
13 *Systemic school reform*

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This analytic essay draws on research about the effectiveness of current education policies as well as observations about developing policy systems in a number of states. The chapter begins with several observations about policy and school-level success, examines current barriers to school improvement and proposes a design for a systemic state structure that supports school-site efforts to improve classroom instruction and learning. The structure would be based on clear and challenging standards for student learning; policy components would be tied to the standards and reinforce one another in providing guidance to schools and teachers about instruction. Within the structure of coherent state leadership, schools would have the flexibility they need to develop strategies best suited to their students. The systemic school reform strategy combines the 'waves' of reform into a long-term improvement effort that puts coherence and direction into state reforms and content into the restructuring movement.

Introduction

The past decade has seen a blizzard of reports, federal and state legislation, and local efforts designed to stem the 'rising tide of mediocrity' in US education. Two US presidents have announced goals, tens of governors have anchored their campaigns on educational improvement, and hundreds of thousands of educators and citizens have spent countless hours in reform efforts across the nation.¹ Moreover, investment in education in real dollars has increased, not only from government sources, but from dozens of foundations, some of which have refocused their priorities to allocate funds to education, as well as from major corporations, which have donated millions of dollars to local schools and districts (Hawkins 1990).

Yet, for all of this effort, evaluations of the reforms indicate only minor changes in the typical school, either in the nature of classroom practices or in achievement outcomes (Fuhrman *et al.* 1988, Clune *et al.* 1989, Mullis and Jenkins 1990). For the most part, the processes and content of instruction in the public school classrooms of today are little different from what they were in 1980 or in 1970 (Cohen 1989 and Cohen in this volume, Cuban 1990). While realization of these disappointing results has prompted cries for greater effort and more money from some quarters, many analysts attribute the meagerness of the results to the very nature of early reform efforts, which they characterize as 'top-down' and 'more of the same'. Initiated by forces outside the schools and mandated by state governments, 'first wave' reforms sought mainly to expand or improve educational inputs (longer school day, increased requirements for graduation, better teachers) and ensure competency in basic skills (graduation tests, lock-step curricula, promotional criteria) (Stedman and Smith 1983; Firestone *et al.* 1989). That they did little to produce meaningful gains in learning may not be surprising since they did little to change the content of instruction, to directly involve teachers in the reform process, or to alter the reigning notions of teaching and learning (Cohen 1990, Carnegie Forum 1986, David *et al.* 1990).²

Largely in response to these deficiencies in early reform legislation, a 'second wave' of change efforts began building in the middle to late 1980s. This second wave of reform calls for a fundamental rethinking and restructuring of the process of schooling, not a mere bolstering of the existing one. Decentralization, professionalization, and bottom-up change are key concepts, as reformers focus on the change *process* and on active involvement of those closest to instruction (Carnegie Forum 1986, Elmore 1988, Elmore and associates 1990). In this 'new' conception, the school building becomes the basic unit of change, and school educators (teachers and principals) are not only the agents, but also the initiators, designers, and directors of change efforts. In addition to an emphasis on process, student *outcomes* are also key in this new approach. The principle underlying many of the second wave themes – from school-site management to teacher professionalism to parental choice – is the notion that if school personnel are held accountable for producing change and meeting outcome objectives, they will expend both their professional knowledge and their creative energies to finding the most effective ways possible to do so, relevant to the specific conditions in which they work.

Although the second wave is young and as yet involves only a handful of districts and schools, it has already produced an avalanche of ideas, strategies, and structures. Those involved report optimistically that state as well as local leaders of these initiatives 'have succeeded in stimulating new ways of thinking about change inside schools and about leading, managing, and supporting restructuring efforts' (David *et al.* 1990: 39). Unfortunately, the very strength of this new approach may also be its shortcoming. While reliance on school-based initiative (even that stimulated by states) may be more likely to produce significant changes in classroom practice than have edicts from above, a strictly school-by-school approach makes it difficult to generalize such changes from the small number of initially active schools to the well over 100,000 educational institutions in cities, suburbs, and rural areas across the country. Indeed, analysts have found that in general the schools and teachers who are active in the restructuring movement are those who already have a history of reform experience and interest (David *et al.* 1990).

A second problem is related to the first. Although restructuring literature stresses the critical importance of developing complex problem-solving and higher order thinking skills in our youth, achieving this goal requires a major reorientation in *content and pedagogy* as well as in the structure of the educational enterprise. Perhaps more importantly, it requires a reconceptualization of the knowledge and skills we expect our children to learn, and of the teaching and learning process. This in turn will require that existing elementary and secondary teachers learn, and learn to teach, considerable amounts of new material in the physical and social sciences, humanities, and mathematics. Such a reorientation is not likely to happen on a widespread school-by-school basis among educators who have themselves been schooled in a philosophy and settings that embody fact-based conceptions of knowledge, hierarchical approaches to skill development, and a near total reliance on teacher-initiated and teacher-directed instruction. Site-based management, professional collaboration, incentives, and choice may be important elements of the change process, but they alone will not produce the kinds of changes in content and pedagogy that appear critical to our national well-being (Fuhrman *et al.* 1989, Elmore and associates 1990, Clune 1990, this volume).

The purpose of this chapter is to address these issues of the generalizability and the content of productive and enlightened school reform. We will argue that what is needed is neither a solely top-down nor a bottom-up approach to reform, but a coherent *systemic* strategy that can combine the energy and professional involvement of the second wave reforms with a new and challenging state structure to generalize the reforms to all schools

within the state. We assume, along with current restructuralists, that if we are to significantly alter student outcomes, we must change what happens at the most basic level of education – in the classrooms and schools. However, we see in this process a more proactive role for the centralized elements of the system – particularly the states – one which can set the conditions for change to take place not just in a small handful of schools or for a few children, but in the great majority.

Our discussion is divided into four parts. First, we present a picture of the organizational goal of the reforms: a successful school. This is followed by an analysis of the administrative, governance, resource, and policy barriers to effective schooling in the USA. In the third section, we pose a strategy for transforming the system at all levels – but primarily at the state level – so that it will facilitate rather than inhibit the improvement of schools on a broad and continuing basis. Finally, we relate this strategy to other issues and proposals currently under discussion in the educational reform movement.

A successful school

If our goal is to improve student outcomes and we believe that to accomplish this goal we must change what happens in the school itself, one obvious place to begin a discussion of strategy is with a picture of the kind of schools we would like to see in the future. While personal images of the 'successful school' will differ considerably in detail, both research and common sense suggest that they will have certain characteristics in common. These include, among other things, a fairly stable staff, made up of enthusiastic and caring teachers who have a mastery both of the subject matter of the curriculum and of a variety of pedagogies for teaching it; a well thought through, challenging curriculum that is integrated across grade levels and is appropriate for the range of experiences, cultures, and learning styles of the students; a high level of teacher and student engagement in the educational mission of the school – not just for the high achievers but the vast majority of students; and opportunities for parents to support and participate in the education of their children (Purkey and Smith 1983).

Beyond – or perhaps underlying – these resources available to the student, the most effective schools maintain a schoolwide vision or mission, and common instructional goals which tie the content, structure, and resources of the school together into an effective, unified whole (Coleman and Hoffer 1987, Purkey and Smith 1983). The school mission provides the criteria and rationale for the selection of curriculum materials, the purposes and the nature of school-based professional development, and the interpretation and use of student assessment. The particulars of the vision will differ from school to school, depending on the local context; indeed, one of the goals of 'choice' advocates is to enable individual schools to establish unique identities and purposes (Chubb and Moe 1990, Elmore 1986). However, if the school is to be successful in promoting active student involvement in learning, depth of understanding, and complex thinking – major goals of the reform movement – its vision must focus on teaching and learning rather than, for example, on control and discipline as in many schools today (McNeil 1986). In fact, the very need for special attention to control and discipline may be mitigated considerably by the promotion of successful and engaging learning experiences. For these experiences and this focus to be fully successful, however, new research suggests that they must embody a different conception of content and different pedagogical strategies than those in conventional use (Resnick 1986, Lampert 1988, Peterson 1987).

Finally, the literature on effective schools has found that successful schools have not

only a vision but also an atmosphere – or ‘school climate’ – that is conducive to teaching and learning. Minimally, this means freedom from drugs, crime and chaotic disruptions within the school and a sense of mutual respect among educators and students (Purkey and Smith 1983, Coleman and Hoffer 1987). More positively, it means the construction of a school workplace for teachers and students that both contains the resources and embodies the common purpose and mutual respect necessary for them to be successful. This same literature as well as that on school restructuring further suggests that the common vision and positive school climate can best be promoted by a system of shared decision-making and shared responsibility where the instructional staff, in particular, have an active voice in determining the conditions of work. This might involve shared control not only over how the school is organized in time and space to advance learning and teaching, but also over such things as the hiring of new staff and the expenditure of school discretionary funds.

While other commonalities may exist among successful schools, let us assume that these characteristics – a schoolwide vision and school climate conducive to learning, enthusiastic and knowledgeable teachers, a high quality curriculum and instructional strategies, a high level of engagement, shared decision-making, and parental support and involvement – taken together form the core of the successful school. The obvious question then becomes, why aren't more of our schools like this? Certainly we can all think of a handful, or probably more, of schools that exemplify this quality of education – that have coherent and challenging instructional programs, that genuinely engage all or at least most of their students, and that promote high achievement in their students. Yet these remain the exception rather than the rule in US education.³ Their very existence represents tremendous commitment, expertise, and effort on the part of school and perhaps district personnel. Moreover, even with all that effort, the stability and future of such schools are at base quite fragile. Changes in principal, staff, school population or district policy may serve to undermine a hard-built but nonetheless tenuous foundation. The question remains: why are these schools so exceptional and so vulnerable?

It is our contention that systemic barriers in the organization and governance of our educational institutions inhibit such schools from developing in most areas and serve to marginalize and undermine successful schools when they do emerge. We also argue that even the very best of these schools are not accomplishing what they could do if (a) the organizational environment were sufficiently supportive; and (b) the instructional content were truly directed toward complex thinking and problem-solving. In the next section we discuss the systemic barriers to effective schooling in the USA. Then, in the third section, we present one possible strategy for developing the supportive organizational environment and challenging content needed for the next generation of students.

Systemic barriers to educational change

Most traditional explanations of poor schooling in the USA focus on low standards and inadequate resources. Yet the history of school reform demonstrates that even when standards are raised and more or better resources are allocated, little lasting change occurs in the classroom (Cuban 1984, 1990, Elmore and McLaughlin 1988). Recognizing this, some critics argue that the teaching profession itself is inherently conservative and resistant to change, or that the increasing diversity of the US student population makes broad-based achievement gains unattainable. Of course, such reasoning ignores the exciting examples of creative and successful schooling situated in unfriendly environments among students most often identified as ‘at risk’ for school failure. We present here a somewhat different

perspective on school improvement. We argue that a fundamental barrier to developing and sustaining successful schools in the USA is the fragmented, complex, multi-layered educational policy system in which they are embedded (Cohen 1990, Fuhrman 1990).

