane, Gary Sykes, Alexander Tyree, and Paula White.

Finally, we also thank a number of the friends whose ideas helped to shape this paper: Julie Bell, Cindy Brown, Rexford Brown, Michael Cohen, Jane David, and Susan Traiman. As always, the candor and helpfulness of respondents in the states and organizations contacted by CPRE were invaluable.

Biographies

Susan H. Fuhrman is a professor of educational theory, policy and administration at the Graduate School of Education at Rutgers, The State University of New Jersey and a professor of policy at the university's Eagleton Institute of Politics. She also serves as director of the Consortium for Policy Research in Education.

Dr. Fuhrman is the author of numerous articles, research reports and monographs on education policy and finance. She co-authored two monographs on legislative education leadership in the states. Dr. Fuhrman was a consultant to the Ford Foundation's program on educational management and finance for ten years and currently serves as vice-president of the school board in Westfield, New Jersey.

Diane Massell is a Research Associate with the Consortium for Policy Research in Education. Her current research focuses on state approaches to setting the agenda for new instructional guidance policies, and will appear in a forthcoming book published by the Association for Supervision and Curriculum Development. Similar work on national standard-setting efforts and curriculum policies is also underway. In addition, she is preparing a study on state and local barriers to new science curriculum.

Introduction

Education policy in the United States has been characterized by a lack of coherence and an emphasis on low-level skills. The incoherence reflects our multi-level, fragmented governance structure; the high volume of education policy production at all levels, particularly in reform eras like the 1980s; and a tendency to address each problem with a distinct special program. Policies and projects, often in conflict with one another, wash over the system without substantial impact on the conventional and unambitious content and pedagogy characterizing many classrooms. Many individual schools aim higher but find little support for their ambition from the larger system—not from textbooks that water down content, nor from standardized tests focused on isolated skills, nor from teacher preparation programs that emphasize credit collection over deep understanding of content and pedagogy. Less advantaged schools often lack the resources to buck the system, but even schools that do reform find it hard to sustain their efforts over time (Smith and O'Day 1991b; CPRE 1991b; Elmore 1991a).

In the 1980s, the Consortium for Policy Research in Education (CPRE) studied the state education reform movement—the so-called "first wave" state mandates and so-called "second wave" school-based change efforts. Our research pointed to the reforms' lack of coherence and their failure to encourage more challenging teaching and learning (see, for example, Clune and White 1988; Clune 1989; Fuhrman, Clune and Elmore 1988; Firestone, Fuhrman and Kirst 1989). But there were exceptions. To create some sense of coherence out of this chaos, leaders in California pioneered a novel reform strategy in the 1980s. They called for ambitious, common goals of student learning and achievement and the close coordination of various elements of the policy infrastructure around the outcome expectations. Similarly, Connecticut began to develop a Common Core of Learning and related assessments.

Drawing on CPRE research and our many consultations with policymakers, Marshall Smith and Jennifer O'Day conceptualized and further refined what they termed a "systemic" vision of reform which would pair ambitious, coordinated state policies with restructured governance. They proposed simultaneously "increasing coherence in the system through centralized coordination and increasing professional discretion at the school site. Thus while schools have the ultimate responsibility to educate thoughtful, competent, and responsible citizens, the state—representing the public—has the responsibility to define what 'thoughtful, competent, and responsible citizens' will mean in the coming decade and century" (Smith and O'Day 1991b, p. 254).

Since the late 1980s when systemic reform ideas began to circulate, a national movement under the rubric has been launched. Numerous players at all levels of government as well as associations, foundations and other independent organizations advocate and support this change (e.g, National Governors' Association 1991; The Business Roundtable 1991). Involved are dozens of states as diverse as Arkansas, Arizona, Vermont and Kentucky; national agencies like the National Science Foundation

and the U.S. Department of Education; and organizations including The Business Roundtable, the Education Commission of the States, and the National Governors' Association.

Other developments in our culture also support systemic reform. For example, disciplinary associations, like the National Council of Teachers of Mathematics, have begun to reach consensus on very challenging student outcomes. Spurred by the establishment of national education goals, similar efforts are underway in other subject areas. Business leaders, represented on panels like the Secretary's Commission on Achieving Necessary Skills (SCANS), are also participating in efforts to establish competency goals for students. Such activities provide support for the notion of challenging, communally identified outcomes. Surrounded by such broad, societal backing, policy efforts to establish and reinforce such outcomes take on increased authority and leverage.

The Consortium for Policy Research in Education examines policy efforts to enhance student learning. We have been studying recent reform efforts in many states (including California, Connecticut, Florida, Georgia, Kentucky, Michigan, Minnesota, New Jersey, New York, South Carolina, and Texas) and working with associations and other researchers examining progress elsewhere. Diverse political, economic, and legal traditions; policy cultures; and notions of best practice shape the ways states approach reform. Although they answer the questions that arise in different ways, states face a common set of challenges in crafting reform strategies.

By addressing a series of questions, this paper highlights issues and strategies which characterize the unfolding of systemic reform in the nation. In one sense, raising so many issues suggests a need for caution. Can systemic reform provide logical coherence to the disorderly world of policy and practice? A better way to view it is to consider systemic reform as a process of integration, an organizing principle, at work in various ways and degrees and at an early stage of exploration and development. Systemic reform is thus an unfolding agenda for policy and a continuing subject for policy research.

What vision drives systemic reform?

While the words "systemic reform" take on many meanings, depending on the users, two themes predominate. Some use the term to refer to comprehensive change that is focused on many aspects of the system. Others stress the notion of policy integration, coordination or coherence around a set of clear outcomes.

States have long experience with comprehensive policy efforts that touch upon multiple components of schooling, often in the form of omnibus education legislation. In the 1980s, legislatures passed omnibus reform bills that exacted more stringent graduation requirements, professional standards, and discipline policies, raised teacher salaries,

extended school days and years, and more. Although often undertaken with broad objectives to improve academic achievement, decision-makers analyzed each program or policy instrument independently. As a result, no common, core goals united the diverse policy and program areas (Firestone, Fuhrman and Kirst 1989; Firestone et al. 1991).

Coordinated efforts, by contrast, assemble policy reforms to undergird a more focused set of policy goals. Explicit goals which articulate the meaning of more rigorous academic standards are critical. In recent years, many states have crafted goal statements for the entire education system in general as well as for curriculum in particular. States like Michigan, South Carolina, Alabama and West Virginia adopted, with some modification, the systemwide objectives developed by the National Education Goals Panel. Others are creating their own. Vermont's four education goals, for example, include a commitment to restructuring; to attracting and supporting effective teachers; to helping each child become a competent, caring, productive, responsible individual and citizen who values life-long learning; and to creating community partnerships. In addition, Vermont's Department of Education, in concert with the lay public, is constructing particular goals for the school curriculum.

Once goals are established, integrated strategies focus on coordinating various aspects of policy so they reinforce the goals and one another. Examples of integrated approaches include:

- **California.** In California, curriculum frameworks and guidelines underpin the state's testing program (California Achievement Program), staff development, textbook adoption, school evaluations, and publicly disseminated accountability reports. Since the mid-1980s, the frameworks have become increasingly more sophisticated and the tests have incorporated more writing and higher-order thinking skills. Tests are now being completely overhauled to use performance-based and other authentic assessment strategies.
- **Kentucky.** In 1990 the state legislature passed the Kentucky Education Reform Act (KERA) which weaves together curriculum, governance and finance policies. Six overall learning goals are the basis for 75 "valued outcomes" specifying what students should know and be able to do. In turn, the valued outcomes will provide the foundation for curriculum frameworks and new statewide authentic assessments for grades 4, 8 and 12. Kentucky is helping local districts develop additional, voluntary assessments which would be modeled after the state instruments. Eventually, schools and teachers will receive rewards or sanctions based on student performance on the tests and other factors. The law also takes aim at pre-school and out-of-school factors which effect learning.
- **Texas.** Since 1984, the state board of education has established a set of "essential elements" representing core areas of knowledge, attitudes, values, and skills in all content areas. These became the basis for the Texas student assessment programs, curriculum frameworks, staff development, teacher

assessment programs, and textbook adoption. Over the last few years, the state began to upgrade learning expectations, including more higher-order skills. Very recently, the legislature chartered the Committee on Student Learning to establish new curriculum frameworks and performance-based assessment in key subjects. A Committee on the Profession of Teaching is simultaneously examining teacher licensure and recertification in light of the changes in K-12 curriculum.

The past failures of fragmented policy suggest that "integration" is critical to reform that is truly "systemic." However, the political system is more accustomed to the "comprehensive" notion. Typically, legislatures build coalitions by bundling together many discrete programs. With omnibus or comprehensive approaches, many policymakers can share credit and satisfy diverse constituencies. More integrated approaches require tradeoffs and difficult choices among policy options. Therefore, achieving and maintaining coherence presents political challenges, some of which are discussed in more depth later in this paper.

What policies are included in integrated strategies?

The logic of systemic reform suggests that state efforts focus on providing more coherent guidance to instruction (Cohen and Spillane 1992). So, at a minimum, reform strategies would encompass policies that centrally influence teaching and learning. Curriculum frameworks that express desired student learning outcomes would be the anchor for other curriculum policies, instructional materials, teacher professional development and student assessment (Smith and O'Day 1991b).

