

Organizational Strategies for Addressing California's Educational Achievement Gap

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Closing the gap must be more than a one-front operation. Educators must hold themselves responsible and accountable for improving schools when and where we can....we must recognize that the achievement gap has deep roots. —Paul E. Barton [1, p. 13]

Introduction

This paper provides a comprehensive review of organizational strategies, resources and opportunities that promise to have the greatest impact on improving student learning and closing the achievement gap in California schools. We do not address in any detail questions regarding instructional alternatives—our focus is on the organizational and operational characteristics of schools and classrooms. We begin with the obvious but often overlooked fact that many different factors in children's social and cultural backgrounds, physical well-being, socio-economic status, natural abilities, and other factors influence student achievement as much or more than their school experiences. Educational Testing Services research scholar Paul Barton [1] summarizes one list of substantially important factors in the box shown at right.

Factors That Correlate with Student Achievement

Before and Beyond School:

- Birthweight
- Lead poisoning
- Hunger & nutrition
- Reading to young children
- Television watching
- Parent availability
- Student mobility
- Parent participation

In School:

- Rigor of curriculum
- Teacher experience & attendance
- Class size
- Technology assisted instruction
- School safety

Source: [1, p 13]

As Tough [2] summarizes,

If poor students are going to catch up, they will require not the same education that middle-class children receive but one that is considerably better; they need more time in class than middle-class students, better trained teachers and a curriculum that prepares them psychologically, and emotionally, as well as intellectually, for the challenges ahead of them [2].

Moreover, adjusting school policies and practices alone cannot hope to fully close the deep and persistent achievement gaps separating rich and poor, white and non-white, English learners (ELs) and English speakers in the public schools. Long before children enter the public school system substantial differences in academic readiness and ability have been thoroughly documented. To overcome achievement gaps for all these groups very substantial

investments will be required. Indeed, when it comes to the racial gap, test score differences are,

Already huge at three years of age, [therefore] the most important focus of this [gap reducing] investment should probably be early childhood programs. The quality of these programs is as important as the existence of these programs themselves [3, p. 10].

Thus, while our focus in this paper is on school policies and practices, we caution that, at best, policy makers can only expect schooling adjustments to be a partial solution. Even if very powerful steps are taken, the gaps to be addressed, particularly in California, are strongly linked to community and family characteristics that are beyond the reach of school changes alone.

Options, not Prescriptions

In developing this paper we have sought to avoid the usual tendency in policy reform arguments to come up with a definitive set of policy recommendations to “fix” the organizational structures and governance policies shaping public education in California. We agree with the report of the Governor’s Committee on Education Excellence that, “For decades, we have pursued wave after wave of ‘silver bullet’ reforms, with shamefully little to show for billions of dollars of investment” [4, p. 8]. We offer, instead, a framework of organizational and governance options, and an analysis of what might be expected to result from relying on some rather than others. Above all, our analysis indicates, it is important to link capacity, responsibility, motivation and decision-making authority to the places where the battle for student

achievement is being waged (and too often lost) in the public school system.

No doubt, change is needed on a very broad scale. California public schools are not just failing to generate comparable educational outcomes for our diverse racial, ethnic, social, economic, and linguistic student sub-groups. California schools are under-performing for a substantial majority of the state’s children. They are under-staffed, over-regulated, and inadequately organized. Resources are unstable and inadequate, judicial and political interventions are too heavy-handed and too intermittent to be effective, bureaucratic processes are Byzantine, and the legacy of more than half a century of persistent and often dramatic reform efforts have generated a substantial amount of cynicism that threatens staff motivation, and confusion that disables

families and local citizens. A spate of statewide reports have documented these and other failings so extensively that they hardly need repeating here [4,5,6]. In the unpredictable post-Proposition 13 climate of state budget limitations accompanied by persistent partisan

The Plan of this Paper

Following this introduction, which establishes the context for our review, organizational strategies and options are examined at seven distinct levels. First, the organization of education's core technologies—curriculum, instruction and assessment—is examined to identify what elements are amenable to restructuring. These core technologies are subjected to a variety of organizational structures. Curricula, for example, are tracked so that different students get exposed to differing curricular content at different times. Instruction is handled in large and small groups, divided by subject matter and sequenced in a variety of ways. And assessments are developed, administered and utilized in a variety of formats. While this paper does not inquire into the relative effectiveness of various curricula, the effectiveness of specific instructional strategies or the reliability or practical usefulness of specific assessment systems, it reviews available evidence on whether systematic achievement differences are resulting from such organizational control mechanisms as curriculum standards and frameworks, instructional standards and high stakes student testing.

The second level of our analysis examines classroom organization. Classroom organization includes such matters as the number of children assigned to a classroom,^a the demographic composition of the classroom, the extent to which children are grouped by ability, subjects are integrated or

disagreements over taxes and the proper use of the limited revenues that are available, however, it is important to look at how modest reforms across a broad range of organizational and policy domains might be targeted in helpful ways.

separated, children remain in the same classroom or differing classrooms throughout the day, and whether classroom teachers differ systematically in their background, training and experience. It is important to remember, however, that:

As Bidwell and Kasarda [7] explained, schools do not produce learning; rather, they provide a context in which schooling takes place. Learning, according to this perspective, is a result of schooling, not schools per se [8, p. 9].

Hence the reorganization of classrooms needs to be addressed in terms of how reorganization will change children's schooling experiences, not just their school settings.

The third level of organizational analysis is the school. There are important differences both in the way schools are structured, and in the composition of their students and teachers. While a majority continue to use a traditional nine-month school calendar, some schools operate on multi-track year round calendars, some have year-round schedules but without multiple attendance tracks. Schools may be large or small, they may sub-divide their student bodies into "houses" or "schools within a school." Some have specialized curricular programs intended to create "magnets" for specific student interests. Some have large numbers of special classes, some have none. Some schools have multiple administrators, some persistently are staffed by substantial

numbers of interns or other new teachers. Charter schools and voucher systems have been developed in an attempt to introduce market competition into the design of school programs. Some school districts have sought to decentralize administrative control to encourage site-based school management. Others have sought stronger centralized control, mandating curricula and instructional techniques at the district level. Some schools have been identified as outstanding, others as requiring reorganization because they have persistently failed to meet Academic Performance Index (API) targets [9]. The review presented here analyzes whether these and other school organizational features are systematically related to student achievement gaps.

A fourth level of organizational analysis is directed to reviewing the organization of the teaching profession. There are three important aspects to professional organization that are central to this level of analysis: 1) the structure of teacher preparation, certification and licensure; 2) the recruitment, selection, supervision and retention of teachers; and 3) the nature of teacher labor relations (including collective bargaining, teacher evaluation, and teacher tenure). Teacher preparation in California has been undergoing fairly dramatic changes in the last two decades with control shifting away from universities toward school districts. A major review of alternative certification and beginning teacher induction programs has just been completed, and critical reviews of schools of education abound [10]. School leadership, teacher supervision and accountability have been the focus of numerous research and policy activities. Teacher unionism, which was widely studied twenty years ago, has become quiescent, but remains a major determinant of school operations. And there have been very dramatic changes in

certification and induction processes, including the de facto two tiered system stimulated by National Board certification of a relatively small cadre of presumably excellent teachers.

A fifth level of organizational review that sheds some important light on the achievement gap issue is the political organization and governance of schools and school districts. The link between the real estate market and creation of geographical boundaries for schools and school districts has much to do with the concentration of various social groups into particular school settings and the subsequent allocation of teacher talent and fiscal resources to serve their needs.

The sixth level of organizational review involves examination of the role of intermediate units (County Offices of Education and various consortia arrangements for delivering specialized services). These organizational units cover teacher induction, vocational education, special education service provision, collections of private and charter schools, and voluntary associations of urban, low wealth and other special concerns units.