This system consists of overlapping and often conflicting formal and informal policy components on the one hand and, on the other, of a myriad of contending pressures for immediate results that serve only to further disperse and drain the already fragmented energies of dedicated and well meaning school personnel. On the formal policy side, school personnel are daily confronted with mandates, guidelines, incentives, sanctions, and programs constructed by a half-dozen different federal congressional committees, at least that many federal departments and independent agencies, and the federal courts; state school administrators, legislative committees, boards, commissions and courts; regional or county offices in most states; district level administrators and school boards in 14,000 school districts (with multiple boards and administrative structures in large systems); and local school building administrators, teachers and committees of interested parents. Every level and many different agencies within levels attempt to influence the curriculum and curricular materials, teacher in-service and pre-service professional development, assessment, student policies such as attendance and promotion, and the special services that schools provide to handicapped, limited English-proficient and low-achieving students.

We do not mean to imply here that structure and regulations are not necessary ingredients for a well-functioning public system. Indeed, we believe that they are absolutely necessary both to create a coherent environment within which schools and school professionals can best perform their jobs and to protect and promote the interests of those most needy in the society. Properly developed and organized, a consistent set of guidelines could create a nurturing structure within which schools could legitimately be held accountable for providing effective education to all students. Indeed, all of the energy currently generated and used by the multiple levels and responsible parties of our educational governance system would be wonderful if it were coordinated (even loosely) and focused on a set of coherent, progressive, long-term strategies to achieve challenging common goals and outcomes.

Unfortunately, it isn't. While there is considerable communication, there is little purposeful coordination. The policy generation machines at each level and within each level have independent timelines, political interests, multiple and changing special interest groups, and few incentives to spend the time and energy to coordinate their efforts. And in the same sea as this governmental octopus are independent for-profit and not-for-profit corporations generating curriculum materials, tests, and teacher and administrator training programs – corporations whose bottom lines are to stay in business or to represent their respective interest groups, not to maximize quality for the majority of students.⁴

The structural convolutions of the formal and informal policy systems are only the beginning, however. Political pressures on new administrators and elected officials to produce measurable or at least memorable results in short periods of time lead to a 'project' mentality. A new classroom management system, an in-service day on the 'left and right brain', a new 'laboratory' filled with computers but little appropriate software, a tougher attendance policy, a new evaluation and accountability office and policy are all familiar concepts to the nation's teachers. Federal and state legislatures often have a similar mentality; there seems to be great political capital in developing 'new' approaches and programs portrayed to address major social problems. Similarly, universities and corporations get into the act – 'adopt-a-school' programs, gifts of computers, time off for employees to teach in schools, all are points of light that blink on and off. Some of these efforts are wonderful, but most are short-lived 'projects', soon to be replaced by a

different 'concept', a new panacea. Though many have a significant effect on the particular school for a short period of time, few leave much of a lasting trace. To many long-term employees of the schools they are properly viewed as marginal and political.

Where does this uncoordinated energy, this short-range perspective, and this multiplicity of purpose lead? On the one hand, they help to produce the overall 'mediocrity' in US education that was criticized by so many observers in the early 1980s. Indeed, the fragmented policy system creates, exacerbates, and prevents the solution of the serious long-term problems in educational content, pedagogy, and support services that have become endemic to the system. Our teachers are badly trained, our curricula are unchallenging, and our schools are inhospitable workplaces. Many of these problems have been the target of periodic reform measures, including those passed in the last decade. Although generally identified as problems of quality or quantity in resources, these deficiencies ultimately must be attributed to the lack of a coherent strategy for allocating the resources we do have or for overcoming problems in both quality and quantity when they arise.

A second result of the fragmentation we have described is to fortify the basic conservatism that exists in any very large governmental system. By and large, educational practice in this country is not very different from what it was half a century ago (Cuban 1990). Teachers 'close their classroom doors' and teach as they were taught. The multiple influences and short-term policy perspective create a protective confusion that allows conventional practice to prevail. When change occurs on a large scale basis it is incremental and reinforces the existing condition. The first wave of reform in the 1980s, for example, can be viewed as 'intensification' of current practice (Firestone *et al.* 1989). The emphasis was on extending the school day, on increasing course requirements, and on greater amounts of testing. The changes were quantitative, not qualitative, in nature.

Similarly, the sweeping movement toward 'basic skills' in the late 1960s through the early 1980s emphasized the teacher-directed, skills-oriented, rote and factually-based curriculum and pedagogy that now dominate schooling in the USA (Smith and O'Day in press). One might argue that the basic skills movement is an example of a successful reform – one for which there was a generally common vision and relatively common practice, a reform which was therefore able to permeate the entire system. This movement, however, was 'successful' precisely because it reinforced the already existing norms of the system, because the teachers were comfortable with the content, because the pedagogical implications were known, because the teacher development institutions did not have to change, because the curriculum materials were easy to develop and market, and because the prevailing assessment instruments were generally appropriate. This comfortable situation allowed many of the different policy components of the system to line up in support of the movement – commitment to the movement did not threaten their domain. In effect, the basic skills movement represented an affirmation of the most conservative elements of the system.

In sum, we have argued that fragmented authority structures and multiple short-term and often conflicting goals and policies have created dual conditions within the present educational system: mediocrity in resources and conservatism in instructional practice. Before suggesting how the system might overcome these problems, we think it important to elaborate how the conditions are reflected – and in fact reinforce one another – in each of the major components of the educational system.

Curriculum

Although varied somewhat in topic and form, the curricula typically found in American schools share certain characteristics. With notable exceptions, today's typical school curriculum contains little depth or coherence, emphasizing isolated facts and 'basic skills' over opportunities to analyze and solve problems (Goodlad 1984, Cohen 1989). Teachers and students alike find the curricular materials uninteresting and unimaginative; and both students and their future employers complain that school learning bears no connection to real-life experience or problems. It is not surprising that such curricula lead to a pedagogy that rarely demands active involvement from the learner: there are relatively few hands-on activities or group activities, few opportunities for cooperative learning, little and generally unimaginative use of computer technology, and little tolerance for activities that do not have a 'right' answer or that demand sustained and imaginative problem-solving.

In part, the poor quality of US curriculum and instructional practice can be attributed to the fragmented policy system described earlier. Consider the development and selection of instructional materials as just one example. Diffuse authority structures and multiple goals within the system foster mediocrity and conservatism both in the publishers' supply of curricular materials and in the demand generated by local educators. On the supply side, publishers respond to the lack of consistency and the market-driven approach to materials development in two ways. First, they attempt to pack all the topics desired or required by different locales into the limited space of the typical textbook. As a result, in content areas like science, literature, and social studies, textbooks end up merely 'mentioning' topic after topic, covering each so superficially that the main points and connections among them are often incomprehensible to the student. In addition, and again particularly in history and social studies texts, publishers deal with conflicting demands and controversial issues by watering down content, evading sensitive areas, and choosing the least common denominator among the various viewpoints. This approach often leaves the student with so little information or context that he or she is unable to construct his or her own analyses or form his or her own judgments (Tyson-Bernstein 1988, Newmann 1988).

These criticisms are not new and a few publishers have made attempts to incorporate greater depth of material and internal coherence into their textbooks. The sad thing is that in the absence of a consistent demand for such change from the majority of educational consumers – i.e., state and local educators – these attempts will remain isolated and short lived. Nor is such consistency in consumer demand likely, given the current fragmentation of the system. Educators must respond to the same conflicting demands and lack of common goals as do publishers. This fact leads many districts, schools, and teachers to unintentionally support and perpetuate mediocrity in content by choosing curricula that are comfortable (familiar), easy to work with pedagogically (fragmented, factual, simple), and that lead to the most manageable classrooms (again, fragmented, factual, easy to monitor).

Indeed, as ironic as it may seem, this situation has actually contributed to the development of a common instructional practice and, as described earlier, a common basic skills curriculum. Many analysts and curriculum scholars have attributed the instructional focus on basic skills to a 'factory model' of schooling, which emphasizes control and easy monitoring of students, and to rigid hierarchical models of learning (e.g., McNeil 1986, Peterson 1989). Such models, they argue, are clearly outmoded, inconsistent with what we know about how people learn, and unable to lead to the type of thoughtful educated citizenry we require. However, while educators and observers have recognized the inadequacies of these models and the curricula they engender and have written extensively

about them, the *fragmentation* of the policy system makes substantial, widespread change in instructional practice and the curriculum virtually impossible.

What is particularly disturbing is that, with regard to the higher-level cognitive goals now proposed, these basic skills models may further disadvantage those students already at risk in our schools. While an emphasis on isolated facts and skills is unlikely to foster complex thinking skills among students generally, less-advantaged students often lack a surrounding environment that helps them fill in the gaps and draw the connections necessary to construct complex meaning in such situations (Peterson 1986). The problem is exacerbated in lower income areas where poor quality curricula combine with low expectations, with the result that many of these students are locked into failure.⁵

Of course, among the over *one million* classrooms in the USA, there are many exceptions to this general pattern. Innovative teachers or schools may experiment with particularly creative and promising curricula and instructional practices, often with considerable success. But as we observed earlier, most innovations find little support within the system and become marginalized or die out altogether. The same is true for large-scale curriculum reform movements such as the 'new math' or the science and social studies curricula spawned by Sputnik. In part, this is because programs developed in one sector (e.g., curriculum) are rarely linked to the extensive necessary changes in other sectors (e.g., the content of wide-scale assessment instruments, in-service and pre-service teacher development).⁶ And we know that if teachers do not understand or do not support particular curricular changes, those changes are unlikely to take hold in the schools.

Professional development

Despite program after program to improve the quality of teacher education, the preparation of educational personnel in the USA remains wholly inadequate. Typically, neither pre-service nor in-service professional development programs are of high quality or are well coordinated with the demands and needs of the K-12 system.

Few elementary school teachers have even a rudimentary education in science and mathematics, and many junior and senior high school teachers of science and mathematics do not meet reasonable standards of preparation in those fields. Unfortunately, such deficiencies have long been tolerated by the institutions that prepare teachers, the public bodies that license them, the schools that hire them and give them their assignments, and even the teaching profession itself (AAAS 1990: 13-14).