States vary in the scope or range of policy variables included in the systemic strategy. California, Kentucky, Texas and South Carolina attempted to coordinate a broad number of programs and policies. For example, the Texas committee charged with developing learning goals as a basis for related policies is also to recommend necessary changes in regulation, college entrance requirements and graduation requirements. The Kentucky Education Reform Act of 1990 (KERA) includes restructuring of the state department, school governance and the organization of schools as well as integrated reforms of key instructional policies.

Kentucky also enlarged the scope of reform to include various aspects of children's lives that could affect learning. The state created a plan for a network of Family or Youth Resource Centers, to be located at or near schools with a high concentration of poverty, and to focus on coordinating such social services as child care, health services, and drug and alcohol abuse counseling. Other states, like New Jersey, Iowa, Florida, and Missouri, embarked upon similar initiatives although these do not always bridge as explicitly to education reform efforts.

In contrast, many states assemble fewer state policy elements under the umbrella of systemic reform. In part, this results from a less activist and assertive state policy culture. In Vermont or Maine, the state role in education traditionally has been very limited, and it would be politically difficult to attempt coordination across many different spheres, or in as highly prescribed a way as Georgia, Florida, South Carolina or Texas. In Maine, a staff member for the Common Core in the state education department said, "In other states, it may be possible to say, 'Here it is, the best thing since sliced bread, and we want you to have it in place by September. But there's a strong tradition of local control here, and you just can't do it" (Viadero 1992, p.1).

No matter how many policy elements states include in reform efforts, state policymakers must be aware of the many factors that can work to frustrate attempts at coordination. Systemic reform implies simultaneous alterations in two or more spheres. As state departments of education across the country have been cut back, these agencies often lack the resources or technical staff to accomplish it. Furthermore, staffs traditionally divide along programmatic lines, such as Chapter 1, gifted and talented and the like, although recently many state departments of education, including those in Kentucky, Virginia and South Carolina, are reorganizing to shift from monitoring and compliance functions to technical assistance roles.

Time schedules for the completion of one task often compete with others, resulting in uncoordinated changes or in one policy mechanism driving changes that it was intended to follow. In Vermont, resources already committed to the development of portfolio assessments in mathematics and science mean that these must move ahead of the Common Core of Learning, which is intended to guide the tests. In part, the delay in the Common Core is the result of the broad, participatory process Vermont set up to create its curriculum goals (see below). By shifting organizational resources and priorities, and building an institutional base for long-term development, some of these obstacles may be tackled.

Another problem confronting current efforts to upgrade student achievement within systemic reform is that the technology for change sometimes lags behind the intended reform vision. This is nowhere so evident as in the new authentic assessments embraced by states like Connecticut, Vermont, Maryland, Kentucky and others. Despite much publicity, the fact is that full development of reliable and valid authentic assessments is several years away. So, in the interim, states rely on other tests to fulfill political demands for statewide accountability. For instance, to establish a baseline for future comparisons (which are integral to their whole notion of reform), Kentucky will rely on newly developed tests similar to the National Assessment of Educational Progress until the authentic assessments are ready. Connecticut has gained national attention for its new assessments of group performance tasks in subjects like science. But these are still being developed and piloted. Meanwhile, the state relies on its Connecticut Mastery Test (CMT), a criterion-referenced standardized test that focuses only on mathematics and language arts.

Even if states develop and connect their own relevant policy instruments, they face the challenge of local tests or other factors which compete with the new direction. Placement and evaluation requirements under the Federal Chapter 1 program often compel districts to use basic skills tests which do not coordinate with the state's overall curricular objectives, and they help to perpetuate an unchallenging curriculum for these students. In California, districts administered the California Test of Basic Skills to identify students for Chapter 1 classrooms and to assess their progress over time. Many teachers also depended on these tests for instructional purposes because the tests aligned with the state curriculum were administered only to a sample of students. California is now creating a new test tied to the frameworks which will be administered to every pupil; perhaps that might be used for Chapter 1 as well. But in the meantime, districts are relying more than ever on standardized basic skill exams.

On another level, mobilizing a particular policy sector into overall state reform may be difficult. For example, states often find it hard to garner the political support for teacher in-service training programs which link what teachers know to what students are expected to know. Professional development often lacks "political legs," since it is very expensive on a large scale. Also, many policymakers and citizens view staff development as a special bonus for teachers rather than a real means of improving instruction. More benefits for teachers are often hard to sell, especially when money is tight. However, as is addressed in some detail later in this article, staff development is key to the success of efforts to upgrade classroom content. So, policymakers are seeking strategies for alternative kinds of staff development, including teacher networks and teacher participation in the creation of new state frameworks and assessments.

Teacher education, subject to the separate governance systems of higher education, is particularly difficult to coordinate with expectations for student learning. In California, state department officials reported that efforts to substantively change the coursework offered in teacher education programs bumped up against academic freedom issues and the tenure system. Nevertheless, some states are attempting reform in this area. In Vermont, the Council of Teacher Educators recommended and the state board of education adopted guidelines which would approve teacher education programs on a results-oriented basis, using portfolios. The Committee on the Profession of Teaching in Texas is looking at licensure and re-licensure that focuses on teacher competence. Some states will probably model licensure revision on the approach taken by the National Board for Professional Teaching Standards. The Board, which will certify experienced teachers already licensed by states, uses professional recommendations for student competencies, such as those developed by the National Council of Teachers of Mathematics, in the determination of desired teacher competencies.

Finally, states have not linked school finance to systemic reform strategies. New Jersey responded to its recent court suit by formula alteration without simultaneous substantive policy reform (Goertz 1992). Finance reform in Texas took place at the same time as major policy initiatives to set student learning goals and to examine professional standards, but the issues were not joined. As a result of Kentucky's school finance

litigation (*Rose v. Council for Better Education* 1989), the entire educational system was declared unconstitutional. The ensuing 1990 reform gives strong new direction to the system and ties funding rewards to achievement of substantive goals. Yet the finance reform itself does not link the foundation or spending level to any notion of what would be required to implement the substantive reforms.

If states were to integrate finance with systemic reforms directed at teaching and learning, they might consider a number of strategies, including funding directly to schools to support school-level decision-making and providing a committed, continuing source of funds for professional development linked to new expectations for students (Odden 1991). They might also redesign teacher compensation systems to reward teacher knowledge and skills instead of the proxies currently used in experience and education related pay scales (Odden and Conley 1991; Firestone 1992). Finally, we need better knowledge than currently exists about the components and costs of high-quality instructional programs aimed at the achievement of challenging outcomes (Clune 1992). CPRE researchers are focusing on this issue in continuing studies.

Which policy instruments should states use to "lead" systemic reform efforts?

In a time of scarce resources, focusing attention on the full development of one policy instrument, particularly one which is seen to have great authority and leverage in other policy spheres and over local districts, may help to circumvent some of the problems mentioned above.

Frequently, one critical policy mechanism coordinates the guiding vision of reform. A number of states that emphasize the development of consensus around challenging standards see curriculum frameworks as the leading strategy. For example, the South Carolina State Department of Education has begun to create curriculum frameworks with the goal of ambitious content to coordinate other policy change. In California, also, a set of curriculum frameworks designed by teachers, national experts and other professional educators is the central mechanism which guides statewide textbook selection, teacher training programs, assessments, and other state policies.

Other states are using assessment to drive reform. Many believe that assessments are one of the most powerful levers for instructional change in the classroom; indeed, the criticism of standardized testing is that it has been almost too effective in stimulating drill-and-practice pedagogy. The new "authentic assessments" are designed to encourage the teaching of higher-order thinking skills, more demanding content, and pedagogical strategies which move beyond rote memorization and involve writing and student projects. Connecticut is focusing its efforts on authentic assessments. As one Connecticut staff person put it, "Testing is often a catalyst for change. Tests, for better or worse, often become goal statements. They tend to send a message more loudly than curriculum"

(Frahm 1990). The staffer suggests that the new tests will begin a long-term shift in teaching methods from simply passing along facts to facilitating student learning.

However, the evidence on the power of assessments to lead practice is mixed. Much previous research is based on teachers' reports of how tests influence instruction; there have been few direct observations of test influence on teachers' practice (Cohen and Spillane 1992). In addition, the influence of tests on students depends on their consequences. "High stakes" tests that hinge student promotion or graduation on passage may strongly challenge students, but up until now high stakes have been applied primarily to minimal competency type of exams. There is considerable debate about whether it is fair to attach such stakes to much more sophisticated assessments, those that could measure and therefore encourage deep understanding and reasoning. Many assert that it would be premature to hold students accountable until much more is known about the reliability and validity of newer types of assessment. Furthermore, the new tests may not be valid unless students have an opportunity to learn the material tested, through richer instruction that precedes more ambitious testing (National Council on Educational Standards and Testing 1992; U.S. Congress Office of Technology Assessment 1992).

Is one lever more powerful, or alternatively a more appropriate, conduit of state goals? State systemic reform efforts are so recent that it is difficult to judge their effects on practice, much less to sort out the importance of any single instrument in the mix of policies affecting instructional guidance. A study comparing implementation of the California frameworks in elementary mathematics and science found that districts put more emphasis on mathematics than science, in part because state testing did not assess science (Marsh and Odden 1991). However, CPRE research in California suggests that teachers appreciate the reforms expressed in new curriculum frameworks and try to respond to them even though assessments tied to the frameworks are still being developed and phased in (See Cohen and Ball 1990 for earlier reports of this research).