Finally, at the seventh level, the review tackles organizational elements operating at the state level. These include both voluntary associations (of school boards, administrators, teachers, county offices, special districts, etc.) and the legal structures of the State Board of Education, the Superintendent of Public Instruction, the Commission on Teacher Credentialing, the Governor's Secretary of Education, the legislature and the courts. One of the most important dimensions of state level action involves the definition, collection, organization and reporting of systematic data – data that not only define and document student achievement but also provide analysts with the information

needed to ascertain what expenditures, regulations, local actions or other factors are contributing to that measured achievement [11].

The overview of this exceedingly complex set of diverse and overlapping organizational structures is first and foremost concerned with identifying the extent to which each has had a significant impact on the development of educational

achievement gaps and how reorganizing each might help to ameliorate them. The restructuring options under consideration involve fiscal or technical changes, but they also involve social, political and symbolic changes. That is, in the search for promising organizational strategies, this review has identified alternative kinds of impact as well as different levels of impact on the achievement of students.

Establishing a Framework for the Identification of Options

Most of the very large literature on school reorganization and restructuring is conceptual and theoretical rather than being grounded in empirical field research. Lee and Smith [12] report that much of the published work is preoccupied with definitions, motivations for change and potential targets of change rather than documenting the quality of implementation or the impact of the changes made. When addressing alternative restructuring policies, they remind us that,

The structure of a school refers to basic organizational principles that are constant, regardless of the ebb and flow of people who move through the schools [12, p. 22].

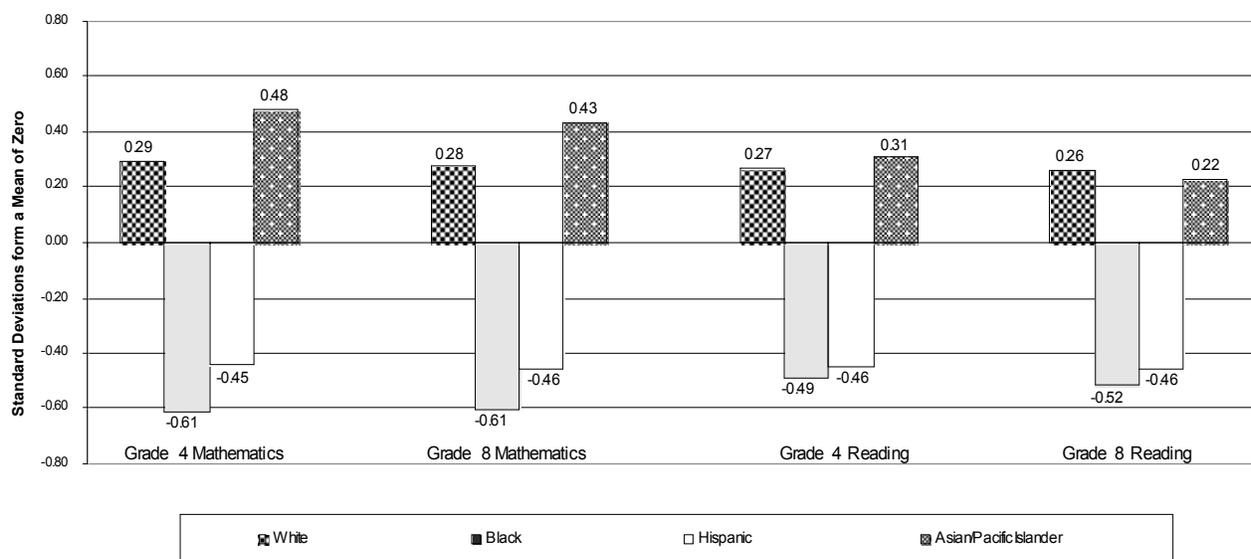
And evaluating the effectiveness of any particular restructuring policy is extremely difficult because “schools typically adopt several of these [restructuring] practices simultaneously, rather than one at a time” [12, p. 61].

Before trying to examine alternative restructuring policy and management options it would be well to briefly take stock of the overall size and potential intractability of the problem. Gamoran and Long [8, p. 5] offer a succinct estimate of the size of the problem and its persistence over the last four decades:

Trend data from the National Assessment of Educational Progress (NAEP) shows that the Black-White reading gap among 17-year-olds in 1971 was 1.2 standard deviations. This gap fell to 0.69 by 1996. There was a similar decline in the gaps in mathematics from 1.33 to 0.89 standard deviation units [13, p. 3]. ...As of 2004, the gaps for 17-year-olds in math and reading and 13-year-olds in reading were larger than in 1990 [13, p. 5].

Ream, Espinoza and Ryan [14] elaborate,

Since 1999, Black-White and Hispanic-White math and reading test score gaps have held fairly constant across age groups—with the exception of slight convergence in the Hispanic-White math gap and the Black-White reading gap among nine-year-olds. This convergence is trumpeted by the U.S. Department of Education as evidence of the impact of the No Child Left Behind Act (NCLB) of 2001. Yet cross-sectional analyses of fourth and eighth grade students’ mathematics and reading results from the 2007 main NAEP demonstrate the persistence of glaring racial gaps in test score performance (see Figure 1).



Source: U.S. Department of Education, National Center for Education Statistics, National Assessment of Education Progress (NAEP), 2007 Main NAEP Mathematics and Reading Assessments. Note: Raw mean scale scores were used for all calculations. Each bar represents the number of standard deviations the mean achievement of each racial/ethnic group falls from (negative value) or exceeds (positive value) the 2007 national average at grades four and eight, respectively. This method allows easy comparisons among different groups using a common metric—standard deviation—that is sometimes referred to as effect size [15].

Figure 1: Standardized NAEP mathematics and reading scores by race/ethnicity, 4th and 8th grade students in 2007.

It has been cogently argued that the progress that has been made in closing achievement gaps first documented in the Coleman Report was due more to civil rights reforms than to school improvements. Gamoran and Long [8, p. 6] point out that,

Noticeably, the cessation of the decline in achievement gaps coincided with the rollback of desegregation: as school desegregation was largely halted in the late 1980s, the Black-White achievement gap stopped declining.

Again, Ream, Espinoza & Ryan [14] elaborate,

Desegregation in the wake of the 1964 Civil Rights Act combined with the Great Society's War on Poverty programs (including Head Start and compensatory Title I funding) helped

reduce glaring resource inequities and coincided with nearly twenty years of steady progress in reducing both the Black-White and Hispanic-White test score gaps.

But, by the time the landmark *A Nation at Risk* [16] report was released in 1983, concerns about inequality were giving way to preoccupation with efficiency and global competitiveness. Programs for the poor and education reforms were rolled back and, "By 1988 the progress in narrowing educational opportunity and achievement gaps had stalled."

What Gap?

Before exploring the potential effects of various restructuring/reorganizing options for addressing the achievement gaps in

California's public schools, we need to answer three basic questions about the origins and magnitude of the gaps to be addressed. These questions are:

Question #1

Relative to overall variation in student academic attainment, how big are the achievement gaps that need to be addressed? That is, what proportion of the variations in overall student achievement separates the lowest from the highest achieving groups in the public schools?

Within every social or demographic group of students there are substantial differences in academic achievement. Indeed, within the same families, even between identical twins, there are differences in standardized achievement test scores. These differences arise from many sources—family histories, motivational differences, natural abilities, physical challenges, etc. By comparing the test score variance *between* various demographic groups with the variance found *within* these groups, we can calculate the percentage of the total student achievement variance that separates sub-groups and thus have a rough and ready measure of the magnitude of the changes that need to be made if public schools are to provide approximately equal educational outcomes for all students.

Estimates of the size of racial/ethnic achievement gaps vary somewhat depending on when we look and what specific assessment measures we are examining. Overall, however, the size of reported achievement gaps are regularly found to be close to, or above, a full standard deviation in the test scores for all children. Taking the sub-group size into account and converting this difference into a measure of overall test score variance, we can see that the persistent gaps between racial, social and linguistic groups account for about 15% to 25% of the

total variation in student achievement. Differences do depend on time and location, of course, and these geographical and historical differences mean that in some settings the gaps are going to be quite a bit larger than others. On average, however, if we are not willing to lower the achievement of currently high achieving groups, it will be necessary to find achievement gap reduction policies that reduce overall achievement variance by at least 15% to 20% in order to overcome systematic achievement differences. This is a very tall order, and not likely to be accomplished quickly, easily or cheaply.