The average elementary school student in the USA receives only 20 minutes per day in science instruction (Raizen and Jones 1985). And, in mathematics, where school regulations require specific minimum amounts of instructional time, the content and form of instruction used by most elementary school teachers minimizes the demands on their understanding of mathematics. For example, whereas many students in other industrialized nations receive introductory instruction in algebra and geometry in grades K-8, few of our students are so challenged (Crosswhite *et al.* 1985, McKnight *et al.* 1987). This should not be surprising - teachers, like everyone else, tend to shun tasks that they feel unable to perform well. Essentially, many elementary and secondary school teachers do not have the confidence in their understanding of science and mathematics to enable them to do a creative job. This pattern is repeated for literature, history, and writing throughout the K-12 grades.⁷

These are not new criticisms. Yet, they persevere. Why? For pre-service professional development there are a variety of proposed reasons. One is that the quality of prospective teachers is weak and declining. Teaching is a low prestige and low paying profession, and

women, who once saw teaching as among their few professional alternatives, now have occupational opportunities that did not exist in the past. According to this theory, the solutions are to increase the standards for certification while simultaneously paying new teachers higher salaries, thereby encouraging more talented people to enter the profession. A second reason given is that the content and pedagogy of the curriculum in many schools of education are particularly weak. Critics are especially disdainful of courses that focus on pedagogical strategies. One proposed remedy here includes eliminating schools of education and turning away from pre-service pedagogical training altogether, preferring instead alternative routes to certification. A second proposed remedy focuses on reforming teacher education by limiting teacher training in schools of education to only graduate programs (Holmes Group 1986, Darling-Hammond with Green 1990).

Both these criticisms have some truth and the proposed solutions may have some limited merit. Typically, however, the solutions address the quality of teachers and teaching without consideration of the overall context. For example, raising beginning teachers' salaries to be more competitive with other professions does appear to attract higher scoring candidates and to increase their length of stay in teaching (Murnane and Olsen 1989, 1990). However, while such increases may enlarge the pool of prospective teachers somewhat, they do not guarantee that incoming faculty will have the kinds of knowledge and skills required in today's schools. Moreover, if the demand is for teachers with particular knowledge or expertise – such as science and mathematics – across-the-board salary increases turn out to be a very costly solution that may not sufficiently alter the supply in the desired direction (Levin 1985).

With regard to the second set of proposals, eliminating schools of education and pre-service pedagogical training in favor of alternative certification strategies has unknown merit – we do know that pre-service pedagogical training is even more extensive in other nations than ours, nations such as Japan where students achieve at higher levels than in the USA (McKnight *et al.* 1987). Concentrating teacher training at the graduate level might be a strategy to raise the prestige of teachers, but judging from existing data, it offers little promise of a major change in their effectiveness (Smith and O'Day 1988). Finally, none of these strategies addresses the lack of content knowledge of many prospective teachers.

An alternative approach to the problems in professional development emphasizes the lack of fit between what prospective teachers are taught and are expected to know, on the one hand, and the knowledge and skills they need to perform their jobs, on the other. This disjuncture between teacher knowledge and teaching practice begins with the entrenched condition of teaching in the nation's post-secondary system. Most of the nation's teachers learn the content of the disciplines in the arts and sciences schools apart from the schools of education within colleges and universities. The courses offered in these settings are not designed for people who will need to teach the disciplines to elementary and secondary students in the future, and they are typically taught in a lecture style, fact-oriented fashion that works only because the students know they need to pass the course to move their life ahead. In many of the larger post-secondary institutions, courses in mathematics, science, and history typically have examinations with short answer questions that can be graded by machine, while literature courses require papers of only a page or two. Thus, neither the content nor the pedagogy of the higher education institutions serves to prepare future teachers well. This is a particularly difficult problem to address because there are no incentives for professors in many colleges and universities either to alter their teaching approach or to teach courses designed to meet the needs of future K–12 teachers.

The colleges and universities are not solely to blame for this situation. As many critics

have pointed out, the licensing and certification systems used by the states typically represent a weak attempt to ensure that prospective teachers have the knowledge of content and skill in pedagogy to do an effective job in the classroom. Indeed, there is often little planned relationship between the content and skills required of prospective teachers and the curriculum of the schools. Part of this, of course, is due to the fact that there is no common curriculum beyond the emphasis on basic skills. The most widely used examination, the National Teachers Examination, has no predictive validity. Its face validity is predictive on the argument that its content is derived from current practice and is broad enough in scope to be representative of practice in all of the states in the Union. However, basing the content on current practice is inherently conservative, for it reinforces and legitimizes contemporary mediocrity. Moreover, creating a test with a content so broad (and consequently, shallow) that it is not inappropriate for any state or district surely makes it practically valueless for all of the states and districts (Smith and O'Day 1988, Haertel 1987).

The in-service professional development situation is little better than the pre-service training. One reason for continuing education is the requirement that individual teachers have to obtain a certain number of graduate credits over a period of time to maintain their job and to receive salary increments. After tenure is reached, obtaining a few credits every few years is often the only educational hurdle teachers must clear to keep their positions. Because of scheduling problems and a lack of coordination between higher education institutions and K-12 school systems, the courses teachers take for individual development and advancement are typically badly coordinated with the demands of the teachers' jobs. Their content often depends more on the intersection of the teachers' schedule and the interests of professors in the local higher education institutions than on the needs of their K-12 students.

Other professional development experiences are organized by the school or district and are generally more closely attuned to the specific needs of the schools. These sessions, however, are severely limited in scope and duration, frequently lasting a day or less only once or twice a year. Only rarely are they of sufficient depth and scope to give teachers the experience necessary to make major changes in their approach to instruction. Too often, these experiences are focused on a new innovation or technique which bears very little relationship to the curricula of the schools. Even when the development activity is directly related to the introduction of a new curriculum, the training generally suffers from a lack of depth and time. Perhaps as a consequence of these badly organized experiences, conventional professional development programs show few positive and lasting effects. And, even more damaging to prospects for productive change, the federal, state, and local budgets for in-service professional development are tiny and extremely vulnerable to budgetary constraints (Guskey 1986, Little *et al.* 1987, McLaughlin 1990).

We do not want to leave the impression that there are no productive in-service experiences. The reports from tens of thousands of teachers who have been to NSF summer institutes in mathematics and science, from the many teachers who have participated in groups such as the Bay Area Writing Project, and from many of the teachers who have used teacher centers all over the nation attest to the power that in-service experiences can have on individual teachers. One key to making these experiences successful has been that they are focused on content that is relevant to the teachers' classrooms and on ways of presenting that content; another is that they are often of sufficient length to be a powerful intervention. Unfortunately, in many instances of powerful individually-oriented in-service experiences, the teachers return to an environment that is not particularly supportive of new curricula or methods of teaching.

This has led some schools to develop an alternative strategy in which the entire faculty of the school or of a particular department in the school will participate collectively in an in-service training experience of their own choosing, based on their particular curricular needs. There is some evidence that such a strategy, which combines the attributes of collective decision-making by the teachers with a focus on relevant content, has a positive effect on student achievement (Purkey and Smith 1983).

Accountability assessment systems

Accountability assessment systems in the USA suffer from a variety of problems. One is that many of our policymakers and educators are hopelessly confused about the purposes of testing in the schools. Different parts and levels of the system use the same assessment instrument for different and often conflicting purposes. In this chapter we are most interested in the use of assessment as an instrument of accountability to gauge the quality of schools and school systems, not in the more directly pedagogical uses of tests to diagnose, assess, and guide the progress of individual students, or in the use of tests to evaluate particular programs or projects. Each of these uses is important, but it is critical to keep the distinctions among them clearly in mind for, more often than not, the same instrument or instruments should not be used for multiple purposes.

Another problem is that the lack of a common curriculum within most states and many districts makes it impossible to construct a broadly-used, valid accountability assessment instrument. If the content of the curriculum purposefully varies across jurisdictions, so logically should the assessment instrument that is intended to assess how well the school or district meets their curricular purposes. Though there is no commonly adopted curriculum, most states and school systems are heavy users of one or more of a small set of norm-referenced, multiple choice, standardized tests – tests that each purport to be appropriate for most variations of curriculum.⁸

A final issue is that many school people take seriously their school's and district's performance on the standardized tests and use it as a gauge of the quality of their instruction. Schools often use individual test performance for student placement, while districts and states use aggregate student performance for school and system accountability. Thus, the tests have high stakes, not only for students but also for teachers, schools, and system administrators. As a consequence, teachers – generally with encouragement and even pressure to do so – will frequently adjust their teaching to improve test scores, not by teaching the subject matter in more creative and productive ways but by tailoring their instruction to the form and nature of the standardized tests (Fredericksen 1984).

Such an influence might be productive if tests were constructed to measure complex thinking and problem-solving and thus served to move curriculum and instruction in the direction of developing these skills. Of course, this would require that teachers know and be able to teach the content and skills assessed by the tests. Indeed, challenging tests or examinations used for accountability purposes might be a particularly powerful intervention if teachers had the content and pedagogical knowledge, the curriculum materials, and the support services that would enable them to 'teach to the challenging tests'. In the absence of such knowledge and materials, however, the gap between the content of the tests and the capacity of the teachers to teach the content could be extraordinarily frustrating and possibly counterproductive.

At present there seems to be little overall conflict between the capacity and pedagogy

of the teachers and the content of the tests. In general the most commonly used assessment instruments, like textbooks and other curricular materials, are designed to reflect the least common denominator in a fragmented and ill-structured system. Standardized, norm-referenced tests are developed to be so broad and general that they can assess learning across a wide range of curricular purposes. Their form emphasizes broad coverage of unconnected facts, and the ability to work very quickly on multiple choice, limited time-span, unrelated problems that have only one right answer. It is therefore not surprising that apparently substantial and progressive changes in curriculum produce little effect on such tests or that scores may be more accurate indicators of social class background than of what is actually learned in the classroom (Hawley 1984, Fredericksen 1984, Resnick and Resnick 1985, Archbald and Newmann 1988).

Over the past 20 years many states have tried to address these inadequacies by adopting a second form of assessment instrument: criterion-referenced, minimum competency examinations. While these tests are developed with a clear curricular conception, they typically contain many of the same problems in form as the standardized norm-referenced tests, and they have the additional problem of focusing only on very low level skills and standards. Thus, they cannot appropriately be used to assess the overall curricular aim of a school, if the school has one. Instead, for very low-achieving students, schools often focus their instruction on the content of the minimum competency tests, thereby reinforcing their already low aspirations for these students.

The main point here is that both types of tests exist, in part, because of a lack of coherence in the curricular policy of state and district school systems. Standardized norm-reference tests, with their general all-encompassing nature, are used for accountability purposes because there is no common set of curricular goals among schools and systems; criterion-referenced, minimum competency tests are based on such restricted and elemental sets of curricular goals that it is easy to imagine that all districts and schools could meet their demands, as has been the case in Florida and Virginia. Moreover, both tests, when used for accountability, serve to reinforce an instructional emphasis on facts and skills rather than problem-solving and performance in meaningful situations. The multiple choice and timed format reinforces quickness and recognition rather than thought and recall. These tests thus fortify the tendency of the system to be conservative and mediocre. Indeed, with a few exceptions, such as the Advanced Placement exams, the International Baccalaureates, and the New York Regents, there are no widely-used examinations in this country which either clearly assess curricula in a rich form or stand as a serious intellectual challenge for the student.