The question of leading strategies and sequencing of policy instruments is an important one that CPRE will follow closely in continuing research.

How can the public and professionals be involved in the reform process?

It can be argued that providing coherent guidance to instruction is as much a cultural effort as a policy reform task (Cohen and Spillane 1992). Employers, college officials and parents must come to understand and value challenging notions of learning if they are to reinforce school reform. Professionals, teachers and administrators, must understand and value new forms of teaching and learning if they are to make instruction more challenging. One way to educate the public and professionals, to enlist their important insights and expertise and to grant them ownership over the reform enterprise, is to involve them in the development of standards for students.

States have used a variety of mechanisms for public and professional involvement (Massell 1992). Beliefs about the best ways to secure consensus and develop support for the state's new curriculum goals and documents shape decisions about who participates and when. Examples from four states—California, Vermont, South Carolina, and Kentucky—illustrate some of the strategies and issues in setting up these participatory processes.

- *California's* strategy for creating its curriculum frameworks focuses on securing support by creating leading-edge documents, strongly based in research and expert opinion. Although California had long been in the business of curriculum frameworks, they were viewed as vague, watered-down documents that tried to satisfy too many diverse constituencies. Highly regarded teachers, scholars, and other state and national experts were selected for the framework writing committees. Draft frameworks would circulate to networks of professional educators for review and comment. Unlike some other states where lay citizens are actively involved in setting broad goals for education and for curriculum prior to the drafting of frameworks, citizen participation in California occurs largely during the process through regular meetings or public hearings of the Curriculum Development and Supplemental Materials Commission (a permanent advisory body to the state department of education). The state also requires lay citizen input during district reviews that compare local curriculum to the state frameworks and decide upon matters like state textbooks.

- To create its curriculum frameworks oriented around more ambitious content, *South Carolina*, like California, is attempting to appoint professional educators to its writing teams who are "two standard deviations above the mean." However, the state also established Curriculum Congresses to advise the process of writing the frameworks and to provide practical ideas to help implement them. Curriculum Congresses meet on a continuing basis and have an open membership that includes both the lay public and educators. South Carolina is hoping that the Curriculum Congresses yield a cadre of teacher leaders who can ground the framework in practical pedagogy, and who can share their more intimate understanding of the frameworks with other teachers to encourage a wider application of the new curriculum.

- *Kentucky* initiated an elaborate stage of goal setting several years prior to any framework development activity. The purpose was mobilizing the public and securing professional input and support. In 1989 the gubernatorially appointed Council on School Performance Standards began with focus group interviews around the state with business leaders, employers, parents and educators, and then conducted telephone interviews with randomly selected citizens. Task forces of professional educators incorporated these findings into six learning goals. Later, other professional task forces appointed by the Council designated 75 "valued outcomes" for these goals. Only now in 1992 are educators appointed to state department of education writing teams turning those valued outcomes into

curriculum frameworks. The Department plans for district curriculum supervisors to review and comment upon the draft frameworks, since they will be responsible for creating a local curriculum in response.

- *Vermont* also set up a long process for setting curriculum goals preceding the Common Core of Learning. To develop these goals, the state department of education launched community Focus Forums in different regions of the state. The Forum participants are members of the public, often selected at random; they were asked open-ended questions about what students should know and be able to do. Their responses directly shaped the State department of education's first Common Core of Learning document, which will be circulated back to Forum participants for review and comment. A priority is placed on lay citizen support and consensus.

For most states, it is too early yet to see how these various agenda-setting processes enable a more relevant and demanding course of studies, foster political and professional consensus, or facilitate local implementation. However, we can make some observations. The first is that California's strategy to create demanding and high quality curriculum frameworks did leverage wide support among professional educators. In a study of districts and schools which had adopted the state's curriculum, Marsh and Odden (1991) found that the frameworks were viewed as authoritative and credible, a result of the participation of widely renowned teachers and other subject matter experts. Many observers in California also believe that the high quality of the frameworks created the support necessary for their adoption by the state board of education despite political tensions between it and the state department of education.

The second observation is that while public participation is desirable, it can be difficult to sustain. Although part of the motivation behind the South Carolina's Curriculum Congresses was to include the business community, its involvement has dwindled over time. Vermont provides an extraordinary example of a sustained public role, but it is a very small state with a homogeneous population and a unique tradition of popular participation in government.

Third, broad public participation in goal setting in Kentucky and Vermont contributed to the fact that initial curriculum documents were organized primarily around technical and life skills, such as global stewardship, communication, citizenship, well-being, and the like. By contrast the frameworks in South Carolina and California are rooted first in disciplinary perspectives. All four states have as a central goal the development of interdisciplinary curricula, but the different beginnings will likely yield different strategies to achieve that goal and form different public and professional constituencies.

In addition to participation in curriculum goals and frameworks, states have other mechanisms for professional involvement in reform. In Connecticut, Maine, Kentucky and Vermont, for example, volunteer teachers pilot the new assessments and help to score

them. In addition, some of Connecticut's science and mathematics teachers participate in an interstate compact that allows them to work with other people also engaged in these tasks.

A number of questions for continued research emerge from state efforts to enlist the public and teachers in reform: (1) Is enlisting professional participation in creating the agenda, as in the Curriculum Congresses in South Carolina, an effective means of developing a network of teacher leaders? (2) What are the consequences when controversial curriculum issues, such as multiculturalism, are worked out within the writing committees themselves, in prior public goal-setting, or at the local level? (3) Does a prior stage of goal-setting with broad public or professional involvement create greater consensus and support for state and local reform?

How is political support for systemic reform built and maintained?

The fragmentation of education policy and reform in this nation is the natural result of our political system's divided governance structures, single issue candidates and interest-group politics. Electoral politics place a premium on distinguishing one policymaker's efforts from another's to enhance visibility at the polls. Over the years, as states have become more active in school finance, the administration of federal programs, and in other areas of school policy, interest groups and lobbyists at the state level have mushroomed. These factors result in policy driven by compromise and bargaining rather than any uniform vision of change (Fuhrman 1992).

In some states, partly as a consequence of increased responsibilities and tighter budgets, we have seen increased partisanship in education as well as competition between education and other social services. Policymakers have become lightning rods for partisan issues which divide and disperse, rather than integrate, reform ideas. For example, although California's 1983 education reform bill, S.B. 813, had at its core a more unified notion of change, the legislature lacked the majority to insure its passage. Governor Deukmejian would only pledge more aid to education in return for more reforms in the already large bill. This led to a spate of eleventh-hour reform measures, not identified with the original reform vision (Massell and Kirst 1986).

Systemic reform entails a fundamentally different way of thinking about and strategizing for school change. It requires a generalists' knowledge of education and enough understanding of various policy instruments to coordinate and link them to the central goals. Some states, like Vermont and California, have strong leaders with the personal charisma and authority to insulate the broader vision of school change from the political tendencies towards fragmentation. However, the momentum for reform then becomes highly vulnerable to turnover in leadership.

One approach to encouraging sustained coordinated policymaking is broadening the jurisdiction, and hence the constituent base, of governmental structures. Growing governmental specialization means that policy horizons have become increasingly narrow. For example, at least one house of the legislature in 16 states has separate committees for postsecondary and for K-12 education. While all policy areas feed off the same budget and the appropriations process forces tradeoffs, substantive integration across committees is rare.

Consolidating the structure or work of existing entities could expand their scope and provide a basis for improved coordination. For instance, states could merge postsecondary and K-12 committees, and unify corresponding boards of education. States like California have set up new boards and cabinet positions to encourage interagency collaborations involving education and other social service departments (Kirst 1992). The agency collaboration route is an avenue promoted by some in the field of early childhood, a policy area that is particularly fragmented (Barnett 1992). Short of mergers, the various bodies could hold regular joint meetings and hearings and set up special offices within departments to encourage collaboration.

Entirely new governmental structures could also improve coordination and the political viability of systemic reform. Kentucky's recent reform legislation vests oversight responsibility in a new Office of Accountability in the Legislative Research Commission. Charged with the responsibility to monitor and fine-tune the reform act over time, legislators become vested in its progress and may be less likely to forge off in totally new directions. This was the experience in South Carolina, where a similar approach was tried. The 1984 Education Improvement Act (EIA) created a number of oversight entities, within and across branches of government. The various bodies helped EIA maintain its direction by mobilizing the support and interest needed to defray elected policymakers' need for "new" symbolic projects. Citizens were regularly informed of implementation progress and effects and were continually reminded that the reforms would take time to bear full fruit. Policymakers were able to show their dedication to the reform effort by serving on EIA oversight committees and commenting on the results shown in the mandated accountability reports. As a consequence, during the first five years no pressure was brought to follow EIA with other reforms. South Carolina did not experience the shifts in emphasis and proliferation of projects that occurred in other states during the 1980s.