The second question concerns how much of the achievement gap problem is located within the purview of the public schools.

Question #2

To what extent are student group achievement differences being *produced through schooling factors* (as distinct from those associated with family, community, or economic opportunity differences)?

The research literature makes it quite clear that family characteristics are not only powerful in their own right, but they also significantly influence the distribution and utilization of school resources. There are very large differences among school resources, and these differences are correlated with differences in student attainment. School level differences are, however, only weakly related to the differences in attainment separating major demographic differences. As with estimates of the overall size of the achievement gaps, research studies estimating the differences between family or community influences relative to school factors influencing student achievement depend to some extent on when and how one measures them.

A careful review of available data leads Russell Rumberger [17] to estimate that

“About two-thirds of the low achievement of [fifth grade] students attending high-poverty schools can be attributed to differences in the characteristics of the students when they entered kindergarten” [17, p. 1310].

Most scholars believe that the basic magnitude of family versus school effects on factors influencing student achievement were fairly well documented in the U. S. Office of Education’s landmark study, *Equality of Educational Opportunity* [18], typically referred to as *The Coleman Report*). Coleman, himself, was not confident that this report should be used as a good estimate of the differences between school and family effects, however. He said of the statistics presented in this study that “The plan of the analysis was not appropriate for study of the relative effects of background and school variables, but it was correct for study of the relative effects of different school variables [after background variables were held constant]” [18, p. 6], cited in [1, p. 13].

There is a broad consensus among researchers, however, that when it comes to the achievement gaps separating ethnic and racial groups, family factors are much more powerful than school factors in creating and sustaining these gaps. Estimates range from a few times to as much as seventy times more powerful [19]. Ream, Espinoza & Ryan [14] insist that,

The finding of the Coleman Report bears repeating: No more than forty percent of the racial gap in educational outcomes can be attributed to the schools themselves (in isolation of other non-school factors). Our ability to respond to the achievement gap problem will ultimately depend on whether we recognize and act on the broad range of factors that collectively shape student achievement [14].

Indeed, Coleman’s findings indisputably documented that variation between schools in their resource levels mattered little for variation among individual students, a result that remains the seminal finding in U.S. sociology of education [8, p. 3].

It is important to recognize that the potency of family and community variables in creating and sustaining achievement gaps in the schools does not mean that the students are learning the material needed to pass achievement tests at home. They learn reading, and particularly mathematics, skills in the public schools. Hence, when considering policy options for overcoming achievement gaps, we should be considering how family and community factors are being turned into achievement differences within public school settings. Is within school segregation being used to sustain student differences? Are patterns of instruction, the content of curricula, or the forms of assessment such that they bias school programs toward some children and away from others? We return to these questions as we detail organizational and policy options below.

There is a third important question about the achievement gaps we are trying to address that must also be asked before we can place organizational and policy options in their proper perspective.

Question #3

To what extent are student achievement differences found *within* school classrooms rather than *between* them? How closely are the substantial *differences between schools* linked to the achievement gaps separating demographic sub-groups?

To the extent that achievement differences are arising within the classrooms that students attend, reorganization or restructuring policies will only succeed if they reach inside the classroom to change

patterns of teaching and learning, or perhaps reorganize the classrooms entirely so as to breakup systematic classroom effects. If differences between schools are the factors primarily responsible for generating achievement gaps among distinct student population groups, policies need not disrupt the more intimate teaching and learning processes and can, instead, focus on school structures and operations.

Most studies don't partition achievement variance directly into within classroom, between classroom and between school components, but when this is done it appears that about 70 percent of all student achievement variance is found *within* the classrooms, with only about 30 percent accounted for by between classroom and between school differences [20]. With the lion's share of the variance inside the classroom, it is essential that reform policies affect the distribution of achievement inside classrooms if we expect them to overcome existing achievement gaps. Moreover, of the approximately 30 percent of the student achievement variance that separates classrooms from one another, nearly two-

thirds of the total is between classrooms *within the same schools* (about 18% in Mitchell's [20] study). Only about 12 percent of all students' test variance separated schools from one another in this study. It is because differences in school-wide mean scores accounts for such a modest proportion of overall student achievement variance that schools find it tactically attractive to focus attention on improving the achievement levels of a relatively modest group of students in order to change their overall school achievement ranking. We note the issue here, however, to underscore the fact that policies that address between school differences, but fail to reach inside the school, cannot possibly produce more than a 10 or 12 percent shift in student achievement—substantially less than that separating racial and ethnic groups. Even if schools were perfectly equalized in average test performance there will still be very substantial achievement gaps to contend with. Clearly, school level policies need to be assessed in terms of how significantly they will equalize within school and classroom achievement as well as overall school achievement.

Achievement Gaps are Held in Place by Three Sets of Social Forces

While the focus of this paper is on how organizational structures might be altered to rectify school achievement inequities, it is important to note that school achievement is held in place by the convergence of the three basic social forces depicted in Figure 1. The social forces that create, stabilize and sometimes interfere with student achievement are: 1) community and family factors, 2) school governance and policy frameworks, and 3) the organizational structures that link governance systems to community interests. These three social forces operate with different logics, are under the control of different groups, and are

engaged in a perpetual contest for control of the educational system. Just as we have noted that family and community factors constrain school programs and effects, we will take a moment to acknowledge that education governance system policies act to create, sustain, enable and direct the organizational structures that are at the center of our inquiry (see Figure 2).

From a policy perspective, the reform conundrum is that, no matter how concerned one may be, no matter how committed to eliminating achievement differences, policies must work through people to teach school lessons and manage school