Support services

A critical element of the second wave of reform is the issue of how to enhance the professionalism of teachers. Sykes (1990) argues that professionalism will be enhanced as teachers are given more and greater control over resources within their schools.⁹ Certainly, it will be impossible for major changes in the quality of schooling to take place if the quality of teacher workplaces continues to be as shabby as now.

This issue has a variety of dimensions. First, there are few resources and services in the system to develop, support, or maintain professional creativity and commitment. Few schools have libraries for teachers, few offer time off for reflection and development of new ideas for teaching, few provide serious support for new teachers, few provide the means by which teachers can experiment with new ideas. On a more mundane level, many schools –

particularly those in areas with high concentrations of poor people – are terrible workplaces. Teachers have no space to meet and talk with other professionals, no or very little access to telephones, few if any photocopiers to reproduce class materials. When papers, books, and pencils are missing, teachers must go without or supply these materials from their own resources, often receiving little respect or reinforcement from their supervisors for their efforts. Generally teachers do not have a private place outside of the classroom to meet with parents, and there is no place for parents to meet and talk or to wait during the school day.

The extraordinary thing about these conditions is that it would take very little money to overcome them in most of the schools in the nation. The only really costly item would be time off for reflection and development of new ideas. The remainder primarily require creative and energetic leadership on the part of principals and central office staff. Unfortunately, instead of basing their actions on what will maximize the quality of schools and on principles of good administrative behavior, principals and district administrators often fall back on rules and regulations to rationalize the status quo.

Frustrated high expectations for creative work in such a difficult environment lead many educators to focus on survival. Ironically, the fragmentation of the system actually assists in this effort by operating as a kind of filter, protecting teachers from some of the otherwise deafening policy noise. Of course, policy demands do get through, often in a form that is both incoherent and divorced from the needs and context of the teacher. It is not surprising, under these conditions, that many teachers simply close their classroom doors and do their own thing. Nor is it surprising that even widely acclaimed reform efforts have little long-term effect on classroom practice. Educational institutions have truly become ‘loosely coupled’ systems in which instructional practice is only weakly tied to organizational policies, and the system as a whole remains conservatively bound to the processes and content of the past.

If the new reform movement is to have a lasting effect on what happens in the classroom, it will thus have to overcome the current fragmentation of the system and provide a coherent direction for change and the resources to accomplish those changes. The next section discusses one possible strategy for such systemic reform.

A strategy for systemic reform

We suspect that there are many possible paths to a coherent, productive, and progressive educational system. The one we present here seeks to combine the vitality and creativity of bottom-up change at the school site with an enabling and supportive structure at more centralized levels of the system. While recognizing that change must occur at all levels of the system and that the ultimate goal is to transform what happens at the school and in the classroom, we have chosen for the purposes of this paper to focus most of our attention on the role of the state apparatus in this process. We do so for several reasons.

First, most of the current restructuring literature focuses exclusively on the school and district levels of the system. When states are mentioned at all, it is usually in the context of providing waivers from various regulations currently in force. Yet, if we wish to influence more than a few schools or districts at a time, the state is a critical actor. Second, during the past 20 years, most states have gradually amassed greater authority and responsibility over their educational systems as their share of the educational budget has risen, as the economy and productivity of the state have been seen to be more and more dependent on its educational system, and as issues of equity and fairness in the distribution

of resources and services among districts became an important part of the nation's agenda.

Finally, the states are in a unique position to provide a coherent leadership, resources, and support to the reform efforts in the schools. States not only have the constitutional responsibility for education of our youth, but they are the only level of the system that can influence all parts of the K-12 system: the curriculum and curriculum materials, teacher training and licensure, assessment and accountability. In addition, the states, at least in theory, could productively affect the way in which the state system of higher education might operate to help the K-12 educational system. Finally, because of the size of the markets they represent, the states are also in the best position to effectively leverage other aspects of education that are outside the system itself, such as textbook and materials development.

We do not mean to suggest that such leadership will come easily to all or even to most states. The nation's tradition of local control had often led to passive, conservative behavior by state departments of education. Party politics and conflicting agendas in state legislatures and governors' offices often impede collective action. And states differ considerably in their technical capacity to implement many of the suggestions we make below. Yet there is a basis for optimism. More and more, policymakers are beginning to understand the interconnectedness of the system, and cooperative endeavors such as the Council of Chief State School Officers and the Educational Commission of the States provide mechanisms for sharing technical resources among states of varying capacity.

A unifying vision and goals

In order for a state to fulfill this unique role – that is, for it to provide a coherent direction and strategy for educational reform throughout the system – it must have a common vision of what schools should be like. Any vision will have a variety of facets. One straightforward conception is that all of our children should be able to attend a 'successful school', in the terms we described earlier. Another view of the vision suggested here is that schools within a state should operate within a coherent set of policies and practices that encourage and support a challenging and engaging curriculum and instructional program. State vision statements would clearly go far deeper than these general statements.

It is important to emphasize that underlying any coherent conception will be important sets of values. We see two such sets of values as particularly significant. One set is the collective democratic values critical to our society: respect for all people, tolerance, equality of opportunity, respect for the individual, participation in the democratic functions of the society, and service to the society. A second set has to do with the tasks and attitudes of the teacher and learner – to prize exploration and production of knowledge, rigor in thinking, and sustained intellectual effort. We believe that these values already exist in a latent form in the minds of most Americans, and especially teachers, when they think about the educational system. But they need to be awakened and to permeate and guide the system and the schools. Held in common, these values can help nourish and sustain over time environments in the schools that can intellectually stimulate and engage ALL children in the way that we should expect. The crisis rhetoric that has prompted many of the recent reforms often has not been productive in this regard. It has instead fostered project-oriented, 'magic bullet' solutions that satisfy immediate political ends, without substantively changing the core of the educational process. The new reforms must cut deeper; to do so they need to be derived from a deeper system of shared beliefs.

Broad conceptions and values, however, will not be enough. We need goals that can be communicated and measured if we are to mobilize the political support necessary to sustain the reforms over time. A carefully selected set of goals and a related system of indicators would give those within the system and the general public a sense of purpose and direction and a basis on which to evaluate progress. Some of the goals could address desired changes in the nature or quality of educational inputs, such as the quality of the teaching force or of the curriculum used in the schools.

Other (and we argue more powerful) goals would be those related to students. Statewide student outcome goals may be an extension and particularization of the national goals developed recently by the governors. They could cover more than academic achievement, including such things as ensuring school readiness, developing students' self-worth and promoting collective responsibility. We believe that the goals should focus primarily on the core functions of the system; that is, on teaching and learning. To meet the demands of the future, however, they must go well beyond the 'basic skills' goals of the 1960s, '70s and early '80s. They must provide a standard that challenges the public and the educational system to prepare our youth to grapple thoughtfully with those problems that defy algorithmic solutions and to be skilled and confident learners in school and later on. Moreover, the goals and indicators must address not only the average level of opportunity and student achievement in the state but also the variation. Justice requires that the goals of the state promote equality as well as quality.

Given an agreed upon direction for reform, we suggest a two-pronged approach for attaining the established goals. The first prong of the strategy is to create a coherent system of instructional guidance, the purpose of which is to ensure that all students have the opportunity to acquire a core body of challenging and engaging knowledge, skills, and problem-solving capacities.¹⁰ Implementing this will require overcoming the fragmentation of the system through coordinating three key functions affecting instruction: curriculum, pre- and in-service teacher training, and assessment. The actual coordination of these functions, we argue, can best be handled on the state level, but it must be linked to the second prong of the strategy: an examination of the responsibilities and policies of each level of the governance structure so that all levels operate in support of each other and of the implementation of the reforms.

A coherent system of instructional guidance

The first step in developing a coherent system of instructional guidance is to work toward agreement on what students need to know and be able to do when they leave the system. The second is then to maximize the probability that all or most students will acquire the desired capacities by ensuring at the very least that they have the opportunity to do so – that is, by ensuring that students are exposed to the requisite knowledge and skills through the highest quality, most appropriate human and material resources possible. For the statewide instructional guidance system to work would thus require coordination among state curriculum frameworks, the more specific curricula of the schools, pre-service and in-service professional development and teacher certification, and system level assessment and monitoring mechanisms. Each of these aspects of the system is discussed briefly below.

Curriculum frameworks: The basic drivers of the instructional guidance system would be curriculum frameworks which set out the best thinking in the field about the knowledge,

processes, and skills students from K-12 need to know. The frameworks would be developed for at least the core curriculum areas: reading and language arts, English, mathematics, science, social studies and history, foreign languages, and the arts. The frameworks must provide a viable and compelling alternative to the 'basic skills' fact-based orientation that is the norm in US schooling today. They should emphasize depth of understanding, knowledge construction through analysis and synthesis of real life problems, hands-on experiences, and the integration of content and pedagogy. Highly-qualified teams of teachers and disciplinary experts should develop the frameworks which should then be continually updated and reviewed by similarly qualified expert panels. Possible prototypes for such frameworks are already being developed in mathematics by the National Council of Teachers of Mathematics (NCTM), the Mathematics Board of the National Research Council (NRC) and the National Assessment of Education Progress (NAEP), in the sciences by the American Association for the Advancement of Science (AAAS), in reading by NAEP, and in these and other areas by the departments of education in several states.

It is important to distinguish the notion of core curriculum *frameworks* from the more specific curricula actually taught in the schools and classrooms. The purpose of the frameworks is neither to legislate a particular pedagogy nor to specify short-term curricular scope or sequence. Rather, the frameworks should set out desired intellectual curricular themes, topics, and objectives in sufficiently long-range chunks (e.g., four-year blocks) to allow for a maximum of flexibility and creativity at the local level while still establishing the clear instructional direction and goals for the system as a whole. One aspect of this flexibility may be to open the door for more depth in areas of local choosing. For example, if the elementary science framework is organized around 30 great ideas in science, each student by the end of the eighth grade may be expected to have a general acquaintance with 15-20 of these with some greater depth in the remaining 10-15. Schools may choose the areas for deeper coverage based on local conditions, resources, and interests.

California is illustrative of a state that has already developed quite progressive curricular frameworks in a number of areas. These frameworks set out the expectations that teachers, business people and professionals in the field (historians, scientists, mathematicians) have for the content that K-12 students should all learn. Unlike the minimum competency requirements of the 1970s, these expectations reflect the problem-solving and higher-order thinking requirements proposed by the many recent reform reports. The frameworks do not detail a day-to-day, a week-to-week, or even a month-to-month curriculum for teachers to follow. Instead, for the most part, they describe the knowledge, skills, and attitudes expected of students at the end of certain periods of time, such as fourth, eighth, and eleventh grades.

The frameworks should provide a structure within which to organize the other important educational components. Teacher professional development programs, in-service and pre-service, and teacher licensing standards should be designed to insure that the teachers are well prepared to teach the content set out in frameworks. Textbook and curricular material used in the schools should be congruent with the curriculum frameworks. Test instruments used to assess pupil progress and to hold schools and teachers accountable should reflect the content of the frameworks. In short, the frameworks should provide a way of organizing a coherent instructional guidance system.