One of the oversight agencies, the South Carolina Business-Education Subcommittee, includes diverse members of the business, education and legislative communities. Consequently, it provides a forum for negotiating across interests and reaching consensus before policy recommendations enter the political arena. The long deliberations of this committee eventually yielded Target 2000, a 1989 reform bill which sought to reorient EIA from basic skills to higher-order thinking. The Subcommittee functions much like reform task forces; it holds hearings, develops recommendations, seeks compromise and tries to build support for the resulting policy. However, it is not ad hoc in the manner of

task forces; it is a standing forum that functions as a permanent arena for consensus prior to the deliberation of political bodies.

Might such an entity representing key constituencies interested in improving student achievement—teachers, university experts, parents, administrators, business and political leaders—serve to preserve political momentum for systemic reform? States that are establishing broad-based, continuing curriculum/assessment committees may be moving in such a direction. Whether these kinds of entities are able to protect the coherence of their approach over time will probably depend on a number of factors, including their membership and scope of concern.

The entity's recommendations would take force from the expertise and representativeness of the membership. Bringing political leaders into the deliberations may give suggestions a better chance of surviving authorization and appropriations processes. Involving practitioners will improve the likelihood that their recommendations reflect the realities of teaching and learning and enlist teachers' support. In effect, the standards developed by such an authority would influence educators much as design standards influence engineers; they would carry the "best practice" seal of approval granted by professional leaders (Fuhrman 1992).

Such a group would not only set standards but also refine them over time, providing a mechanism for ensuring the incorporation of new knowledge and for adjusting to feedback provided by experience. With such flexibility in mind, it might be advantageous to avoid codifying standards by formal enactment, but to rely instead on the continuing authority of a well-constituted and legitimate standards entity. The broader the scope of the entity, the greater the foundation for policy coordination. For example, in addition to subject matter content standards, they also might consider inter- and cross-disciplinary implications. As in the case of California's framework writing committees, deliberations could encompass the array of policies that should be aligned in support of outcome recommendations.

How can "bottom-up" reforms be incorporated with state-led curriculum guidance?

The approaches to systemic reform described thus far have been deductive, that is, coordination begins at the state level. Another way of approaching systemic reform is through more inductive, bottom-up methods which begin at the local school level and look "up" through the system to assemble the resources and support for coherent change. In New Mexico, schools under the guidance of the Coalition of Essential Schools and the Education Commission of the States define their own goals and missions and seek support through state policy. A challenge is how to replicate the effort across new sites, and whether state policy can reasonably accommodate and tailor their policies to the individually-identified needs of each site. The United States might learn some lessons

from Australia in this regard. In that nation, a national-level curriculum mapping exercise seeks to distill a common core curriculum from various, existing state curricula. There might be parallels between that process and what could occur between local and state governments in this nation.

Even in the states that initiate reform with state standards and coordinated policies, there is discussion of granting simultaneous school flexibility. Many leaders believe that the state should set broad goals and policies, but that schools should specify the details of curriculum and instruction, much as Smith and O'Day (1991b) argued. For example, Policy 2000, under consideration by the West Virginia Board of Education, pairs state instructional leadership with substantial deregulation to promote school flexibility. KERA also marries state standard setting and assessment with school-based management.

However, the difficulties of combining "top-down" and "bottom-up" reform should not be underestimated. A number of contradictions and missed opportunities indicate that this area of reform will be among the most challenging to accomplish. For example, in Kentucky, schools are to be self-governing, yet KERA requires schools to eliminate grade-based classrooms in K-3. A number of states have restructuring programs to support school decision-making but school councils are not explicitly encouraged to focus their activities on meeting state instructional goals. Even though school choice is very compatible with systemic reform, many discussions pit choice against state policy improvement, as if market control and coherent state guidance were antagonistic. Systemic reform might enhance choice, for the state curriculum frameworks would establish a protective structure to ensure that all schools were providing challenging content and examinations would provide valid data to guide decisions (Smith and O'Day 1991b). But while public school choice is increasingly on state policy agendas, and at least 30 states have enacted recent legislation to promote it in one form or another (Fossey 1992), policymakers are not linking choice and state instructional guidance by combining them in reform approaches.

How to allocate responsibilities among levels of decision-makers is a perennial question in this nation and others, across areas of public policy, and in the private sector as well (Clune 1987; Tyack 1992; Elmore 1992a; Weiler 1992; Winkler 1992; Lewis 1992; Carnoy 1992; Brown 1992). Two current dilemmas facing policymakers indicate how difficult it is to sort out responsibilities in the system.

The first quandary concerns the degree of detail states should specify in curriculum standards. State frameworks or curriculum guidelines vary in the extent to which they specify course content. No state curriculum effort determines the exact content or timing of daily lessons, as occurs in France or other European countries (Smith, O'Day and Cohen 1990; 1991). In the U.S. these documents are intended to serve as guidelines for coordinating other state policies and local curriculum development. But the variation in specificity that does exist provides interesting contrasts.

California's curriculum frameworks in general define the core concepts of a field, goals and learning strands, enriched courses for the early grades, sequencing, the number of years of instruction, and cross-disciplinary strategies. The mathematics guides, for example, have an extensive rationale and philosophy, and numerous examples illustrating standards of achievement. Although curriculum frameworks are not mandated by law, the extent to which they are coordinated into other programs and policies makes them more prescriptive than might first appear (Archbald 1991b; also see Tyree 1990; Porter, Archbald and Tyree 1991). The Common Core of Learning established in northeastern states like Vermont and Connecticut describe what students should know and be able to do, but do not begin with the subject-matter disciplines and are relatively less detailed.

Less specific documents provide greater latitude for local decisions on curriculum. Some reformers believe that the more local flexibility, the better. Although the true test of these arguments will come in research that focuses more strongly on the enactment of curriculum in schools and classrooms (Elmore, Sykes and Spillane 1992), evidence suggests that more specific documents, supported by many examples of teacher lessons, may be more enabling for schools and teachers (e.g., Hannaway 1992). Although states do not want to infringe upon hallowed traditions of local curriculum development, the fact is that the capacity of many local schools and districts to create their own curriculum has declined steadily over the years (Walker 1990). Furthermore, a CPRE study comparing teachers in districts in California, Florida and New York with a highly centralized curriculum to those with a noncentralized curriculum suggest no strong difference in teachers' sense of personal efficacy and job satisfaction (Archbald 1991a).

Teachers often want model lessons to guide their teaching. Given a shortage of long-term staff development dollars in most states and the difficulty of reforming pre-service teacher education, teachers need alternative forms of guidance to accomplish the state's new policy goals. This is particularly important for helping teachers realize the academic goals of challenging content for special needs students and others at academic risk.

CPRE researchers are examining attempts to upgrade math instruction in low-income high schools in New York and California. Math A in California and "stretch Regents" (school decision to offer Regents Math I and II courses over 4 years rather than 2) in New York incorporate integrated curricula and are intended to move students into more challenging course sequences. Teachers in both states favored more, not less guidance, about the content of the courses. Math A teachers in California expressed frustration about the unavailability of a quality textbook for the course and the corresponding need to constantly develop course materials. This problem was especially serious for English-limited students, because there are essentially no Math A materials in other than English (one Spanish-speaking teacher finally got burned out translating materials into Spanish). In New York, some teachers complained that the later stretch Regents courses were repetitious and generally poorly designed as supplements to the first course. These problems suggest the idea of placing responsibility for course design at the school level probably is not a good idea and that course design, like professional development, might

profitably be taken on by larger bodies, such as subject-matter networks to be discussed further below.

Furthermore, the notion of school-by-school creation of curricula is vastly complicated by high student mobility in urban areas. In single courses, such as Math A, only 30 percent of a class may be enrolled for one entire semester, while only a small minority of students takes a complete math sequence in the same school. We plan to collect careful data on this question (the first study, to our knowledge, linking course content with student mobility). The ultimate policy significance remains to be explored: does high mobility make a standard curriculum necessary?

A subset of the specificity issue concerns the establishment of state standards as generic vs. subject-matter specific skills and competencies. In a number of states, like Minnesota, policymakers are debating how best to express outcomes. Some assert that generic competencies are most likely to support interdisciplinary studies or that the "content wars" about which topics to include or exclude should be fought at the local level. Business leaders, too, tend to express work-related skills in more generic terms. On the other side are those who believe that skills are embedded in content and that subject-specific standards give more concrete guidance to teachers trying to implement them. As noted in the previous section, the process established to determine standards can interact with the content/generic skill debate.

The second issue concerns the fate of traditional regulation of practice, given new state emphasis on outcomes rather than process. Much reform discussion centers on anchoring accountability around outcomes; schools and districts would be accredited, rewarded and/or sanctioned based on student performance and other measures such as student attainment. Schools would have utmost flexibility in organization and delivery of instruction, so that they could maximize achievement on the outcomes in ways tailored to the needs of their own students. No longer would states regulate practice, such as class size or amount of instruction in various subjects.

Deregulatory efforts to date indicate the complexities of process deregulation. First, current deregulatory programs do not shed much light on the type of wholesale deregulation envisioned by the outcome accountability scenario. Some states, like South Carolina, are contemplating broad scale deregulation for virtually all schools and districts. But at the moment a number of states use deregulation, or eligibility for waivers, as a reward for higher-achieving and/or consistently highly accredited schools. Although school improvement research teaches that autonomy or flexibility is a likely precursor to improvement, many programs deny discretion to schools most needing improvement (Fuhrman 1989).