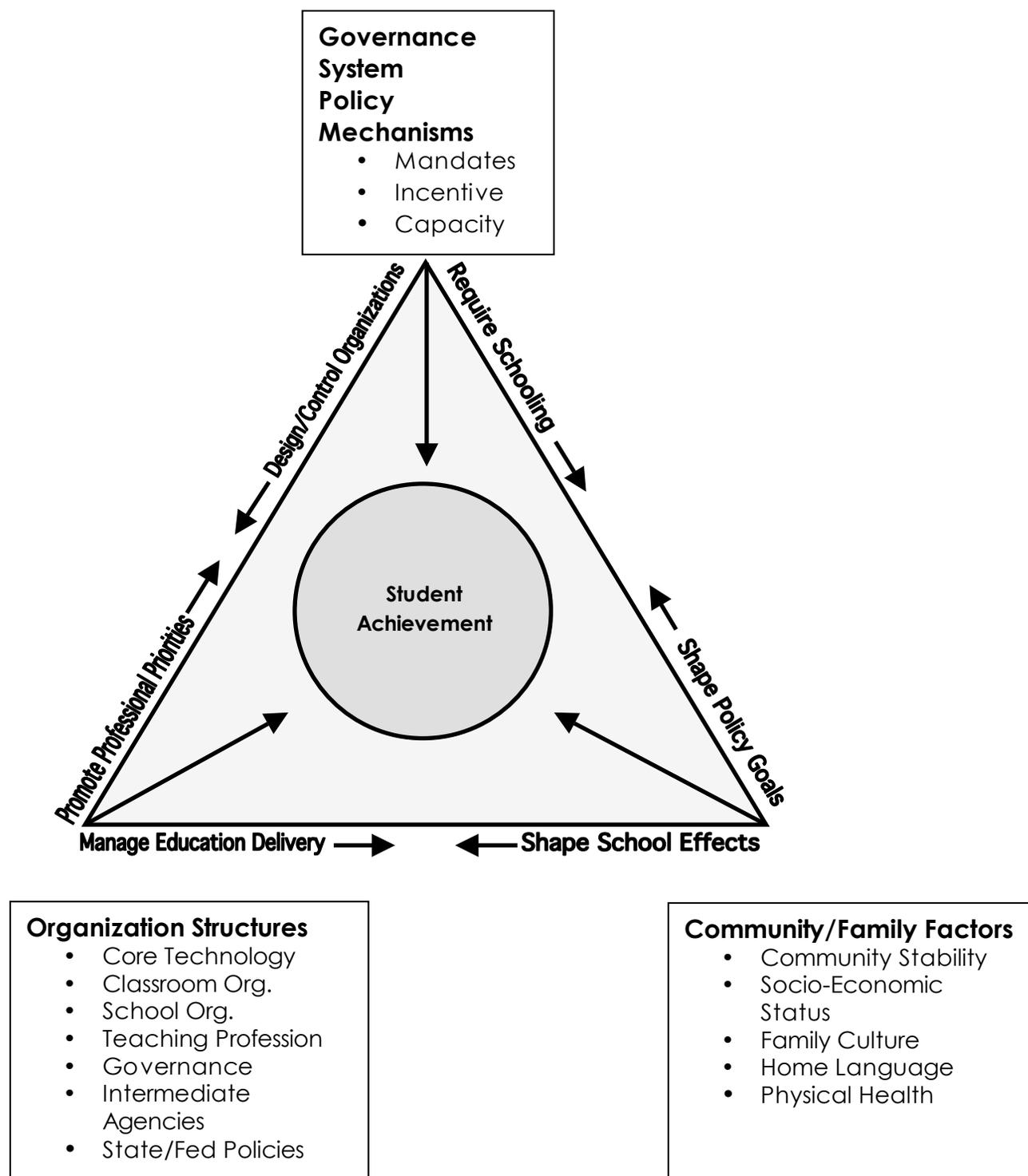


Figure 2: Social forces shaping student achievement

operations. Thus, education policy analyses must be grounded in a study of *influence* over performance [21] rather than direct action on the school problems. Education is a relatively fragile business requiring confidence and trust among staff, students and community members in order to operate effectively [22]. Harsh demands and threats of dire consequences for failure to produce needed educational improvements always run the risk of producing more fear, confusion and wasted efforts if the responsible staff do not recognize policy makers' expectations as legitimate, the attainment of their goals as realistic, and the resources available to produce expected results as adequate.

There are only a limited number of policy mechanisms for pursuing reorganization and school improvement objectives. When looking at the mechanisms for holding organizations accountable for the production of quality results, Hess [23] could only identify three ways of holding organizations accountable for performance: regulations, outcome monitoring, and market competition. This view is a bit limited, however. It does not include policies aimed at building capacity or guiding the formation of productive organizations.

In a widely cited but much earlier paper, McDonnell and Elmore [24] generate a better list of possible policy leverage mechanisms. They distinguish between regulations that come in the form of mandates for specific behavior from those that rely on financing mechanisms to provide incentives for staff behavior and program development. They also distinguish between regulations that mandate specific behavior and those that aim to build capacity and redesign power and responsibility relationships among organizational managers and staff. In their pre-occupation

with positive governmental actions, they have neglected a discussion of market-type competition as an explicit policy strategy [25]. They succinctly summarize four basic policy mechanisms in the following paragraph [26]:

Mandates are rules governing the action of individuals and agencies, and are intended to produce compliance; *inducements* transfer money to individuals or agencies in return for certain actions; *capacity-building* is the transfer of money for the purpose of investment in material, intellectual, or human resources; and *system-changing* transfers official authority among individuals and agencies in order to alter the system by which public goods and services are delivered [26, p. 134, emphasis in original].

McDonnell [26] subsequently expanded this list to five, arguing that, "there is one more type of policy instrument that relies not on material rewards or sanctions, but on persuasion. . . . call this a *hortatory* or symbolic tool" [24, p. 23, emphasis added].

To be effective, these policy mechanisms must be used in ways that successfully offset what Williamson [27] and House [28] describe as the "transaction costs" that limit the willingness and ability of educators to respond to the changes expected of them by policy makers and school reformers. Transaction costs are those incurred whenever a person makes a decision, changes a routine, or seeks to employ a new program or technique. Transaction costs keep people from learning new programs and gathering enough reliable information to make fully informed decisions.

Classroom teachers confront especially high transaction costs when seeking to implement new classroom procedures or instructional

programs. A major reason for these high transaction costs is that teaching is a skilled craft—a craft learned to a substantial degree through engagement in reflective and well-coached practice. For most teachers, justification for their craft practices lies in the fact that they work—not that they are thoroughly rationalized implementation of scientifically tested theories. Hence, improvement of practice rests heavily on trying out ideas, fairly quickly abandoning those that don't seem to work and preserving those that do. But trying out new ideas is costly—it risks losing fragile classroom control and discovering that what sounded good at the staff development session is not unfolding as expected when tried out in the classroom.

The initial reflections described above mean that our review of the potential impacts of school structural and organizational changes will need to constantly ask three inter-related questions. Will a proposed option facilitate academic “catch up” for children who are now languishing in low achieving groups? Are economic and political resources sufficient, and transaction costs low enough, to permit full implementation? And, are the structural changes being made compatible with the family and community resources, norms and values of those who must become engaged with them in order for the changes to work?

Core Technology Restructuring Options

Education's core technologies are curriculum (which specifies the content of instruction), instruction (which facilitates the learning of curriculum content), and student assessment (which enables educators to monitor the efficacy of the curriculum content and instructional techniques used to deliver it). For more than half a century, important organizational reform efforts have been repeatedly targeted on each of these core technologies. Research on each of these core technologies is voluminous and, surprisingly, remains quite controversial.

Curriculum

Curricular reforms, particularly in reading, mathematics and science, have been given very high profile support by state and particularly federal policy-makers with spectacular claims routinely made for both the successes and failures of these efforts. The “reading wars” have become legendary as practicing teachers have been alternatively praised and castigated for relying on “basal readers,” “whole

language” materials or “phonics” curricula in the instruction of young readers. Many curricular innovations have apparently produced very large increases in student reading proficiency as they are exposed to one reading curriculum or another. But, after more than a half-century of serious, sustained, reasonably well resourced, and academically demanding curricular reforms, the achievement gaps between rich and poor, white and non-white, ELs and native English speakers remain stubbornly resistant to changes in theory and practice. Individual teachers and individual schools have repeatedly demonstrated very large student reading gains only to discover that these islands of excellence could not be consolidated into the green valleys of consistent and equitable reading achievement curriculum reformers expected.

Mathematics and science reforms have a similar history of lofty aspirations accompanied by serious professional disagreements about how to pursue them and a failure of highly successful programs

to “scale up” or become replicable in new contexts at new sites. (For a detailed review of the history of curriculum debates from a national perspective, see Tom Loveless’ [29] edited volume, *The Great Curriculum Debate*.)

In recent years, state and federal policy makers have shifted their curriculum reform focus away from trying to specify the scope and sequence of lessons to be taught in favor of defining “curriculum standards.” The standards approach seeks to specify what children must know and be able to do, without trying to specify how to teach this content. As state and federal officials have moved toward standards, a significant group of reform activists and curriculum materials publishers have been diligently trying to specify the specific content of classroom lessons—often with detailed scripts to be followed. It is too soon to tell whether either the standards movement or the scripted lessons reform efforts will substantially reduce the achievement gaps. Both have seen some notable successes and each has received substantial criticism.

Some recent research indicates that adoption of state standards does not easily translate into standardized classroom curricula. Despite the development, mandating and widespread staff training in state standards, teachers often teach to different standards depending on the academic level of their courses and students and tend to use instructional strategies that lower standards and emphasize basic skills for already low performing students [30].

Instruction

The second core technology, instruction, has been subjected to serious restructuring using several broad reform strategies. No doubt the most promising approaches to instructional reform involve restructuring teacher pre-service, induction and in-service

professional development. This approach to instructional reform is at the heart of efforts to enhance teacher professionalism—the reform strategy discussed in Section 3, below.