Two critical conditions are necessary to ensure that the system works to help provide high quality instruction. The first condition is that the frameworks are of the highest quality possible and that they are continually and carefully improved. The frameworks

should embody an integrated, challenging, and engaging conception of the subject matter of the schools. If they are of sufficiently high quality, we believe that they would command the respect and enthusiasm of capable teachers. The second condition is that local school personnel are given the freedom within the framework to interpret and implement instructional strategies that most effectively meet the needs of their students. As with the International Baccalaureate, the state frameworks would set out the general content and skills that students need to know, but it would remain the job of local school personnel to decide how best to organize and teach the material.

School curricula: The states must provide sufficient support to ensure that schools and districts have both the flexibility and support they need to construct strong and locally responsive curricula within the structure provided by the state content frameworks. Schools must have the ultimate authority to select and/or revise and develop curricular materials best suited to their students and teachers. However, the state has both the responsibility and the potential leverage to ensure that there is an adequate supply of high quality textbooks and other materials that are in line with both the letter and the spirit of the state curriculum frameworks, so that teachers in every school or district do not have to reinvent the wheel for every subject and every grade.

There are a number of mechanisms available to the state to stimulate the supply of high quality instructional materials. One is to establish a statewide adoption system that emphasizes both quality and coordination with the frameworks. States would then – either singly or in conjunction with other states with similar frameworks – stimulate and/or require textbook publishers to meet those guidelines. A number of states already use this approach, but in our view they need to be much tougher and more rigorous than they are now; textbook manufacturers can and should be held to higher standards of quality and coherence. The state could also try to stimulate a cottage industry to provide imaginative innovations for teaching the core concepts, popularize particularly successful local endeavors, and encourage the development and use of technological software – computer, video, and multi-media – in support of the frameworks. The local districts could choose from among these resources although schools and districts could also be free to select or develop alternative curricular materials as long as the outcome objectives are being met.

Professional development: States must ensure that both new and practicing teachers have the content knowledge and instructional skills required to teach the content of the frameworks. This means, for example, that elementary school teachers will need to know well *and* know how to teach the mathematics, literature, science, reading, and history that are set out in the curriculum frameworks for K–6 or K–8 students. At the high school level teachers must know well *and* know how to teach the content set out in the frameworks in the subject matter areas they are expected to teach. The key here is that the curriculum frameworks operate to structure what we minimally expect teachers to know and be able to teach as well as what we expect students to learn. In most states this would require drastically reforming the pre-service and in-service professional development systems. These systems must provide an adequate foundation both in the content set out in the subject-matter frameworks and in a variety of pedagogical strategies for facilitating student acquisition of that content.

Pre-service professional development: The low quality of pre-service teacher education has proven to be one of the most intractable problems in the entire educational system. Critics

find lacking both the subject matter training, generally the responsibility of schools of arts and sciences, and the pedagogical and professional training, the responsibility of schools of education. Prospective elementary teachers are seen as underprepared in the disciplines and badly served by non-rigorous pedagogical and professional training. Prospective secondary teachers are viewed as too narrowly trained in their content fields and as having only limited opportunities to obtain training in instructional strategies. For both elementary and secondary prospective teachers, the supervision of practice teaching is seen as weak. Finally, in general, the teaching of undergraduates is seen as unimaginative and pedantic, thereby providing a poor model for the future teachers.

Over the past decade a substantial number of schools of education have initiated changes in their curriculum and requirements, but few have succeeded in establishing their programs as exemplary courses of instruction. Beyond the individual campuses the formal attempts to improve the quality of teacher training typically depend on the regulation of inputs. Neither state regulation of required courses nor the efforts of independent program certification agencies like NCATE has had much effect on the content or form of pre-service education.

The most optimistic signs of improvement of teacher preparation come from efforts of the teacher preparation profession, such as the Holmes group. These ventures have had success in raising the quality of discussion and in encouraging member institutions to conduct self-examinations and often to alter their programs to provide more rigorous training in the content and pedagogical areas and in practice teaching.

To date, however, teacher preparation reforms proposed by the professional groups and most others have conformed to the traditions of many higher education institutions. They have thus been fiercely independent of educational reforms at the K-12 levels. We know of no major national reform effort that has deliberately addressed the substantive needs of teachers beyond listing general course and degree requirements. Even in a state such as California, where there are well specified curriculum frameworks for grades K-12, there is little formal linkage between the content of the frameworks and the state's requirements for teachers.

Given this independence of higher education from K-12 education, we suspect that the main leverage for improving pre-service education is likely to come not from attempts to regulate pre-service higher education requirements but from the state's authority to screen and credential new teachers. In the context of the systemic reforms proposed here, the goal is to ensure that teachers come out of teacher preparation institutions with at least the knowledge and capacity to teach well the content set out by the state frameworks.

The cleanest way to do this from a policy perspective is to establish what teachers need to know and be able to do and then to assess for licensing purposes their ability to use this knowledge and competence. We are not suggesting a higher passing level on the current or future NTE. We are suggesting a strong, progressive, carefully developed performance assessment, one based primarily on the state's K-12 curriculum frameworks and designed to evaluate the prospective teacher's knowledge both of content and of multiple pedagogical strategies for teaching the content to students of varying abilities and backgrounds. We are also suggesting the establishment of standards that are sufficiently challenging to ensure that those who pass have at least the content and pedagogical knowledge required to be a successful teacher. We come to these suggestions reluctantly, for we would rather rely on the good will and commitment of the higher education institutions and the professional community to reform teacher education than on the blunt instrument of outcome accountability.

Nonetheless, such a strategy continues to place a great deal of authority and

professional discretion in the hands of higher education institutions, both the faculties of arts and sciences and of education. Our strong sense is that, if enacted, the strategy would result in increased standards and requirements for prospective teachers. We would expect prospective teachers to have the experience of delving deeply into content through a disciplinary major, while also having a broad enough academic experience to be able to teach competently in the other areas of their future responsibility. We would also expect many institutions to alter their courses and perhaps even their own pedagogical approaches to help insure that their graduates succeed on the new state licensing examinations.

In-service professional development: In-service professional development must be a key component of the overall instructional guidance system for two reasons. First, there is no question that the majority of the current teaching force has been inadequately trained in at least some of the areas of the frameworks for which they would be responsible. Since most of these teachers will remain on the job during and after the implementation of the new frameworks, they will need to acquire the knowledge and expertise necessary to teach adequately the new content. Second, a well-designed professional development system, based on building networks of teacher cadre and trainer-practitioners, can serve another less obvious function in the system. It can foster both the knowledge base and the leadership experience necessary to help empower the teaching force, thus further liberating the initiative and creativity of 'bottom-up' reform.

While the state cannot simply establish such a system, it can encourage its development by influencing both the supply of and demand for in-service programs and materials that are of high quality and meet specifications derived from the curriculum frameworks. Furthermore, the state could work from a systematic, long-range plan to reach and retrain all of the teachers within the state, and to develop and maintain a viable in-service professional development system. We would imagine that a strong system would have a coherent set of opportunities, both for the development and refinement of individual teachers and for working on improvement strategies with groups of teachers such as high school departments or the entire staff of elementary schools.

To influence the supply of quality professional development programs and materials, states can allocate resources either directly into program development or into incentives for independent organizations and sub-units to generate such programs. For example, incentives may be given to universities, museums, libraries, and other non-profit educational groups to develop programs tied to the frameworks or to districts and schools to establish professional development schools, teams of trainers, and so forth. The state could provide incentives and resources to develop a cadre of practicing teachers in the schools who could serve as lead teachers, mentors, and in-service trainers to assist other teachers in mastering the content required by the frameworks. Special funds for professional development should be available for individual teachers and sets of teachers for particularly innovative ideas related to the core curriculum and for areas outside of the core curriculum including human development. Finally, the state could require any professional development programs supported by federal funds to be fully coordinated with the frameworks.

States can also influence teacher demand for and use of professional development opportunities in a variety of ways. For example, if teachers and schools are held accountable for improving student outcomes on assessment instruments that are based on the frameworks, it behooves the teachers to be knowledgeable in the relevant areas of the frameworks and in effective pedagogy. Another available tactic might be to use the state licensing system to encourage professional development. For example, after a set period of

time following the institution of the frameworks (e.g., five years), the state might require that all teachers (both practicing and new) pass a state licensing exam based on those frameworks.

This short discussion does not do justice either to the importance of this area or to the substantial institutional changes in schools and universities required to create effective continuing professional development systems within states. A great deal of inertia and skepticism will have to be overcome. Our belief is that productive and substantial improvement is extremely unlikely in the present fragmented and ill-structured policy environment. By contrast, the kind of coherent and systemic reform strategy we have suggested here could provide the structure and purpose necessary for states, universities, and local education agencies to work together to develop a progressive and high quality continuing professional development system.

Accountability assessment: States must construct and administer high quality assessment instruments on a regular basis to monitor progress toward achievement goals for accountability purposes and to stimulate and support superior instruction. The new state assessments, like the teacher training systems and the curriculum, would be based on the state curriculum frameworks. The purpose of the assessments would be to provide information about the progress of the state, districts and schools in achieving the goals established by the state. These data would also be used to hold the various parts of the system accountable and to help stimulate curricula and instruction in the schools to achieve the state's instructional goals.

In most states the approach to assessing student outcomes will have to be completely overhauled if the instructional guidance system is to operate effectively. The rhetoric in the US is that we demand educational accountability of our schools and that student achievement tests are the central measures by which we should hold teachers, principals, and superintendents accountable. In fact, we do a terrible job of holding anyone accountable. In the typical situation, facing falling test scores, our local and state policy makers threaten, cajole, re-emphasize 'basic skills', and adopt a new program as a panacea. Occasionally, a principal or superintendent is removed as a scapegoat, but rarely is the system altered in any significant fashion. In the worst cases, the pressure to demonstrate improvement leads some educational personnel intentionally or unintentionally to manipulate the accountability system. For example, school, district, and state administrators may delude themselves and the public with bogus test scores increases generated by using precisely the same tests year after year.

Much of the reason, we suspect, for this unproductive behavior is that most school people and much of the public realize that it is impossible for assessment instruments to truly serve a monitoring and accountability function unless they measure what the schools are actually supposed to teach. Yet, as we argued earlier, this is not the case in the US. The main accountability instruments used in most places are standardized norm referenced tests, which are purposefully divorced from the curricula of the schools. To a substantial degree this problem would be eliminated in states that adopted the kind of content-driven systemic reform strategy proposed here. The assessment instruments would be constructed to measure student achievement in the content set out in the state curriculum frameworks. In this regard the form of the new assessments, which would replace the old accountability instruments, would be much like that of the International Baccalaureate or Advanced Placement examinations.