Second, recent experience indicates that removing regulation will not in and of itself, turn tradition-bound schools into exemplars of creativity. A range of policies—such as teacher professional development and assistance to schools—might be needed to help schools take advantage of the flexibility and maximize achievement. Deregulation does

provide a stimulus to change by encouraging schools to examine and address barriers to improvement, including but not limited to regulation. Studies in South Carolina and Washington suggest that automatic exemption from a number of rules, in contrast to rule-by-rule waivers on local request, is particularly promising (Fuhrman, Fry and Elmore 1992; Fry, Fuhrman and Elmore 1992b). However, deregulation will disappoint those who view rules as the primary enemy of school improvement; removing them will not be sufficient stimulus for reform.

Furthermore, deregulatory programs leave many regulations still on the books. Adequate levels of health, safety, adequacy of physical plant and financial accountability must be assured. Categorical programs, which typically include requirements to assure that services are targeted to meet special needs, are an important continuing source of regulation. Many practitioners in currently deregulated schools find their flexibility hampered by special program rules—or the interpretation of those rules—that are not included in the deregulation effort. For example, while class size limits are lifted in the basic program for deregulated schools in South Carolina, they remain in effect in the state-mandated gifted and talented program (CPRE 1992).

Finally, it is incumbent on the system to assure that all students have an opportunity to meet new outcome standards, to learn the expected content and skills. Assuring equitable access to well-qualified teachers, high-quality instructional materials and various instructional offerings may require some degree of regulation. Many argue that opportunity to learn can be measured or tracked without setting standards or constraining practice. Others assert that some regulation of practice is essential for at least some districts, particularly in instances where taxpayer support needs extra leverage or where corrupt practices exist.

Corrupt and troubled districts, the ones that keep many policymakers away from contemplating broad-scale deregulation, are subject to enhanced enforcement of regulation through state takeover in a number of states. However, takeover programs may not solve the troubles and must be carefully designed. Troubled schools and districts are not likely to improve simply because there is more enforcement of regulation. If state intervention is to assist those subject to sanctions, school-level needs for assistance with educational concerns should take precedence over assuring central office compliance to state rules (Fuhrman, Fry and Elmore 1992a; Dolan 1992; Fuhrman and Elmore 1992).

The difficulty of resolving dilemmas about the desired degree of state guidance and the necessary degree of regulation suggests that reform rhetoric about "outcome accountability and process deregulation" needs serious examination. Within the categories of "outcomes" and "process" are many discrete policy instruments. CPRE plans to examine, across a variety of settings, the variation in the degree of control exerted over individual instruments by various levels of governance and the implications of different loose/tight constructions. One interesting finding from a CPRE study of decentralized schools in two districts illustrates the complexity of control issues. Unlike typical schools where teachers work isolated and relatively autonomously in their classrooms, teachers in

the study schools are brought out of their individual classrooms and expected to interact with colleagues and administrators in planning, implementing and evaluating their educational programs. The consequence is that teacher behavior is more highly controlled in decentralized settings, but the control process is not a bureaucratic one based on rules and regulations, nor an economic one based on incentives; it is a process of social and cognitive control (Hannaway 1992).

Do school personnel have the capacity to promote ambitious student outcomes?

States must consider local capacity to carry out systemic reform. In California, CPRE researchers found that local district curriculum supervisors were often overwhelmed by the need to respond to new curriculum frameworks issued by the state department of education each year. Similarly, teachers, particularly elementary teachers responsible for all the different subject areas, struggle to keep abreast of all the changes expected of them. Capacity to address reform varies by role and the level of the system. In Vermont, where many teachers volunteered to participate in mathematics portfolio assessments, coping with so many aspects of reform—in special education, restructuring, and professional development around the new assessments—left many without the time to score the work (Rothman 1992).

A key aspect of capacity is the knowledge base of teachers. Reform efforts in states like California promote an active, constructivist vision of learning, an adventurous conception of teaching, and a belief that instruction should be rooted in deep knowledge of academic disciplines. These ideas mark a remarkable change in American ambitions for public schools.

The reform ideas would enrich instruction, but they also would greatly complicate instruction. CPRE's analyses and classroom studies in California and Michigan elementary schools suggest several key complications. First, because teachers are supposed to encourage students to assume much larger instructional roles and responsibilities, they open up classroom communication to many more voices, and much more independent speech. They change the discourse structure of classrooms so that authority accrues to those who make the most persuasive arguments. The social organization of classrooms grows much more lively and rich, but teachers' intellectual, managerial, and political responsibilities grow enormously as well.

Second, teaching of this sort increases risks and uncertainty. For academic work becomes more complex when students try to make sense of biology or literature than when they simply memorize the frog's anatomy or the sentence's structure. Instruction also becomes much less predictable when students discuss and debate their interpretations of a story or their conception of vertebrate anatomy, rather than memorizing facts in isolated silence at their desks or reciting them back to their teachers. For teachers must

manage very complex interactions about very complicated ideas, in rapid-fire fashion. They must cope with much greater uncertainty when students present ideas that are difficult to understand, when they offer unpredictable insights in discussions, and when they get into complicated disagreements. Teachers also must manage their own greatly increased vulnerability, for they depend upon students to produce a great deal of instruction. Third, teaching as reformers propose entails that teachers learn many new things: New conceptions of knowledge, new views of human learning, and new approaches to classroom organization and discourse. But in order to learn such things most teachers will have to unlearn much that they knew deeply and well.

How are teachers responding to the policy shift? Our data arise from the first few years of reform, and thus must be viewed with great caution: The reforms are still developing, and teachers are just beginning to understand and respond to the new ideas. Additionally, their response is being shaped by other forces, such as fiscal crises in state and local government, and ensuing program and staff cuts. Nonetheless, we can report several points. Many teachers' knowledge of the reform policies is limited. State efforts to communicate with teachers have been constrained both by limits of time and money, and by existing conceptions of communication. Many teachers in both California and Michigan never have seen the reform documents. But all have learned about the reforms from some source(s), including texts, local professional development, and others.

Most teachers are quite experienced, and have lived through many previous efforts at reform. Nonetheless, they appear to be making a good faith effort to understand the reforms, and to respond professionally. Though teachers approach the reforms from diverse professional backgrounds and different conceptions of practice, they accept that it is their responsibility to try to understand the ideas and to respond to them in their teaching. We have found little cynicism or resistance. Teachers understand the reforms, and respond to them from the context of established pedagogical practice and inherited conceptions of knowledge. These practices and knowledge are generally didactic, teacher-centered, and traditional. Reforms are understood to entail changes, but teachers generally envision the changes as both consistent with and different from established knowledge and practice. Teachers view the changes in their practice as large, even cataclysmic. But reformers would view the same changes as modest. In part because teachers' inherited ideas and practices are generally traditional, what would seem a small change to reformers is in fact immense for the teachers making the change.

Similarly, it seems that the high school math innovations in both California and New York have created substantial change in content and pedagogy compared with traditional math courses. In California, teachers of Math A follow the National Council of Teachers of Mathematics (NCTM)-like model in class, with its open-ended problems, manipulatives, and high participation by individuals and groups of students. In New York, the teachers of the stretch Regents courses use the regular Regents textbooks (and some students reportedly express pride about carrying these college prep books around the hallways). However, teachers commonly speak of the increased burden of mastering the new material and teaching it to large groups of disadvantaged students (many of whom

require extra attention). The large class sizes in California may be an important factor in the reported teacher burden.

Successful implementation of new high school math courses seems to depend strongly on school adoption and serious district support. If the new concept is accepted by only a few teachers in the school, the implementation is incomplete, and conflicts are created (for example, in San Diego, a serious unresolved conflict between Math A as a pre-Algebra vs. alternative course). Research on the district role indicates that historically districts have not focused on instructional improvement. District personnel have not been staffed or organized in ways that promote attention to the issue; they have not spent significant amounts of time on the issue; they have overlooked opportunities to influence instruction; and they have passed key instructional decisions down the hierarchy to the classroom, without offering much support or reinforcement for what happens there. However, it is quite likely that the incentive structure federal and state policies provide to districts influences them to attend more to fund accounting and rule compliance than to key issues of instruction. Should states focus policies around ambitious instruction, districts would have greater incentives to shift to supporting schools in teaching and learning (Elmore 1992b).

Ultimately, the answer to whether or not schools have the capacity to respond to state policies about ambitious instruction comes to rest on teacher professional development. As noted previously, this unquestionably important aspect of reform is not necessarily politically popular. Fiscal stress makes it particularly vulnerable. At CPRE, we are examining a variety of mechanisms for providing professional development for more challenging instruction. Teachers usually do not have access to new ideas and are not well situated to share them with others (Firestone 1991). Restructuring that involves teachers in the identification of school goals and needs (Levin 1991) requires the broadening of teachers' horizons.