While giving substantial attention to teacher professionalism in recent years, policy-makers interested in improved instruction have also relied heavily on monitoring outcomes and holding schools and teachers responsible for attaining specified outcome levels. Research outside California finds that whereas pass rates improve over time, the extent to which this is the result of improved teaching and learning is unclear. The results could be arising because students are becoming familiar with test formats, teachers are narrowing the curriculum to focus on tested items, states are making tests easier and/or lowering cutoff scores, low achieving students are being removed from the testing program through dropout, grade retention or reclassification as learning handicapped, or being given inappropriate test accommodations [31]. And California has seen several cases of attempts to increase test scores through manipulation rather than effective instruction [32]. In short, without a climate of trust and support, a coherent network of policies, and adequate resources, teachers can be expected to substitute test score production for comprehensive content teaching when their status or their jobs are put at risk under instructional outcome monitoring policies.

Assessment

The third component in the public schools’ core technology is student assessment. Assessing student academic learning has a variety of important purposes. Teachers test students in order to hold them accountable for learning, and to ascertain whether the curriculum and instructional techniques they are using have been successful in generating comprehension and recall of lessons.

Schools use test data to ascertain whether programs are working and whether students need to be considered for placement in special programs for those who are gifted or learning challenged. School districts and state departments of education use student assessment data to characterize schools and sometimes even classrooms within schools as producing adequate academic growth rates. Researchers utilize assessment data to document the relative effectiveness of various programs and to determine what factors are actually responsible for variations in the rate of achievement and contribute to the development of achievement gaps among student groups.

Many policy-makers assume that close monitoring of student achievement test scores, combined with accountability measures that require failing schools to provide extra services, reorganize program and staff, and/or allow parents to opt out of the low performing schools will provide the leverage needed to secure substantial student achievement gains. Indeed, the No Child Left Behind act (NCLB) relies on a theory which asserts that public education systems can produce large gains in achievement and equality of educational attainment without substantial new resources and without fundamental or long-term systemic organizational changes. Unfortunately, basic achievement trends remain almost exactly what they were before NCLB was adopted. Moreover, students are receiving less instruction in subjects not tested and may, therefore, be actually declining in overall academic attainment.

Though California is a notable exception, assessment reforms in many states are not very well coordinated with curriculum development efforts. As recently as the year 2000, research found that while many states are using high-stakes tests rather than standards to guide instruction, the in use tests have little overlap with what teachers

actually teach. Reviewed state tests and curricula revealed that test to curriculum correspondence ranged from as little as 5 percent to only about 46 percent [33]. Fortunately, California has tackled the coordination of assessments and curricula quite energetically in recent years. No doubt this state has one of the most thoroughly aligned systems in the country today, but there is no good systematic comparison data regarding the extent to which the curricular standards most emphasized by teachers are the ones most central to getting high scores on the state tests.

Resnick & Zurawsky [34] note that the reason many state tests are not well aligned to state curriculum standards is not because the tests do not include the standards, but because they don't test the full range of state standards and objectives. Test developers tend to focus on simpler cognitive processes, and teachers tend to teach to that expectation, neglecting higher order and harder to assess curricular content. California has tried to resist this tendency, but when it attempted to assess some harder to measure content in the early 1990s with the California Learning Assessment System (CLAS) test, the result was widespread public resistance to test content and form.

High-stakes testing programs typically encourage teachers to align instruction to the tests rather than to curriculum standards whenever they find divergence between these two strategies for core technology reform [35]. Students not meeting standards are typically moved out of courses with broader curricular goals to be given double or triple doses of the test specific curricula.

Some scholars and policy-makers see the National Assessment of Educational Programs (NAEP) tests as the appropriate benchmark testing system to assess whether California is keeping pace with other states in meeting achievement goals. On the NAEP

tests, however, student performance has generally reached a plateau and even receded somewhat in the last few years. This raises questions about whether assessment-driven, standards-based reform and accountability can be expected to raise achievement and/or close achievement gaps [36].

Some criticize NAEP testing because it seeks to hold children to unrealistic standards. Rothstein [37] argues that the NAEP tests are “excellent” but proficiency cut-points are not credible. This is evidenced by the fact that 40 to 60 percent of Taiwanese students (who lead the world in mathematics achievement) would be scored as “below proficient” using the NAEP scoring system.

Linda Darling-Hammond et al. [38] summarize the core technology restructuring picture as far from a perfect solution to issues of achievement improvement. She argues that advocates of standards hoped they would spur other reforms including high quality curriculum frameworks and materials, and assessments tied to the standards with resource equalization and professional development to assure that teachers would be able to help needy students. These reforms have not been well integrated and serious mid-course corrections are needed.

Mulcahy [39] offers a blunt and dismissive assessment of the overall impact of restructuring at this level, saying that,

Centralized and standardized curricula and testing have ensured that a child’s school day consists primarily of test preparation. Such curricula could be categorized as an absence of education, for their impetus and direction is contrived and removed from the children in the class. To believe a child can come to discover, debate, consider and question the complex world in which

they live through a process of bubbling in the essentially ‘correct’ answer to a given question is nothing short of ludicrous [39, p. 10].

In California, there is one further concern about the core technology reform process. This state’s system of school finance does not adhere especially closely to the premise on which standards and accountability reforms have been developed—namely, the exchange of increased flexibility for improved student outcomes. Instead, the proportion of California’s budget for education dedicated to *restricted* categories (approximately 35%) outpaces the proportion of restricted funding in other states. Until very recently, the proportion of district funds restricted by categorical budgeting has grown steadily, more than tripling in the last 30 years [4].

We have not seen promising new organizational or policy approaches to restructuring California’s core technologies of curriculum, instruction and assessment. Standards-based, assessment driven, research guided core technology improvement has been at the heart of restructuring work for nearly a generation now without showing signs of erasing basic gaps. Indeed, over the last half-century an avalanche of changes, large and small, with and without research support, have been pushed by policy makers and pulled by professional leaders into the schools; but the achievement gap has remained large and intractable. There are, to be sure, hundreds of small-scale success stories showing that individual schools or school districts can, for various periods of time, overcome the odds and develop both high quality and highly equitable local programs. Perhaps the most important core technology restructuring lesson lies in these oft told stories—it seems increasingly likely that successful school program improvement lies not in standardization, replication and “scaling up”

of high performance programs, but in local professional commitment to full engagement with families and communities in finding

unique solutions matching professional talent and capacity to local needs and interests.

Classroom Level Restructuring Options

There are many organizational dimensions to school classrooms beyond the ways in which they define and incorporate the core technologies of curriculum, instruction and student assessment. How classrooms are organized can facilitate or deflect teaching and learning processes in important ways. The most important classroom structures are those that involve grouping students, specifying the timing and sequencing of their learning experiences, and establishing the controls needed to assure privacy, safety and orderliness during the execution of instruction.

Schools have dozens of ways of differentiating classroom structures. Whole classes or instructional groups within them can be composed in ways that are homogeneous or heterogeneous with regard to race and ethnicity, prior academic achievement, family and student interest, specialized academic programming, etc. Individual lessons can be made longer or shorter, the school day or school year can vary substantially in length, school calendars can be organized on a single- or multi-track year-round or traditional September to June calendar. Students can be strictly age or grade level stratified, or they can attend combination grade classes with one to three grade-level differences among members of the class. Grade boundaries can be rigid, or student progress can be continuous.

At the extremes of academic achievement, classrooms are structured to segregate students – Gifted and Talented Education programs for the high achievers and Special

Day Classes for the learning disabled, emotionally disturbed and mentally handicapped. These academic segregations were created to allow students to progress in their studies at different rates (compatible with their abilities and interests) and thus they virtually guarantee that five to ten percent of the highest and lowest performing students will be exposed to classroom processes that exacerbate rather than ameliorate achievement gaps. In the middle ranks of student achievement there is also very widespread utilization of achievement tracking, embraced as a means of adjusting instruction to student needs and capacities, but again virtually assuring that continued schooling will reinforce achievement gaps for students so placed.