Another criticism often raised of current accountability assessments is that schools, teachers, and students become overwhelmed by all the testing. One way to prevent this

from happening while also providing for adequate monitoring of the system would be to give the examinations at three levels – say at the fourth, eighth and eleventh grades. The information from these assessments would feed back to the system, and local districts and even schools could be held accountable for the results. Systems and schools could, for example, be responsible for demonstrating either an across-the-board high level of achievement for their students or a steady growth over time in that achievement. Assessment for accountability could also be combined with incentive measures for meeting or surpassing objectives.¹¹

It is important to note that the purpose of the examinations will affect the way in which they are administered. If the principal purpose is to hold institutions (schools and systems) accountable, the burden of testing could be reduced by assessing samples of students, rather than the entire population of the three grade levels. If there are student related purposes in addition, however, such as to motivate students to study by making examination results important to their futures, then the entire population of a grade would have to be assessed. The issue of whether to make such examinations have ‘high stakes’ for students, as they do in many other economically developed nations, is too complicated to address in this paper. High stakes imply that student opportunities would be influenced by their performance on the examinations. This poses major tradeoffs, it seems to us. On the one hand are the gains that might be accrued by having examinations that motivate students to study. On the other hand, the flexibility and second chances that characterize the US educational system might be jeopardized by a system of high stakes student examinations.

Whichever decision is reached by states about the role of the examinations in individual student lives, a major reform in the assessment systems along the lines we have described is critical to education.¹² Assessment instruments are not just passive components of the educational system; substantial experience indicates that, under the right conditions, they can influence as well as assess teaching (Fredericksen 1984). While current standardized and minimum competency tests reinforce teaching toward an emphasis on isolated facts and basic skills, state-of-the-art examinations based on well-designed curriculum frameworks, could help encourage instruction toward higher level goals: depth of knowledge, complex thinking, an ability to respond to problems and to produce results. Examinations, designed to assess the content of the curriculum frameworks, could foster this goal by giving teachers and schools a clear idea of what they should be striving for and a way to monitor their success in getting there. Thus, if students taking a science examination are expected to produce science – that is, to write, to analyze text, to manipulate the necessary tools, to solve problems – teachers are more likely to emphasize these capacities in their classes. This, of course, assumes that the teachers have the necessary content and pedagogical knowledge to do so, but as stated earlier, student assessment can also motivate teachers to seek out relevant knowledge through appropriate professional development opportunities. In addition, allowing for choice among examination questions, as in the current AP examinations, would allow for variation in school program, teacher expertise, and student interest.

A restructured governance system

Much of the current literature on school restructuring and teacher professionalism is based on the notion that centralized policies regarding curriculum and instruction generally serve to undermine the school personnel’s sense of authority over their own program. In posing the need for a coherent state system of instructional guidance, we recognize the

tension that exists between centralized policy decisions on the one hand and professional discretion on the other. We argue, however, that if states can overcome the fragmentation in the system by providing coordination of long-range instructional goals, materials development, professional training, and assessment, they can set the conditions under which teacher empowerment and professionalization, school site management, and even parental choice can be both effective and broad-based. Indeed, what we propose is an interactive and dynamic relationship between 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. One way to picture this relationship is through the analogy of a voyage. The state, through the curriculum frameworks and in consultation with teachers and district personnel, provides a description of the ultimate destination of the journey. Teachers and other school people then have the primary responsibility to chart the course, assemble the necessary provisions and crew, and pilot the ship. Should the state attempt to take over from a distance the steerage of the vessel, it is likely to run aground, never reaching its goal. The state may assist, however, by helping to ensure the availability of high quality provisions, accurate navigational equipment, and a well-trained and capable crew. Such is the intent of the instructional guidance system proposed in the previous section.

The governance structure, then, should define the responsibilities of the various levels in the system in order to ensure that the changes sought in the content and outcomes of instruction are actually manifested in classroom practice. Since the success of this enterprise depends ultimately on what happens in the school, we take the school as the starting point in the governance structure and work backward from there, elaborating the responsibilities at the other levels to support instruction in the school.

Governance at the school building level: Schools obviously have many responsibilities and must meet those responsibilities under a wide range of conditions. Our primary focus here is on instructional guidance to enhance achievement in the areas laid out by the state’s goals. In this regard the primary responsibility at the building level would be to develop a stimulating, supportive, and creative environment to maximize student achievement in the areas of the goals. A positive climate and atmosphere, a high level of respect between students and staff, and a set of strategies that help ensure that all students identify with the school in a positive fashion are all important factors in helping to motivate the students and staff. These conditions come from hard work and a shared commitment by the staff to make the school a productive and rewarding workplace where teachers are given the responsibility and support that they need to be effective. The restructuring literature and the older literature on effective schools indicate three practical ingredients that are important in this regard (Purkey and Smith 1983 and 1985, Cohen 1983, Elmore and Associates 1990).

The first ingredient is a staff of well-trained professionals. Under the system proposed here, the school would have the primary responsibility to bring together a staff of professionals who could use their knowledge and experience to follow the best practices appropriate to their students to meet the state goals. This implies that the selection of staff, inservice strategies, curriculum (within guidelines), and pedagogies should be done at the school site in response to local conditions and student needs. School staff should also be responsible for developing a system of goals that are based on the local school

conditions within the general framework of the state and local district goals.

A second ingredient for a productive workplace is an internal governance structure that enhances the capacity of teachers to carry out their professional tasks and achieve the goals of the school. These structures will vary from school to school, depending on the content, but research suggests that several aspects of the governance structure may be particularly important. One of these is that teachers should have an important decision-making role. Since they are the closest to the students and have primary responsibility for their learning, the teachers should be in the best position to decide how to design the educational experiences of those students. In addition, it is important to structure teachers' time and responsibilities to allow for collaboration, planning, reflection, and professional development. It is also desirable to allow for flexibility in organizing student learning time, as most effective pedagogical practices (as demonstrated by research) require this sort of flexibility (e.g., smaller units, flexible time allocation for different learning tasks, cross-age tutoring and cooperative learning, interdisciplinary and thematic approaches, and ungraded or multi-grade classrooms). Finally, schools should develop mechanisms for parental involvement in school and in the education of their children (David 1990, Sykes 1990).¹³

Third, schools require hardware and resources for the building to be a productive, professional workplace for teachers and other educational personnel. A place to work and confer with each other and with other professionals, a place to do work quietly, access to phones, computers and library facilities are essential if we wish to attract and retain competent teachers.

While these three conditions are integral to much of the literature on restructuring and 'bottom-up' change and thus are thought to be inimical to centralized authority structures, it is our contention that they in fact underscore the need for systemic reform of the sort discussed here. The three conditions can not be met by schools without support from district and state agencies. Most teachers, at present, do not have the knowledge, skills, and time necessary to do a competent job carrying out their roles in a shared governance system or in jointly developing curricula that are integrated across grades within a school. In-service professional development, higher quality curriculum materials, and enhanced support from the district and state will be necessary. Schools, particularly schools within large districts, operate within a formal and informal network of rules and regulations that can either enhance or diminish the opportunities of the schools to serve their students well. Governance systems at the district and state levels as well as at the school level need to be structured to enhance, rather than detract from, the instructional efforts of the schools. The increased clarity in goals and direction, commonly understood curriculum frameworks, coordinated, high quality curriculum materials, and professional development programs that are part of the state systemic reforms can provide the necessary structure.

Governance at the school district level: In the type of system we advocate here, local school districts would need to establish a clear set of ideas about where they fit into the overall educational structure. This means establishing a balance between school purposes and state purposes without usurping either. The district might establish a set of long-range achievement and other goals that embellish the state goals – progressive districts might add such things as student participation and local service goals. It would be critical for districts to be parsimonious on this score, however, for too many goals can be distracting to schools.

The main responsibility of the local district should be to provide resources and a

supportive environment for the schools to carry out their task of educating all of the district's children to meet the state and district goals. One thing that this means is that districts should work to reduce central bureaucracy in areas where centralization is primarily in service of administrative standardization of educational matters. Districts should review and alter as necessary those policies that have educational consequences and that might inhibit innovative and effective school-based instructional approaches. As the schools move to take greater responsibility for establishing their own curricular and instructional strategies, district policies such as uniform class sizes, rigid time requirements for teaching certain subjects and courses, and conformity in the use of textbooks should be eliminated.

A second, important role for districts is to ensure that the most needy under their jurisdiction are fairly treated. The distribution and utilization of common and base budget resources must be equitable across the district and the use of special resources from federal, state and local funds must be integrated and administered in a way that maximizes opportunities for the needy.¹⁴

For districts to effectively fulfill their roles in this restructured system will require changes in the way the various groups within them relate to one another. Three primary local groups interact to establish much of district policy: the central district administration, the school board, and the union. These groups must work in concert in order to provide adequate support to the schools to work within the structure established by the state goals and instructional guidance system and, simultaneously, to give the professionals within the schools the authority and resources to do their job effectively. This does not mean that the traditional roles of the groups should be forsaken, but it does mean that each of these groups must understand the overall system and strategy and that they must discipline themselves to give their top priority to ensuring the long-range quality of the teaching and learning processes within schools.

One point of necessary discipline concerns the establishment of long term goals and strategies that, together with the state goals, would shape the important decisions of the district. For these goals to operate effectively, the superintendent and the school board must have the will to reject the get-rich-quick 'project mentality' described earlier. That is, they must be able to eschew most of those apparently attractive policies and projects that crop up each year promising short-term results. Similarly, school boards and the superintendent need to work toward strategies that ensure policy continuity rather than disruption and that give schools the steady nourishment that they need to improve; one example of this might be a two- or three-year budget. In general, the efforts of the superintendent and the school board should be directed toward making the educational core of the system work better not just in the immediate period, but over the long haul.

A second point is that the various actors in the district must work to support the efforts of the schools and their staffs in teaching the content of the frameworks and in applying their professional expertise to the specific goals, conditions, and children in their schools. In the case of the unions, this means focusing their attention on a broad definition of workplace conditions. If the union emphasis in contract negotiations is only on increases in salaries and benefits and on requiring standardized practice in schools across a district, it will be very difficult for the district to give the necessary responsibility and autonomy to the school site to allow the school staff the freedom to develop a creative and productive instructional environment. In the case of district level personnel, supporting teacher professionalism and discretion may mean a change in how they carry out their supervisory roles. For example, as the schools and their staffs gain responsibility and authority, district curriculum and instructional supervisors will have to give up much of

their apparent authority over curriculum and instructional matters (Purkey and Smith 1985).

This discussion, together with our consideration of school governance, reflects much of the current writing and thinking about 'restructuring schools' (Elmore and Associates 1990). The difference between the typical discussions of 'restructuring' and our formulation is in the role of the state. Where the state is ignored in much of the restructuring literature, we have argued that it is a critical partner in any long-term reform.