Teacher networks seem to provide one particularly promising approach that has emerged in the last few years (Adams, forthcoming). The experience with California's new Math A framework in San Francisco (a project sponsored by the National Science Foundation) suggests that staff development is greatly enhanced by daily preparation periods involving networks of teachers and long summer workshops. As teachers extend themselves professionally, they expand their own understanding of their role. In another CPRE study of California teachers participating in the Ford Foundation sponsored Urban Mathematics Collaborative, researchers found that meeting people who are influential within their own discipline, in industry, in local state or national policy, enhanced teachers' sense of the possible, and helped them to recognize expertise and incorporate this into their teaching. Teacher participation in these meetings informed new curriculum policy decisions at all levels. Teacher empowerment, they found, rests not simply on greater decision-making but on decision-making that rests on subject-matter knowledge, knowledge of the broader professional community and knowledge of education policy (Lichtenstein et al. 1991).

What are the equity implications of systemic reform strategies?

One of the reasons more and more policymakers are attracted to systemic reform is the hope it offers for greater equity. Emphasis on basic skills instruction and improved social and economic conditions contributed to a narrowing of the achievement gap between minority and white students, and to some extent between students at different levels of economic advantage, between 1960 and the mid-1980s (Smith and O'Day 1991a; CPRE 1991a). To continue such improvement, despite recent reverses in social and economic trends, it would be beneficial to have a common set of high quality standards for curricular content and student performance. A structure that reinforces challenging outcomes for all students, in all schools, would promote equity (Smith and O'Day 1992).

An integrated structure and clearly articulated standards would provide a basis for comparing the quality of educational inputs, such as the quality and appropriateness of curricular materials, and the adequacy of teacher preparation, etc. Such comparison is more educationally relevant than a simple comparison of fiscal resources; it speaks to how resources are allocated rather than simply to amounts of dollars. Schools spending equal dollars could vary enormously in the equity of opportunity. Some could educate all children comparably; some could offer a strongly differentiated curriculum. If we had common challenging standards, policy support in the way of well-trained teachers and materials, and accountability tied to achievement on the standards, schools would be pressured and supported in developing programs that maximize achievement for all students.

A number of challenges arise in linking challenging standards to greater equity. One is striking a balance in constructing the standards between the common culture and needs of the society as a whole and the diverse perspectives, needs and histories of individuals and subgroups within that society. To do this, states are trying to construct standards as a core set of expectations that themselves contain some choice and flexibility and that may be supplemented by schools and teachers responding to community concerns. In addition, the dialogue about what belongs in the common core, as contentious as it may be in some subjects and some settings, can be a constructive experience for the public and professionals alike.

A second challenge concerns the meaning of ambitious content for students of different ability and prior achievement. The idea of challenging standards is higher expectations for all students, nevertheless students come with different levels of preparation. There is the danger that adjusting to different needs means watering down for some students. In California and New York, in spite of the sincere effort to upgrade the math curriculum, a differentiated curriculum remains very much in existence. The NCTM-like Math A may require higher levels of language proficiency than formal mathematics. So, in San Francisco, students with severe math deficiencies and/or problems with English language may be placed in remedial math classes which use

mastery learning techniques to teach elementary school arithmetic. Also, neither Math A nor stretch-Regents represents a truly common curriculum but, rather, an upgraded version of the lower track (in effect, "good tracking" vs. "bad tracking"). In all schools were are studying, the traditional college prep curriculum remains the "fast track." However, an encouraging sign is that there is a clear tendency to get alternative math sequences approved for college entrance because these courses are perceived to be more motivating for many students who are discouraged by formal math.

An associated issue concerns the relationship between upgrading of the general curriculum through systemic reform and programming for special need students. At this early stage in systemic reform efforts, it seems that special need programs, traditionally called "categoricals," are largely left in place while reform efforts focus on the curriculum for mainstream students. This is not universally true. In 1991 the Minnesota legislature directed the disassembly and complete administrative and educational integration of special needs programming. This directive also included vocational education. However, perhaps because of concerns about federal requirements (some of which may be over-interpreted by states, districts and schools), and worries about student service needs and legal rights, discussions of systemic reform rarely touch on how students with special problems may be educated under common standards. If systemic reform efforts bypass those students, including many in large cities where funding from categorical programs drives much of what happens in schools, they will be neither reforms nor systemic.

Efforts to fashion more coherent experiences for students should extend beyond policy to the many private and community supported projects aimed at improving schools. While each dropout support, attendance improvement, health or career awareness program is well-intentioned, the net effect can be a series of separate interventions, for different students or for different needs of the same student. Each program has its own approach, staffing pattern, delivery structure and accountability demands. Educators attempting to respond to student needs holistically probably invest extraordinary energy in coordinating the acronymic jumble. Perhaps that energy is diverted from serving the student and enriching instruction; perhaps there are alternative approaches to student needs that break free of the "special project" design.

The relationship between categorical programs, special projects and systemic reform efforts is an area deserving serious attention from policymakers and researchers. Issues of coordination in serving students require investigation, as does the possibility of channelling special foundation, corporate or community support away from discrete projects toward strategic support for instructional improvement.

Can the development of systemic reform strategies withstand state fiscal stress?

The financial outlook for state budgets in the near future is bleak. Despite massive budget cutting and tax increases in fiscal 1991 and 1992, by the middle of this fiscal year 35 states were forced to cut \$5.7 billion. Rather than maintaining the usual 5 percent budget reserves, these balances are expected to drop to .8 percent of total expenditures and rebound only to 1 percent during fiscal 1993. In California, despite \$14 billion in tax increases and spending cuts in 1991, by January of 1992 the state faced a projected deficit of \$5 billion (Harp 1992a). Later estimates were running as high as \$11 billion, and schools were expected to lose \$1.2 to \$2 billion over the next fiscal year.

Against the backdrop of budget cuts and tax increases, funding for school reform will come into increased competition with other state services (Harp 1992b). For example, a coordinated set of reforms in Arizona was recently stalled amidst budget battles in the legislature.

Even in states where systemic reforms have gotten a toe-hold, undoubtedly state fiscal problems are slowing the pace, if not the intent, of these efforts. Serious budget problems have affected Connecticut's development of new alternative testing, and development of reliable and valid performance assessments will be quite expensive for this and other states. These costs led a Florida committee evaluating alternative assessment to recommend a mixture of norm-referenced testing with limited alternative assessments. In Kentucky extended school services were cut by 40 percent in the new two-year budget. Lawmakers also lowered their goals for forward funding the school incentive programs and a school technology network.

Short of great influxes of new cash, states can continue to move towards systemic reform in a fiscally conservative fashion. Through interstate networks like the Connecticut Multi-State Performance Assessment Coalition Team (COMPACT) funded by the National Science Foundation, states can share knowledge and pool resources. Coordinating textbook adoptions with other states, as California and Texas are doing in science, may leverage publishers into both providing a greater variety of options and books at lower cost. California strategizes to coordinate outside project dollars to support its reforms, such as Eisenhower monies for staff development linked to the curriculum frameworks. Enlisting broad teacher support in the development of assessments and curriculum, as mentioned above, at the same time builds support and understanding to help in implementation. With fiscal constraints, focusing resources on the full development of curriculum goals and guidelines or other mechanisms which operationalize what students should know and be able to do will at minimum provide guidelines for local districts and others to begin to mobilize their own testing and curriculum around them.

Conclusion

Putting the pieces of reform together so that policy provides strong, coherent support for school improvement is a complex undertaking. Systemic reform ideas seem to require unprecedented efforts to integrate separate policies, new strategies of policy sequencing, novel processes to involve the public and professionals in setting standards, challenges to traditional politics, complex efforts to balance state leadership with flexibility at the school site, extraordinary investment in professional development, and creative approaches to serving the varied needs of students. To compound the challenge, states are facing these extremely demanding issues at a time of severe fiscal difficulty.

Nonetheless, policymakers are crafting strategies to deliberate, develop and implement systemic reform. In this article we have highlighted some approaches that seem promising, even at this early stage of state efforts. The promise is amplified by the broader, societal movement toward consensus on challenging student outcomes that surrounds these early policy activities.

Both the difficulty of the problems facing systemic reform efforts and the promise of a number of intriguing state strategies suggest the need for continued study of systemic reform over the next several years.

Bibliography

- Adams, Jacob. (forthcoming). *Policy Implementation Through Teacher Professional Networks: The Case of Math A in California*. Unpublished Ph.D. dissertation, Stanford University, Stanford, CA.
- Archbald, Douglas A. (1991a). "Emerging State/District Systems of Curriculum Control: Tradeoffs Between Content Standardization and Teacher Autonomy." Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Archbald, Douglas A. (1991b). "Rationales, Content, and Prescriptiveness of Four State Curriculum Guides: A Description and Review." New Brunswick: Consortium for Policy Research in Education.
- Barnett, Steve. (1992). "New Wine in Old Bottles: Problems of Coherence in Early Childhood Care and Education Policy." New Brunswick, NJ: Consortium for Policy Research in Education. (To be published in 1993 in a volume on coherent policy, edited by S. Fuhrman, published by Jossey-Bass.)
- Brown, Claire. (1992). "Decentralization of Decisionmaking in Industry and Education: Similarities and Contrasts." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*, San Francisco: Jossey Bass. Forthcoming.
- The Business Roundtable. (1992). *The Nine Essential Components: Putting Policy into Practice*. New York: Author.
- Carnoy, Martin. (1992). "Decentralization and Reform: Public or Private." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*, San Francisco: Jossey Bass. Forthcoming.
- Clune, William H. (1987). "Institutional choice as a theoretical framework for research on educational policy." *Educational Evaluation and Policy Analysis*, 9(2), 117-132.
- Clune, William H. (with assistance from P. White and J. H. Patterson). (1989). *Implementation and Effects of High School Graduation Requirements: First Steps Towards Curriculum Reform*. New Brunswick, NJ: Center for Policy Research in Education.
- Clune, William H. (1992). "New Answers to Six Hard Questions from Rodriguez: Ending the Separation of School Finance and Educational Policy by Bridging the Gap Between Wrong and Remedy." *Connecticut Law Review* (24)3, p. 1-42.