In their comprehensive summary of the literature, Gamoran & Long [8, p. 9] point out that classroom structural differences are more important even than fiscal differences in determining school effectiveness. They conclude that,

Given the large amount of within-school variation, processes within schools are much more important for understanding student learning than resource differences among schools. Within-school studies have focused on the effects of processes such as tracking (e.g., [40,41,42] and exposure to learning material (e.g., [43,44]. Research on teacher effects reinforces the conclusion that within-school variation in achievement is partially attributable to schooling [45].

Options for Restructuring Classrooms

A wide variety of classroom restructuring options are to be found in the professional and scholarly literature on this topic. We describe here eight of the most widely reported and most frequently supported with data.

Tighten the System

The dominant theme of recent efforts to restructure classroom operations has been to substantially restrict the autonomy of teachers. This is done by clarifying and mandating learning outcome standards, aligning curriculum and pedagogy with those standards, linking assessments to both curricular content and outcome standards, specifying curriculum sequencing and re-teaching of un-mastered elements, creating and enforcing teacher and administrator accountability for the specified outcomes, creating systems of teacher centered and administrator managed instruction, and placing students and staff at substantial risk of significant negative consequences if they do not follow guidelines or reach specified outcomes.

Loosen the System

Many observers recommend just the opposite strategy for raising achievement. Scholars like Oakes [41] and Page [46] see ability group tracking as a primary mechanism for within school achievement gap production. And Linda McNeil [47] found that teachers in Texas retreated from responsibility and adopted what she calls “defensive teaching” under the pressure of standards based accountability systems. Others observe that teachers opt for teaching to the test and focusing their efforts on students close to, but below, proficient in

order to raise passing rates without actually closing achievement gaps. For such observers, the system tightening reforms noted above are a problem rather than a solution to the achievement gap problem. These analysts urge de-tracking classes, giving all students access to high quality materials, involving teachers and families in democratic decision making regarding instructional content and learning priorities, providing school programs of choice for families, and making instruction student and family centered. They see student motivation and parental support as major areas of concern and want schools to rely on interest and ambition to drive the selection of high quality learning opportunities.

Disaggregate the System

Jumping off from the well documented research findings showing that students in smaller schools have higher achievement, some educators are enthusiastic about programs supporting the creation of smaller schools and smaller classes within schools to provide a more intimate and engaging atmosphere. They argue for reduced central control over curriculum content and teaching method on the grounds that—at least within smaller and intimate schools—personal commitments and family support will focus teaching and learning activities [48].

Desegregate the System

American public schools are substantially segregated in ways that are certain to exacerbate achievement gaps. Poor, non-white and ELs are concentrated in some schools and some classrooms within schools. These stratifications become all the

more supportive of achievement gap production when instruction is simplified and slowed down for the students who are farthest behind. This suggests that policies should be formulated to ensure that the composition of each school and each classroom is balanced with regard to ethnicity, achievement, socio-economic class and other achievement related factors.

Professionalize the System

Observers who see housing market based segregation as politically irresistible and who support differentiated instruction for children with different learning needs urge professionalization of teaching as a primary mechanism for restructuring classrooms. They want policies that strengthen teacher training and certification, elaborate induction support systems, have strong teacher professional development services, create differential pay and status based on teacher capacity to improve student outcomes, and re-examine teacher organizations, making them less protective of teachers and more supportive of professional standards development and enforcement [49,50].

Stabilize the System

As much as 75 percent of the students in many urban classrooms change schools at least once during the school year [51]. Unfortunately, this student mobility tends to be worst among low achieving students, compounding their learning problems and making it likely that achievement gaps will be exacerbated [52]. Teacher turnover and absenteeism is also typically higher in classes where achievement problems are the most pressing [53]. Observers focusing on these problems urge policies that will reduce student and teacher turnover and mobility. Provide attendance incentives, report school-level cohort mobility rates, hold schools and school districts accountable for

students who make non-promotional school changes, bolster school guidance counseling by reducing the student/counselor ratio, and give teachers multi-year responsibility for student achievement so that they can really be held accountable for following individual student achievement trajectories [54,55]. Keep richer records of student achievement and have those records follow the students closely [54].

Strongly Enforce the NCLB School Safety Policy

A non-trivial number of families adopting home schooling or choosing to send their children to charter schools are doing so because they do not feel that their children are safe in the schools to which they are nominally assigned [56]. Families not opting out are pressuring the schools to control bullying, violence and harassment. They want policies that improve the attractiveness and quality of educational spaces and make schools more interesting places in which to spend a 30+ hour work week for students and teachers.

Integrate Community Social Services

Starting about two decades ago, concerted efforts began to be made to combine educational programs with other social services—welfare, public health and mental health services, community development activities and adult counseling, and support and learning opportunities. Particularly prominent among these efforts have been the creation of before and after school programs of nutrition, child care and homework assistance to support families where the parent(s) are holding down full-time employment and cannot find affordable child care. Building on this base, advocates of this multi-social services model of schooling seek closer collaboration among community service professionals. Unfortunately, this cooperation is hard to

sustain because most of the needed social services are organized on a case-work basis, while public schools organize their work programmatically. The case-based professional workers are sensitive about privacy issues and have little experience in mounting or sustaining programs [57].

At least as important as the specific direction taken is pursuing class level instructional reforms in assuring that whatever reforms are undertaken, they be undertaken with relentless dedication to quality and consistency. The observations

regarding English Language Development programs articulated by the authors of the September 2007 EdSource Report [58, p. 13] apply equally to all of the reform options discussed in this section of our report:

The quality of...instruction matters more than a given number of minutes. Quality...instruction includes careful consideration of the content, the delivery, the amount and type of scaffolding (support) provided, and constant monitoring of student progress to intervene when needed [58, p. 13].

Restructuring of the Teaching Profession

A third broad array of restructuring opportunities involves changes in the way teachers are prepared, organized, supervised, evaluated and compensated. Teacher training and certification have been undergoing three alternative, and not very compatible, restructuring processes. Pre-service testing of teachers to assure that they have both the basic skills they are expected to teach and an array of pedagogical skills indicating that they know how to teach has become a major industry as states have adopted multiple screening tests. California has been a leader in this area, requiring that individuals seeking employment in this state pass multiple tests of their knowledge and skills. Accompanying these pre-service screening tests has been adoption of fairly rigorous program standards to guide universities in the creation of training programs, and the strengthening of review processes to help assure that these standards are enforced. States have also strengthened their resolve to require that teachers at the high school level have more advanced training in the subjects they teach by requiring undergraduate college credits or rigorous tests and by monitoring and

restricting teachers assigned to teach outside their subject matter qualifications.

Even as this basic pipeline for teacher training and certification has become more rigorous and better monitored, however, states have been adopting and expanding alternative certification programs to overcome teacher shortages in hard to staff positions and in subject areas difficult to staff. California's alternative certification (Intern) program is currently being relied on to train about a third of all new teachers in this state. About half the current crop of interns are working for certification in special education, which means that a majority of new special education teachers are being trained as they are working as full-time teachers of record in special education classrooms.

The third prong of current reform efforts involves enhancing professional induction, in-service training and advanced certification. In an effort to strengthen the effectiveness of new teachers and prevent the very high attrition rates that plague most public school systems, many states, including California, have adopted formal induction programs to provide advanced training and support for new teachers.

California's program, the Beginning Teacher Support and Assessment program (BTSA) requires newly certificated teachers to spend two years in a close working relationship with an experienced support provider teacher and to undertake a series of training and development activities aimed at assuring increased competence and confidence. Recently this program, rather than university-based pre-service training institutions, has been given responsibility for recommending teachers for permanent certification. This and similar programs are part of a broad movement, urged on by a cacophony of complaints about the quality of the nation's university-based education schools, to shift control over certification standards and processes toward control by practicing professional educators.