Finally, it would be Pollyannaish of us not to acknowledge that many districts will have difficulty in altering their procedures and modes of behavior in the manner we suggest. In some cases the talent is not presently available. In other instances the central administration is simply resistant to significant change. This latter condition is particularly prevalent in many of our large districts. These are important considerations which threaten any major educational reform. Our belief, however, is that part of the reason for the intractability of central bureaucracies in large districts is that the districts lack the coherent vision and direction that might result from the systemic reforms we suggest in this paper. To an extent, then, the state reforms would increase the chances for important changes to occur at the district level.

Governance at the state level: Just as the schools operate within the immediate context of their districts and draw much of their support from them, so too the districts operate within the structure provided by states. The present strength and scope of this structure varies greatly across the nation – from states that have almost total control over funding and that exercise considerable control over the curriculum to states where local control remains prominent. We have presented an argument intended to rationalize and legitimate state authority to create a coherent statewide instructional guidance system. We have argued that the states are in a key position for policy intervention because of their unique position to influence all aspects of the educational system. Since most of this paper has focused on developing a coherent strategy at the state level, little needs to be added here about the content of that strategy.

It is important, however, to make some observations about policymaking at the state level, for the greatest deterrent to an improved school system in the USA may well be the conflicting and politically motivated squabbles at the state level among the variety of agencies which have authority over aspects of the state educational system. In many states there are three independent and aggressive institutions: the state department of education, the governor's office, and the legislature. Each has its separate policy offices and separate, generally loosely structured, agendas. Within the state legislature, alone, there are often two, three, or even more such agendas. The multiple agendas, most of which are political and some of which are substantive, are each typically supported by vigorous lobby groups. The agendas come into conflict over resources and rise and fall in prominence, with the result being that no agenda is well served either in the short-run or in the long-run. Perhaps the most important single change in the educational governance system in many states would be to move the policy debate to a point where it is considering the substantive – and to a lesser extent the political – aspects of alternative, well-formed, and long-term policies and strategies. We obviously believe that the coherent strategy we have argued for deserves consideration.

Systemic change and the reform environment

We have tried to indicate how systemic state-initiated reform and school-based reform (restructuring) could be combined to create something with considerably more chance of succeeding than either type of reform carried out independently. In concluding, we believe it important also to show how this proposed dual reform strategy relates to three other aspects of the present political reform environment.

Educational equity

The educational reforms of the 1980s have been primarily concerned with increasing the quality of education. This concern has detracted attention from the efforts in the 1960s and 1970s to provide greater equality within the educational system, particularly for minorities and the poor. Only recently has there been a partial return to concerns for the less advantaged in our society as the nation has become aware of the growing number of children in poverty and the tragic condition of schools in the nation's inner cities. Our question here is 'what would be the effect of a systemic reform of the sort proposed here on the most needy in our states?'

In another article (Smith and O'Day 1990), we argue that the gains that have been made by African-American and low-income children in reducing the achievement gap have been due in part to a variety of changes in social and economic conditions, including decreasing levels of poverty in the 1960s and '70s, increases in parental education, and desegregation in the nation's schools, particularly in the South. We also argue that the national emphasis on basic skills in the 1960s and '70s contributed to reducing the gap by helping to equalize the quality of education offered to students of different backgrounds. This emphasis was spurred by the Great Society, fueled by the test score decline, and reinforced by minimum competency tests adopted by many states. The basic skills movement focused attention on a factual, skills-oriented conception of knowledge and a view of the learner as a passive receptacle. It fit within the fragmented educational governance structure effortlessly because it was easily understood by politicians and placed little demand on teachers or the system for new learning or special resources. It represented a mediocre and conservative (and therefore politically safe) conception of curriculum and instruction.

The basic skills emphasis is now being challenged in many local districts and states which have instituted reforms emphasizing higher order thinking and a more challenging curriculum. While these proposed reforms are exciting and promise higher levels of learning and more complex skill development for those students involved in them, it is important to recognize that they could also place minorities and the poor at a new disadvantage because the less powerful in the society are typically the last to benefit from state and district generated reforms – if they benefit at all. Districts and schools with large numbers of poor and minority students often have less discretionary money to stimulate reform, less well-trained teachers, and more day-to-day problems that drain administrative energy.

We concluded in the earlier paper that, in this context, a state- or nationally-based instructional guidance system would provide greater opportunity for ensuring that a change toward this new conception of the curriculum and instruction is available to all groups, more or less equally. Unless the curricular reforms are buttressed by a coherent state system that links teacher training, teacher certification, the curriculum, and testing

together into a structure within which we can legitimately hold schools and districts everywhere accountable, we will surely enlarge the differences that continue to exist between the quality of instruction available to rich and poor, minority and majority. And unless we have common curricula and a common set of expectations for all children, with both the resources and the local flexibility to meet those expectations, the achievement gap will again swell.

Choice

Over the past few years there have been a substantial number of school choice plans suggested and implemented in the nation (Elmore 1986). Most recently, the idea of a full-blown voucher system has been revived (Chubb and Moe 1990). We do not hold out great hope that there will be dramatic improvement in the quality of the system from choice plans. The reason for our pessimism is that the 'reform' will change only the governance and financing of the schools – the quality of the potential teachers, the curriculum, and the assessment instruments will not be addressed.

Others have argued and will continue to argue that a market system in education generated by choice among schools will operate to change these factors. At best, this is a problematic and long-term hope. At worst, it belies the ever-ready survey data that show that most parents are pleased with their schools, and that many parents value the convenience of a nearby school more than they are disturbed by a report of poor teaching in it. Moreover, it seems clear that even in a 'fair' system of choice, the more advantaged in the society will have the extra opportunity – to travel further to a chosen school, to gather more information about the possible choices, and to have more time to evaluate the quality of each option. Finally, a full-choice system runs the risk of schools being established by entrepreneurs, interested in making money rather than in improving the quality of children's education.

Though we do not believe all of the problems of a full-choice system would be ameliorated by a systemic reform of the sort proposed here, we do suggest that this strategy could provide a structured environment to help control many of the negative aspects, and even enhance the positive aspects of a full choice model.¹⁵ The state curriculum frameworks would establish a protective structure that would help ensure that all schools were attempting to provide a challenging and progressive curriculum. The teacher training reforms and the stimulation of curriculum materials by the state would help make high quality resources available to the schools. Perhaps of most importance, the state examinations based on the curriculum frameworks would provide valid data about student outcomes to help parents and students make their choice among schools.

This would leave school personnel free within the structure provided by the curriculum frameworks to create the most effective school possible. Their responsibilities would include designing and implementing the curriculum and instructional strategies of the school, establishing the role of extra-curricular activities, and creating the climate of the school including that manner in which the students are treated and motivated. Our sense is that it would be these characteristics as well as average examination scores that would be most important to parents in selecting schools for their children. The systemic reform would provide an environment within which there could be substantial variation among schools on these conditions, but which at the same time would engender across schools a structure of common and challenging curricular goals and expectations.

Teacher professionalism

A common criticism of state reforms, particularly curricular reforms, is that they diminish the sense of professionalism, and, therefore, the effectiveness of teachers by restricting their autonomy and authority to control the content of instruction in their classroom (McNeil 1986, Sykes 1990). In certain circumstances – when centralized, required curriculum is detailed, oppressive, and mediocre, as it is in those states that have mandated a mundane conception of basic skills – we suspect the effect on teachers is very stifling.

But what we are arguing for here is something very different from this common conception of a centralized curriculum. As we imagine them, the curriculum frameworks would not spell out the day-to-day, week-to-week, month-to-month, or even necessarily the year-to-year curricula for the schools. They would set out bodies of knowledge and skills with which students should become familiar and competent over fairly large blocks of time, such as four years. This would require teachers and groups of teachers within the schools to design and organize their own curricula and instruction in such a way as to maximize the achievement of their youngsters. The system that we are suggesting would give far greater responsibility and autonomy to the teachers, individually and collectively, than do, for example, the Advanced Placement curriculum frameworks.

Moreover, part of the power of a coherent system, such as the one we have proposed, is that the knowledge and skills contained in the framework become the basis for that 'expert knowledge' component of professionalism that has proved so elusive for teachers (Sykes 1990). The 'restructuring' literature has addressed the need, as have we, of giving teachers authority and responsibility and the resources in their workplace to exercise that responsibility. The specification of content and skills in the frameworks provides a structure within which teachers can acquire the knowledge and skills to become experts in their profession. Too often, we suspect, in areas such as science, history, and mathematics, the field of knowledge is so daunting that teachers – especially elementary school teachers – will learn and teach only the very minimum requirements. As their lack of expertise is exposed, this reduces both the teachers' respect for themselves and the respect they receive from others. In the context of the frameworks, however, the field of knowledge is defined and, we believe, thereby more manageable. Moreover, the requirement that the teachers know and be able to teach the content of the frameworks before they can be licensed would give them the incentive to master the material.

Understanding the content of the frameworks and knowing how to teach it would lead to two important conditions conducive to enhancing the professionalism of teachers. The first is simple – such knowledge would set tomorrow's teachers apart from almost every one else in society. Few in our society know anything about plate tectonics, or the importance of 'error' in science, or Bayes Theorem, or could write a coherent three-page essay about the economic determinants of the American revolution – indeed, this lack of generalized knowledge in such areas is the very problem the recent reforms are trying to address. Even fewer know how to effectively teach these concepts and skills, either to children or to adults.

Knowing how to teach the content and skills of the framework would lead to the second condition. Professional dialogue about common problems in the profession is part of the mysticism and the excitement of being a professional. If all teachers in a state are expected to teach the challenging material set out by the frameworks to all, they suddenly have a common field within which to share professional information and strategies. Just as the surgeon shares a secret knot she has developed, so will the elementary school teacher

share his strategy for teaching children about the pull of gravity on the tides.

Our conclusion, thus, is that the professionalism of teachers will be enhanced by the systemic state reform strategy that we have proposed. Of Sykes's (1990) four components – authority, regard, resources, and knowledge – we have addressed three, authority, resources and knowledge. Our belief is that regard from others will follow the attainment of the other components but that it requires, first, regard from within. We believe further that such self-regard will best be nurtured in a system that both defines and fosters teachers' knowledge and thus their ability to perform competently the task of their profession.

Conclusions

We have argued that a chaotic, multi-layered, and fragmented educational governance system in the USA has spawned mediocre and conservative curricula and instruction in our schools. The state reforms of the early and middle 1980s have not had a significant effect on the quality of education, and the present restructuring movement, though promising, does not seem destined to have an impact on very many of the over 100,000 schools in the nation. We have proposed a dual strategy to promote an increase in the quality of education for all schools. The strategy draws on the authority and responsibility of the state to provide a systemwide structure of educational goals and content within which all schools and districts might 'restructure' to maximize the quality of their curriculum and instruction.