- Clune, William H., and Paula A. (1987, Summer). "Institutional Choice as a Theoretical Framework for Research on Educational Policy." *Educational Evaluation and Policy Analysis*, 9(2), pp. 117-132.
- Clune, William H., and Paula A. White. (1988). *School-based Management: Institutional Variation, Implementation, and Issues for Further Research*. New Brunswick, NJ: Center for Policy Research in Education.
- Cohen, David K., and Debra Ball. (1990). "Policy and Practice: An Overview," *Educational Evaluation and Policy Analysis*, 12(3).
- Cohen, David K., and James P. Spillane. (1992). "Policy and Practice: The Relations between Governance and Instruction." In Gerald Grant, ed., *Review of Research in Education*, pp. 3-49. Washington, DC: American Educational Research Association.
- Consortium for Policy Research in Education. (1991a). "Equality in Education: Progress, Problems and Possibilities." *CPRE Policy Briefs*. New Brunswick, NJ: Author.
- Consortium for Policy Research in Education. (1991b). "Putting the Pieces Together: Systemic School Reform." *CPRE Policy Briefs*. New Brunswick, NJ: Author.
- Consortium for Policy Research in Education. (1992). "Ten Lessons on Regulation and Schooling." *CPRE Policy Briefs*. New Brunswick, NJ: Author.
- Dolan, Margaret. (1992). *State Takeover of a Local School District in New Jersey: A Case Study*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Elmore, Richard F. (1991). "Innovations in Education." Paper presented at a meeting, "Innovation in the Public Sector," Duke University, Durham, North Carolina, May 1991.
- Elmore, Richard F. (1992a). "Beyond Efficiency and Accountability: Centralization, Decentralization, and School Improvement in Educational Policy." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*, San Francisco: Jossey-Bass. Forthcoming.
- Elmore, Richard F. (1992b). "The Role of Local Districts in Instructional Improvement." New Brunswick, NJ: Consortium for Policy Research in Education. (To be published in 1993 in a volume on coherent policy, edited by S. Fuhrman, published by Jossey-Bass.)
- Elmore, Richard F., Gary Sykes, and James Spillane. (1992). "Curriculum Policy." In Philip Jackson, ed., *Handbook of Research on Curriculum*, pp. 185-215. New York: Macmillan.

- Firestone, William A. (1991). "Schools to Facilitate Professionals: Implications of the Organizational and Cognitive Research on Teaching." Unpublished manuscript. New Brunswick, NJ: Consortium for Policy Research in Education.
- Firestone, William A. (1992). "Teacher Incentives: Mixing Intrinsic and Financial." In B.A. Jones and K. Borman (eds.) *The New American Schools: Alternative Concepts and Practices*. Norwood, NJ: Ablex Publishers. Forthcoming.
- Firestone, William A., Susan H. Fuhrman, and Michael W. Kirst. (1989). *The Progress of Reform: An Appraisal of State Education Initiatives*. New Brunswick, NJ: Center for Policy Research in Education.
- Firestone, William A., Sheila Rosenblum, Beth D. Bader, and Diane Massell. (1991). *Education Reform from 1983 to 1990: State Action and District Response*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Fossey, Richard. (1992). "School Choice Legislation: A Survey of the States." *CPRE Occasional Paper*, New Brunswick, NJ: Consortium for Policy Research in Education.
- Frahm, R.A. (1990, April 12). "New Methods Are Put to the Test in State's Education Reforms." *The Hartford Courant*.
- Fry, Patricia, Susan H. Fuhrman, and Richard F. Elmore. (1992). *Schools for the 21st Century Program in Washington State: A Case Study*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Fuhrman, Susan H. (with the assistance of Patricia Fry). (1989). *Diversity Amidst Standardization*. New Brunswick, NJ: Center for Policy Research in Education.
- Fuhrman, Susan H. (1992). "Politics of Coherent Reform." New Brunswick, NJ: Consortium for Policy Research in Education. (To be published in 1993 in a volume on coherent policy, edited by S. Fuhrman, published by Jossey-Bass.)
- Fuhrman, Susan H., William H. Clune and Richard F. Elmore. (1988). "Research on Education Reform: Lessons on the Implementation of Policy." *Teachers College Record*, 90(2), pp. 237-257.
- Fuhrman, Susan H., and Richard F. Elmore. (1992). *Takeover and Deregulation: Working Models of New State and Local Regulatory Relationships*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Fuhrman, Susan H., Patricia Fry, and Richard F. Elmore. (1992). *Kentucky's Program for Educationally Deficient School Districts: A Case Study*. New Brunswick, NJ: Consortium for Policy Research in Education.

- Fuhrman, Susan H., Patricia Fry, and Richard F. Elmore. (1992). *South Carolina's Flexibility through Deregulation Program: A Case Study*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Goertz, Margaret. (1992). "School Finance Reform in New Jersey: The Saga Continues." Paper presented at the Annual Meeting of the American Educational Research Association, April 20-24, San Francisco, CA.
- Gross, Steve. (1991, December 17). "Vermont Common Core of Learning Update." Burlington, VT: Vermont Department of Education.
- Hannaway, Jane. (1992). "Structural Arrangements and Behavioral Consequences: Choice and Decentralization." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*, San Francisco: Jossey Bass. Forthcoming.
- Harp, Lonnie. (1992a, January 8). "California Lawmakers Face Both Short-, Long-Term Fiscal Woes." *Education Week*, 11(16), p. 32.
- Harp, Lonnie. (1992b, April 29). "Report Documents New Round of State Fiscal Lows." *Education Week*, 11(32), p. 17.
- Kirst, Michael W. (1992, January). "Financing School-linked Services." *USC Center for Education Finance (CREF) Policy Brief*. Los Angeles, CA: University of Southern California.
- Levin, Henry M. (1991). *Building School Capacity for Effective Teacher Empowerment: Applications to Elementary Schools with At-Risk Students*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Lewis, Daniel. (1992). "Learning from Mental Health: The Distributional Effects of Deinstitutionalization." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*, San Francisco: Jossey Bass. Forthcoming.
- Lichtenstein, Gary, M. McLaughlin, and J. Knudsen. (1991). *Teacher Empowerment and Professional Knowledge*. New Brunswick, NJ: Consortium for Policy Research in Education.
- Marsh, David D. and Allan R. Odden. (1991). "Implementation of the California Mathematics and Science Curriculum Frameworks." In Allan Odden, ed., *Education Policy Implementation*, pp. 219-240. Albany: State University of New York Press.
- Massell, Diane. (1992). *Achieving Consensus: Setting the Agenda for State Curriculum Reform*. New Brunswick, NJ: Consortium for Policy Research in Education. Forthcoming.

- Massell, Diane, and Michael W. Kirst. (1986). "State Policymaking for Educational Excellence: School Reform in California." In Van D. Mueller and Mary P. McKeown, eds., *The Fiscal, Legal, and Political Aspects of State Reform of Elementary and Secondary Education*, pp. 121-144. Cambridge, MA: Ballinger.
- National Council on Educational Standards and Testing. (1992). *Raising Standards for American Education: A Report to Congress, the Secretary of Education, the National Goals Panel, and the American People*. Washington, DC: Government Printing Office.
- National Governors Association. (1991). *From Rhetoric to Action: State Progress in Restructuring the Education System*. Washington, DC: Author.
- Odden, Allan R. (1991, September). "School Finance in the 1990s." Working Paper No. 1. Los Angeles, CA: University of Southern California, Consortium for Policy Research in Education.
- Odden, Allan R., and Sharon Conley. (1991, June). "A New Teacher Compensation System to Promote Productivity." *USC Center for Education Finance (CREF) Policy Brief*. Los Angeles, CA: University of Southern California.
- Odden, Allan R., and William Massy. (1992). "Education Funding for Schools and Universities: Improving Productivity and Equity." Unpublished manuscript. Los Angeles, CA: University of Southern California: Consortium for Policy Research in Education.
- Porter, Andrew C., Doug Archbald, and Alexander Tyree. (1991). "Reforming the Curriculum: Will Empowerment Policies Replace Control?" In Susan Fuhrman and Betty Malen, eds., *The Politics of Curriculum and Testing*, pp. 11-36. Bristol, PA: Falmer Press.
- Rothman, Robert. (1992, May 20). "Vermont Forced to Delay Goal of Expanding Assessment System." *Education Week* 11(35), p. 1.
- Smith, Marshall S. and Jennifer O'Day. (1991a). "Educational Equality: 1966 and Now." In D.A. Verstegen and J.G. Ward, eds., *The 1990 American Finance Association Yearbook: Spheres of Justice in Education*, pp. 53-100. New York: Harper-Collins.
- Smith, Marshall S. and Jennifer O'Day. (1991b). "Systemic School Reform." In S. Fuhrman and B. Malen, eds., *The Politics of Curriculum and Testing*, pp. 233-267. Bristol, PA: Falmer Press.