In addition to moderately expensive early stage induction programs, teacher professional development and training programs have been undergoing serious scrutiny with strongly worded demands for doing away with "one-shot" training programs in favor of team-based training organized by and supportive of local school site "professional learning communities." At the high end of this transformation of in-service professionalism is the National Board certification, which seeks to create a differentiated teaching workforce with some teachers recognized as high-performance teachers capable of professional leadership.

Whether any or all of the teacher enhancements will work to significantly ameliorate persistent achievement gaps is quite uncertain. At one extreme, research seems to show that teachers with emergency credentials do about as well as those holding standard teaching credentials [59,60,61]. And there is little evidence that state testing requirements have an impact on teaching effectiveness [62]. However, students with teachers working out of their certified field tend to perform less well on achievement

tests in those subject areas. Linda Darling-Hammond's seminal work on teacher training [63], however, indicates that there are significant benefits for student achievement to be garnered from advanced teacher training. Rivkin, Hanushek & Kain [45] find that there is no evidence that teachers with MA/MS degrees have greater impacts on student achievement. They note important gains in teaching quality during the first year of teaching experience and smaller gains over the next few years, but little evidence of improvement after the first three years. There are significant negative effects on student achievement resulting from teacher turnover.

Some observers are quite confident that teacher training and work role restructuring will provide significant reductions in achievement gaps. Rivkin, Hanushek and Kain [45], for example, argue that substantial differences in teachers' ability to facilitate student achievement make it likely that effective hiring, firing, monitoring and promotion practices would significantly reduce the achievement gap.

Teacher compensation is another factor that no doubt plays an important role in determining the overall quality of the workforce. School districts are quick to report that quite modest differences in pay rates have a quite significant impact on the availability of qualified teaching candidates. At the same time, private schools, with their more select and committed student bodies, are able to staff their schools despite significantly lower salaries. Overall, though there is some dispute in the literature, it is evident that teachers are not particularly well paid when compared with similarly trained professionals. As Johnson and Liu [64] report,

Analysts bring different assumptions to different sets of data and, therefore, reach different conclusions about

whether teachers' pay is substantially lower than that of comparably trained employees in other fields. An analysis conducted by Education Week showed that the 1994 salary gap between teachers with bachelor's degrees and non-teachers with bachelor's degrees was \$11,035 (in 1998 dollars). Just four years later, in 1998, this gap had risen 61 percent to \$18,006 [64, p. 51].

Teacher Organization and Collective Bargaining

It is not much of an exaggeration to see teacher unionism and National Labor Relations Act (NLRA) style collective bargaining as the proverbial 600 pound gorilla in the school reform living room. Teacher unions have succeeded in organizing a substantial majority of public school teachers. They have negotiated substantial job protection rights into most union contracts, and they have energetically accepted their legal responsibility to aggressively represent the interests of individual teachers who are accused of inadequate job performance. After a long history of periodic and unfair abuse by religious, social, political and economic interests in local communities, public schools are not about to give up these hard won protections. There are, however, some creative possibilities that could work to strengthen union members' resolve to be more supportive of school reform and improvement. It is thinkable, for example, that public school teachers might shift from the NLRA model of industrial unionism toward the sort of model used by artist unions (e.g., screen writers, musicians, etc.). The artists' union model recognizes that individuals possess quite different levels of talent and ability and expect individuals to be rewarded for their unique talents. For this reason, the artist unions negotiate a base compensation that provides struggling artists

with a living wage, but expect talented and skilled artists to be compensated according to their performance levels. More importantly, while artist unions insist that art productions rely on union members, they are even more concerned about securing artistic control over their work and negotiate mechanisms for assuring that creativity will be recognized and control over its utilization be shared between artists and those who are producing the works for public recognition. It is also thinkable that teachers might be willing to accept differentiated status and compensation in exchange for expanded artistic control over their work. By and large, teachers already recognize that their colleagues possess different types and different levels of teaching talent. They already know that some assignments are much easier than others and that there are insufficient incentives in the public schools to encourage teachers to take on the most challenging assignments.

Serious reform of teacher unionism will not be done easily, and it would require significantly expanding teachers' artistic control in the workplace. Moreover, schools and school leaders would have to play a significant role in recognizing the high performance of teachers deserving compensation beyond negotiated base rates, and this would require a level of artistic "connoisseurship" that goes beyond the sophistication of many school leaders today. On the other hand, many parts of this reform are already being tried in various schools and school districts. A number of local unions are trying to engage in "interest" rather than "rights" bargaining to create a more collaborative pursuit of schooling excellence. And the National Board strategy for advanced certification of professional teachers has already legitimated recognition of unusually effective teachers. Additionally, differentiated staffing, teacher career ladders and merit pay schemes have

been tried periodically for more than half a century. Each of these pieces has proven to be fragile and impermanent when tried alone, but they might work if a coordinated effort were made to link transformation of

Restructuring School Organizations

The fourth level at which restructuring and management changes might be expected to significantly impact student achievement gaps is in the organization of schools as complex organizations and valued civic institutions. In many ways this has been the mainstay of continuing efforts to address schooling effectiveness and equality of educational opportunity. As with other restructuring initiatives, the schools have seen a virtual avalanche of policy initiatives aimed at altering their structure in hopes of altering their performance. Grade configurations were the earliest targets of structuring and restructuring policies. Secondary schools then kindergartens were added; soon it became important to create unique school systems for students in the middle or junior high school grades. The boundaries between elementary, middle and high schools have been shifted and shuffled and more recently specialized schools for students not performing well in the typical public school have been added. With the beginning of the ESEA Title I, Headstart program, preschools and sometimes infant daycare programs were added in many places. School calendars have been shuffled, sometimes extending the school year by a few days or creating year-round programs with vacation periods spread across the year. School programs have been extended to include after-school and summer offerings—often as voluntary programs and increasingly as opportunities for low performing students to get special help. State regulations typically specify in great detail the number of days and hours that

the compensation system to enhancing the teachers' artistic status and control and recognition of the contributions of unusually dedicated, skilled and talented teachers.

schools must operate and the amount of time that must be devoted to specific subjects.

In expert witness testimony prepared for the California *Williams* [65] case, R. Mitchell [66] reports that year-round educational calendars are clearly detrimental to student achievement. Moreover, the use of multi-track year-round calendars to accommodate overcrowding in the schools is far from randomly distributed—the children most likely to be on the low side of the achievement gap are also most likely to be attending multi-track year-round schools.

Students who have difficulty maintaining good academic, behavior and/or attendance records in mainstream schools are often assigned to alternative schools. These schools are often not very successful in providing needed support and educational services. Indeed,

Although alternative schools comprise only 8% of the total high school enrollment in California, they account for 33% of all dropouts. Regular charter high schools enroll 4% of California's student population but account for 16% of the dropouts. The high percentage of dropouts represented by students at alternative schools may reflect the fact that many of the students enrolled in these schools are already at high risk of dropping out when they enter (see [67]).

The average academic achievement of students enrolled in each school is typically viewed by the news media, parents, and particularly real estate agents as the primary mechanism for assessing the quality of

school staff and programs. Unfortunately, while achievement varies systematically across schools,

Attempts to measure the school attributes that account for achievement variation generally fall short. Similarly, teacher fixed-effects models indicate that teacher effects are powerful, but only small portions of these effects have been attributed to specific teacher characteristics [68,69]. . . . school and teacher resources do indeed “make a difference,” although the contribution of specific measured characteristics of schools and teachers is difficult to detect [8, p. 8].

Moreover, the Coleman finding that social composition of the student body is more important than teacher characteristics or school facilities remains unchallenged [17].

Family Choice and Creating Educational Market Structures

From the beginning of the twentieth century until the 1960s, business and political leaders concentrated reform and restructuring efforts on getting schools to emulate business practices. To produce what David Tyack [70] labeled the “One Best System,” policy leaders throughout this period emphasized strong executive leadership (at the district rather than the individual school level), specialization of roles and functions throughout the school systems, and regimentation of class organization and operations. By the 1970s, however, a number of key research findings began to coalesce to raise questions about the business/industrial model. It was noted that private and small schools often outperformed large public schools. It began to be believed that schools had monopoly control over educational service delivery and that this monopolistic control led to a system that is unresponsive to need and

preference on the part of families and children. It was noted as early as the 1960s [71] that business attitudes and pressures were making schools too impersonal and insensitive. It was recognized that political pressure and especially court litigation were necessary to secure a more responsive school bureaucracy, one willing to address the needs of the poor, the non-whites, the educationally disabled, the gifted and talented, the children at risk of failure, even the equal treatment of girls and boys.