The state would design and orchestrate the implementation of a coherent instructional guidance system. The cornerstone of the system would be a set of challenging and progressive curriculum frameworks. The frameworks would be developed through a collaborative process involving master teachers, subject matter specialists, and other key members of the state community and would be updated on a regular basis to reflect our changing understanding of the teaching and learning process. The frameworks would provide a substantive structure for a dynamic curriculum that requires active and sustained learning by students. The state would be responsible for establishing a set of challenging student achievement goals, based on the frameworks. Teachers and other local school professionals would be responsible for designing and implementing the curriculum and pedagogical strategies for their schools within the overall context of the state frameworks, to best meet the needs of their particular students. The frameworks would also provide a substantive structure for teacher professional development and for student assessment. In order for teachers to be able to teach the content embodied in the framework, they would need to be systematically exposed to it during pre-service and continuing professional development experiences and should show command of the material and the ability to teach it before they receive a state license to teach.

These actions would require the state to exercise some long-needed leadership to alter and improve the state higher education professional development systems. In addition, the state would hold the local schools and school districts accountable for making progress toward attaining state student achievement goals by employing very high quality examinations developed, using the state curriculum frameworks as templates. Finally, the states would provide technical assistance to communities needing assistance in implementing and meeting the state goals. We have provided some detail on approaches and tactics that states might use to accomplish these aims, but we are mindful that a great

deal more than we have suggested would be required to implement the kind of coherent and high-quality strategy that we have proposed.

A state-initiated instructional guidance system would establish a framework within which schools might implement high quality educational programs. Such a system alone, however, is not enough. To alter the curriculum and instruction in schools will also require that the educational governance system be coordinated in its efforts to give local schools the resources, freedom, and authority to provide high quality instruction for their students. The state has constitutional responsibility for ensuring educational quality and opportunity throughout all of the districts within its boundaries, and it has authority to influence parts of the system (such as pre-service teacher training) that are totally out of the purview of local education agencies and schools. Local school people have the responsibility and opportunity to make professional judgments and to implement effective ways to educate their students. The trick is to establish a governance structure where the strengths of the two are maximized to provide the best possible education for all children. We have proposed a number of changes in the orientation of the present governance system to meet this end. In essence, we have suggested putting coherence and direction into the state reforms and content into the restructuring movement.

Acknowledgements

The authors thank Elissa Hirsh for her assistance in preparing this paper. Work on the paper was supported in part by the Center for Policy Research in Education, a consortium of the Eagleton Institute of Politics at Rutgers University, the University of Wisconsin at Madison, Michigan State University, and Stanford University, under grant number G-0086-90011 from the Office of Educational Research and Improvement, at the US Department of Education. The views expressed do not necessarily reflect those of the sponsoring agencies.

The ideas in this paper have been influenced by the authors' interactions with a wide variety of people, but especially by discussions with our colleagues in the Center for Policy Research in Education (CPRE), Martin Carnoy, William Clune, David K. Cohen, Richard Elmore, Susan Fuhrman, Michael Kirst, Henry Levin, Milbrey McLaughlin, Janice Patterson, Andrew Porter, and Gary Sykes. We have also profited from discussions with Jane David, Mike Cohen, Bill Honig, Alan Ginsburg, Albert Shanker, Gordon Ambach, and Marc Tucker. Finally, David K. Cohen, Charles Kolb, Ramsay Selden and David Tyack all gave us insightful comments on an earlier version of this paper. Naturally, none of these thoughtful people necessarily share all of the ideas in this paper or are responsible for our errors of fact or logic. A brief form of some of the ideas in this paper were shared with the Advisory Council for the Science and Engineering Education Directorate of the National Science Foundation over two years ago (Smith 1988). NSF recently released a Request for Proposals to states to design and implement systemic state reforms in support of science and mathematics education (Rothman 4, April 1990). A brief description by Bill Honig of the California reforms, which are similar in some respects to the reforms proposed here, appeared in the *Education Week* (Honig, 28 February 1990). Finally, many of the ideas suggested here have been contained in talks made by Smith (e.g., AERA April 1990).

Notes

1. Darling-Hammond and Berry (1988) estimate that states considered over 1000 pieces of legislation on teacher policy during the first five years of the reforms; see also Firestone *et al.* (1989).
2. A few states are exceptions to these generalizations. South Carolina (South Carolina Board of Education 1989) and California (Honig 1990), for example, both report important recent gains in student achievement, attributed to the reforms. In both of these cases, the state has made a concerted effort to influence the instructional process within the schools.
3. Researchers and journalists who have observed many US schools are struck by the deadening mediocrity of most. See, for example, Powell *et al.* (1985) andSizer (1984). The first report of the Project 2061 effort *Science for All Americans* describes instruction in science in US classrooms in the following way: 'The present science textbooks and methods of instruction, far from helping, often actually impede progress toward scientific literacy. They emphasize the learning of answers more than the exploration of questions, memory at the expense of critical thought, bits and pieces of information instead of understandings in context, recitation over argument, reading in lieu of doing. They fail to encourage students to work together, to share ideas and information freely with each other, or to use modern instruments to extend their intellectual capabilities' (AAAS 1989: 14).
4. Take mathematics and science education as just one example. At the federal level, one independent government policymaking body establishes the specifications for a national test of mathematics achievement which is then developed by an independent private non-profit organization for administration within most of the USA; another independent agency administers over \$250 million in project funds to improve mathematics and science education at the state and local levels; still another agency administers a \$200 million federal program to states to improve mathematics and science education. The laws governing these various efforts (which are only a sample of federal government activity) are written by different subcommittees and committees in Congress, governed by regulations that contain little reference to the other federal or even to state programs, and administered by civil servants who rarely talk to each other. (There is now a federal coordinating body chaired by the Secretary of still another government agency, the Energy Department, which has almost no expertise or direct involvement in the educational system.) At the state level, in each of the 50 states, there is at least one, and often multiple, agencies producing independent efforts to improve mathematics and science education, efforts driven by literally tens of different and independently developed state laws. And almost every state has a state assessment or set of assessments designed to measure progress in mathematics and science achievement – assessments that are not only independent of the national assessment effort but of national, state and local curriculum efforts as well. Finally, the mechanisms and requirements for teacher certification in many states operate with almost total independence from other state educational laws, and the authority for overseeing the quality of teacher training typically rests with the state higher education system, which often has little interest in changing itself to meet the needs of the K–12 system. Add to this the supplementary and often conflicting guidance that local school teachers receive from their own district and school coordinators, and from local universities and businesses, and the fact that the basic textbooks and materials in most classrooms are developed entirely independently from all of the federal, state, and local guidance, and we begin to see why many teachers are skeptical of attempts to reform the schools.
5. There is an important irony here. In another paper we argue that the nation's 'common basic skills curriculum' has led to a dramatic reduction in the achievement gap between African-American and white students over the past 20 years. While the achievement distribution for white students has remained unchanged, African-American student achievement in reading, and to a lesser extent in mathematics and science, has shown steady growth. We posit that the basic skills curriculum has contributed both to the lack of change in white achievement and to the important gains of black students (Smith and O'Day 1990). Our hypothesis, however, is that the next major reductions in the size of the 'gap' will require a change for black students away from an overall emphasis on basic skills toward a more complex and challenging curriculum. The equality problem here, of course, is that this change may occur more easily in more 'advantaged' communities which may lead to future increases in the 'gap'.
6. A wonderful, large-scale example of this phenomenon is the history of the 'new' science curricula generated in the aftermath of Sputnik. These curricula were generally well-financed, carefully-developed and contained exciting state-of-the-art (at that time) content, instructional strategies, and materials. Because of their innovative, challenging and hands-on character, they demanded more of teachers than did the conventional curricula. The curricula were initially supported by extensive, but voluntary, in-service teacher training programs. As a consequence they were initially adopted and

adapted by large numbers of innovative teachers around the nation. Moreover, the evaluations carried out on them showed clearly that they produced superior results to the conventional curricula (Shymansky *et al.* 1983). Yet by the middle 1970s these curricula had all but died out in the US schools. There were few pre-service teacher-training institutions preparing their students adequately to use the materials, and the in-service teacher training efforts had subsided to a trickle, so there were few new teachers beginning to use the materials. Meanwhile, increasing numbers of the teachers experienced in the new curricula left teaching, moved to different schools, or succumbed to the quiet pressures of the system to teach the more conventional material.

7. This discussion should not be viewed as 'teacher bashing', but as a critique of the level of knowledge and skills of almost everyone in our society. Few of us have sufficient understanding to teach the content of the seventh grade mathematics (algebra) in Japan or the geometry and probability for US grades K-8 suggested by the *National Council on Teachers of Mathematics*, or the science content and skills recommended for elementary school students by the American Association for the Advancement of Science.
8. One reason that this fundamental issue is rarely raised among school people is that there may be a lack of clarity about the curricular goals and purposes within schools and districts. If there are no well-articulated curricular frameworks for a school or district, then it is difficult to perceive the inadequacy of a test which is similarly constructed.
9. Sykes (1990) also argues that teachers need more regard from others in society, greater authority within schools, and a specialized knowledge base.
10. See Cohen 1990 for a discussion of 'instructional guidance systems'.
11. Albert Shanker has recently been advocating a 'schools incentive program' along these lines for successful teachers and schools; see Shanker (1990) for a discussion of this proposal.
12. A number of states (Connecticut, California, Michigan, New York) are already on their way in the development of a new generation of challenging and innovative assessment instruments.
13. One mechanism for parental involvement in the education of their children has gathered a variety of advocates at all levels of the governance system. The idea is that parents and schools would enter into a 'contract' with each other. The contract would be moral, not legal, and would specify the schools' instructional (content, pedagogy, and assessment) intentions on the one side, and, on the other side, the parents pledge that they would commit themselves to insuring that their children attend school on time and regularly, that their children do their homework, and that the parents meet with the teachers a number of times during the year. The focus of this effort would be on the intellectual growth of the children. Such an effort could be particularly important in those schools where there are a large number of lower income parents who feel alienated from the schools.
14. There are important roles for districts which are beyond the scope of this paper to discuss in detail. Among these responsibilities are: administration of federal and state programs in progressive ways; administrative tasks such as student transportation, legal matters, facilities management and building etc. that are most efficiently carried out at the central level; maintaining a system of fiscal, administrative and educational accountability, the latter presumably relying primarily on the state examinations; and the coordination of social services for school age children with other service agencies within the district.
15. However, we would not support any full choice (voucher) system unless it contained four key components. First, the 'state' voucher must constitute full payment for the school - schools would not be allowed to charge extra tuition beyond the value of the voucher. Second, over-subscription to a school would be resolved by lottery. Third, transportation would be provided for the needy. Fourth, there would have to be an aggressive and publicly-sponsored system of providing information about the available choices among the schools. In the context of the reforms that we suggest one more component would be necessary. The schools in the voucher system would all be assessed with the state examinations based on the state curriculum frameworks and the data would be made publicly available to assist parents and students in their selection of schools.

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