- Smith, Marshall S. and Jennifer O'Day. (1992). "Systemic School Reform and Equity." New Brunswick, NJ: Consortium for Policy Research in Education. (To be published in 1993 in a volume on coherent policy, edited by S. Fuhrman, published by Jossey-Bass.)
- Smith, Marshall S., Jennifer O'Day, and David K. Cohen. (1991, September). "A National Curriculum in the United States?" *Educational Leadership* 49(1), 74-81.
- Smith, Marshall S., Jennifer O'Day, and David K. Cohen. (1990, Winter). "National Curriculum, American Style: Can It Be Done? What Might It Look Like?" *American Educator* (Winter), 10-17, 40-47.
- Tyack, David. (1992). "School Governance in the United States: Historical Puzzles and Anomalies." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*. San Francisco: Jossey Bass. Forthcoming.
- Tyree, Alexander K. (1991). "The Potential Strength of State Curriculum Control Systems: Four Case Studies." Unpublished background papers. New Brunswick, NJ: Consortium for Policy Research in Education.
- U.S. Congress, Office of Technology Assessment. (1992, February). *Testing American Schools: Asking the Right Questions*. OTA-SET-519 Washington, DC: Government Printing Office.
- Viadero, Debra. (1992, April 1). "Maine's 'Common Core' Offers a Lesson in Standards." *Education Week* 11(28), p. 1.
- Walker, Decker. (1990). *Fundamentals of Curriculum*. Saddlebrook, NJ: Harcourt, Brace, Jovanovich, Inc.
- Weiler, Hans. (1992). "Decentralization Between Conflict Management and Compensatory Legitimation: Reflections on the Politics of Educational Governance Considerations." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*. San Francisco: Jossey Bass. Forthcoming.
- Winkler, Donald. (1992). "Fiscal Decentralization and Accountability: Experiences in Developed and Developing Countries." In Jane Hannaway and Martin Carnoy, eds., *Decentralization and Education*. San Francisco: Jossey Bass. Forthcoming.

Publications Available from the Policy Center of CPRE

How to Order CPRE Policy Center Publications: To obtain copies of Policy Center Research Reports write: CPRE, Eagleton Institute of Politics, Rutgers University, 90 Clifton Avenue, New Brunswick, NJ 08901-1568. Prices include handling and book-rate postage. (Add \$10 shipping and handling for delivery outside the U. S.) For information on quantity discounts (over 25 copies), call 908/932-1394. Sorry, we cannot accept returns. All orders must be prepaid with U.S. funds from U.S. banks; make checks payable to CPRE. Please allow 4-6 weeks for delivery.

Curriculum and Student Standards

Changes in High School Course-taking 1982-1988: A Study of Transcript Data from Selected Schools and States — December 1991, 72 pp. (No. RR-022) \$12
William H. Clune, Paula A. White, Shirley Sun, Janice H. Patterson

Changes in High School Course-Taking 1982-1988: Complete Data Tables — December 1991, 374 pp. (No. RR-023) \$36
William H. Clune, Paula A. White, Shirley Sun, Janice H. Patterson

Changes in School Mathematics: Curricular Changes, Instructional Changes and Indicators of Change — September 1988, 43 pp. (No. RR-007) \$4
Thomas A. Romberg

Course-taking Patterns in the 1980s — September 1989, 66 pp. (No. RR-013) \$7
Margaret E. Goertz

Curricular Change in Dade County 1982-83 to 1986-87: A Replication of the PACE Study — September 1989, 120 pp. (No. RR-014) \$7
Thomas L. Hanson

The Implementation and Effects of High School Graduation Requirements: First Steps Toward Curricular Reform — February 1989, 77 pp. (No. RR-011) \$5
William H. Clune (with Paula White and Janice Patterson)

Increasing Educational Productivity Through Improving the Science Curriculum — July 1988, 45 pp. (No. RR-006) \$4
Senta A. Raizen

Education Indicators

The Effects of High School Organization on Dropping Out: An Exploratory Investigation — February 1989, 34 pp. (No. RR-012) \$4
Anthony S. Bryk and Yeow Meng Thum

Improving Education with Locally Developed Indicators — October 1987, 24 pp.
(No. RR-004) \$4
Jane L. David

Indicators of Reading Education — October 1987, 25 pp. (No. RR-005) \$4
John T. Guthrie

Standardizing School Dropout Measures — October 1987, 28 pp. (No. RR-003) \$4
Patricia A. Williams

State Education Indicators: Measured Strides, Missing Steps — September 1989, 36 pp.
(No. 239012) \$3.75.
Stephen S. Kaagan and Richard J. Coley (Order prepaid directly from: ETS Publications
Order Service, P. O. Box 6736, Princeton, NJ 08541-6736. Make check or money order
payable to Educational Testing Service.)

Evolution of the Reform Movement

Education Reform from 1983 to 1990: State Action and District Response — December 1991,
68 pp. (No. RR-021) \$12
William A. Firestone, Sheila Rosenblum, Beth D. Bader, and Diane Massell

Issues and Strategies in Systemic Reform — October 1992, 30 pp. (No. RR-025) \$10
Susan H. Fuhrman and Diane Massell

The Progress of Reform: An Appraisal of State Education Initiatives — October 1989, 62 pp.
(No. RR-014) \$7
William A. Firestone, Susan H. Fuhrman and Michael W. Kirst

New Roles and Responsibilities

Accelerated Schools for At-Risk Students — September 1988, 39 pp. (No. RR-010) \$4
Henry M. Levin

The Boston Compact: A Teaching Case — July 1988, 37 pp. (No. TC-001) \$4
Eleanor Farrar

Diversity Amidst Standardization: State Differential Treatment of Districts — December 1989,
31 pp. (No. RR-016) \$7
Susan H. Fuhrman (with Patti Fry)

Resource Materials on School-Based Management — September 1988, 51 pp. (No. RR-009) \$4
Paula A. White

*School-Based Management: Institutional Variation, Implementation and Issues for Further
Research* — September 1988, 42 pp. (No. RR-008) \$4
William H. Clune and Paula A. White

School District Restructuring in Santa Fe, New Mexico — December 1989, 25 pp.
(No. RR-017) \$7
Martin Carnoy and Jean MacDonell

Young Children Face the States: Issues and Options for Early Childhood Programs — May 1987, 76 pp. (No. RR-001) \$4
W. Norton Grubb

The following analytical paper and four case studies on state regulation of education are available as a package at a savings of 25 percent. To order the package of five titles for \$28.50, please specify School Regulation Package (Order #PK-002).

Takeover and Deregulation: Working Models of New State and Local Regulatory Relationships — April 1992 (No. RR-024) \$10
Susan H. Fuhrman and Richard F. Elmore

Kentucky's Program for Educationally Deficient School Districts: A Case Study — April 1992 (No. TC-005) \$7
Patricia Fry, Susan H. Fuhrman, Richard F. Elmore

Schools for the 21st Century Program in Washington State: A Case Study — April 1992 (No. TC-006) \$7
Patricia Fry, Susan H. Fuhrman, Richard F. Elmore

South Carolina's Flexibility through Deregulation Program: A Case Study — April 1992 (No. TC-007) \$7
Patricia Fry, Susan H. Fuhrman, Richard F. Elmore

State Takeover of a Local School District in New Jersey: A Case Study — April 1992 (No. TC-008) \$7
Margaret Dolan

The following analytical paper and the three case studies on educational choice, regularly \$7 each, are available as a package at a savings of 25 percent. To order the package of four titles for \$21, please specify School Choice Package (Order #PK-001).

Working Models of Choice in Public Education — December 1990, 25 pp. (No. RR-018) \$7
Richard F. Elmore

Community School District 4, New York City: A Case of Choice — December 1990, 28 pp. (No. TC-002), \$7
Richard F. Elmore

Educational Clinics in Washington State: A Case of Choice — December 1990, 24 pp. (No. TC-003), \$7
Richard F. Elmore

The Minnesota Postsecondary Options Law: A Case of Choice — December 1990, 38 pp. (No. TC-004), \$7
Doug A. Archbald

Teacher Policy

Building School Capacity for Effective Teacher Empowerment: Applications to Elementary Schools with At-Risk Students — September 1991, 29 pp. (No. RR-019) \$10
Henry M. Levin

Teacher Empowerment and Professional Knowledge — September 1991, (No. RR-020) \$7
Gary Lichtenstein, Milbrey McLaughlin, and Jennifer Knudsen

Policy Briefs Available from the Policy Center of CPRE

Programs for Young Children: State Policy Options (RB-01-10/87)

Graduating from High School: New Standards in the States (RB-02-04/89)

State Education Reform in the 1980s (RB-03-11/89)

Repeating Grades in School: Current Practice and Research Evidence (RB-04-1/90)

Decentralization and Policy Design (RB-05-5/90)

Putting the Pieces Together: Systemic School Reform (RB-06-4/91)

Equality in Education: Progress, Problems and Possibilities (RB-07-6/91)

Keeping College Affordable: A Proposal from Two Economists (RB-08-5/92)

Ten Lessons About Regulation and Schooling (RB-09-6/92)