These findings set in motion a vigorous political campaign to provide families and children more choices and to subject schools to competitive market forces. Mandated client involvement began with the Elementary and Secondary Education Act (1962) when Bobby Kennedy insisted on Title I advisory councils to review program effectiveness and sign off on budgets. Soon, however, advocates for families and students shifted toward private choice rather than regulated governance involvement. Open enrollment requirements, school vouchers redeemable at schools of choice and charter schools were all developed with the expectation that schools would become more responsive to client needs and interests. More determined families opted increasingly for home schooling and enrollment in private and religious schools to realize their aspirations for choice of program content and pedagogical style.

As summarized by Gamoran & Long [8, p. 16, 17], evidence regarding the impact of family school choices exercised through reliance on private schools, publicly supported educational vouchers and/or charter schools is mixed and highly controversial. Some important studies find significant positive effects on student test score achievement, others of apparently equal quality find no achievement effects. While no important studies have documented a negative impact on

achievement test scores, there is evidence that these choice mechanisms are facilitating socio-economic stratification of students—a factor that is often associated with increasing achievement gaps.

School choice does not lead to de-tracking of students. Student tracking continues despite extensive criticism of the practice. It is tied to larger issues of social inequality and racial injustice [72]. A case study by Alvarez & Mehan [73] seems to prove that detracking can be achieved in at least some settings. Teachers remain supportive of tracking practices, however [74].

Integration: Attendance Boundaries, School and Classroom Composition

Racial, cultural and socio-economic integration in schools has been shown to have a significant impact on equalizing student achievement. Hanushek, Kain, Markman & Rivkin [75] find that peer average achievement has a highly significant effect on learning across the test score distribution. Hence differences in peer characteristics will have a substantial effect if sustained across a child's school career. According to Rumberger & Palardy [76], what matters most is the socioeconomic, not the racial, composition of schools and classrooms. Average school wide SES is nearly as powerful as a student's own SES in predicting achievement test scores.

Unfortunately, however,

In the U.S., school segregation outside the South has nearly returned to the level in the late 1960s on some indicators: most Blacks study in schools with 50% or greater minority enrollment. This fact in part reflects changes in the U.S. population, which has a much greater proportion of minority students overall, but it also reflect the rollback of school desegregation policies [77]. [8, p. 19]

School Size, Class Size

The Tennessee STAR experiment represents the most sophisticated test of whether reducing class size can be expected to enhance student achievement. The results of this experiment were very promising—average achievement for the children in small classes rose significantly. Moreover, the achievement of minority children rose more than that of their white peers. Unfortunately, this important experiment is not immune to important criticism, and it has never been replicated. Achievement effects arising from California's massive class size reduction program (adopted in 1995) were quite disappointing, and similarly modest and unsustained effects were found in other state programs.

Ehrenberg, Brewer, Gamoran and Willms [78] question whether external validity for the Tennessee STAR experiment was sufficiently established to warrant the generalizations typically made across populations and settings. Additionally, they argue that using the money that would be spent on class-size reduction to instead improve teacher pay in ways that might improve student learning—such as rewarding teachers for gaining subject matter competencies, increasing student academic performance, or reducing teacher absenteeism or turnover—might not ultimately more effective. Moreover, a just released study by Northwestern University's S. Konstantopoulos [79] finds that while the Tennessee STAR small classes outperformed the larger ones, they also expanded the dispersion in student achievement, making achievement gaps worse rather than better.

With regard to school size, the positive benefits of smallness are less equivocal. Lee with Smith [12] concludes that,

Even in our full analytic models, which took into account school demographic

composition, sector, restructuring status, and several types of organizational structures, school size still had independent effects on student learning and its equitable distribution. In general, our analyses indicated that all students (but particularly disadvantaged students) learn more in smaller schools. . . . the mechanism through which school size “translates” to student learning is surely complex, operating primarily through its influence on how schools are organized [12, p. 157].

Bryke, Lee and Holland [80] concur, saying,

The coordination of work in larger schools typically imposes demands for more formal modes of communication and encourages increased work specialization and a greater bureaucratization of school life. In contrast, smaller school size facilitates personalism and social intimacy, both of which are much harder to achieve in larger organizational contexts [80, p. 299].

Research on school district policies creating procedures and criteria for student retention

Restructuring School and District Governance

Although they are the basic structures for school governance and political control, local school districts have been largely bypassed by reformers seeking to directly change schools and classrooms. Upheavals in the nation’s major cities may be changing this picture, however. Large urban centers from Seattle to Boston and from Atlanta to San Diego have seen their school districts making major governance changes. Mayors have been activated to seek district control in Boston, Philadelphia, Chicago and Los Angeles. San Diego experimented with hiring a high profile federal prosecutor as school superintendent; Los Angeles gave

in grade has found that these policies operate quite differently in large and small school districts in ways that support the Bryk, Lee and Holland finding that smaller means more personal and less competitive [81].

At least one study indicates that school differences are not just expressions of the family cultures represented among the students who attend them. Rivkin, Hanushek & Kain [45] identified large differences in the quality of Texas schools that occur in ways that rule out the possibility that they are they are created by family factors. Hence it is appropriate to conclude that school policy can be an important tool for raising achievement, particularly by providing students with a succession of good teachers who can help close family income related achievement gaps. However, achievement gains that are systematically related to observable teacher and school characteristics are generally small compared to the magnitude of the demographic achievement gaps that need to be corrected.

that job to the ex-governor of Colorado, and Seattle hired a retired general for the job. While the achievement gaps in these reform cities has not disappeared, their demonstrated a willingness to make dramatic and politically charged governance changes may be an indicator of renewed interest in how school districts should be reorganized and restructured to enhance achievement and reduce persistent achievement gaps. Virtually all of the big districts have created *de facto* subdivisions that are expected to act more or less like the smaller school districts found in the suburbs.

Students of school district politics have documented quite powerful links between political activism and policy change at the district level [82]. School district policy changes are most often made effective through key personnel changes. Like businesses incurring economic losses and athletic teams with losing records, school boards tend to rely on changing their chief executive officers to initiate significant change. Indeed, a line of research begun in the mid-60s found that districts seeking changed policies and programs drive those changes by appointing outsiders (individuals recruited from other districts or even from outside the education profession). These outsiders make substantial policy, program and personnel changes within their first year or two on the job.

The changed policies are not always effective, of course. They can raise anxieties, waste resources and create a kind of “policy churn” [83] that is self-destructive, disappoints community groups and wearies the teaching staff.

In their work, *Strengthening School District Capacity as a Strategy to Raise Student Achievement in California*, Rumberger & Connell [84] summarize the nature of effective district level policies. They see five basic elements in successful district reforms. These include: 1) meeting “critical conditions” for teaching and learning, 2) effectively structuring participatory processes and timelines for meeting specified benchmarks in all schools, 3) adequate technical support and assistance, 4) comprehensive data systems capable of aggregating data to the levels where decisions are being made, and 5) sustained relationships with external partners that provide new ideas, support and professional development for administrators, teachers and the data system.

Strong district leadership appears to be particularly important in reshaping high school operations, because, “Power in most high schools is organized into a clear hierarchy, with decision making about school policy severely limited at lower levels of the hierarchy.” And, therefore, to make restructuring really “take hold,” high schools require profound changes in “their most fundamental and entrenched features” [12, p. 161, 162].

Democratic Participation and Parent Involvement

For at least a half century reformers have been trying to create and refine mechanisms for direct democratic participation in school policy development and program design. As Amy Guttmann [85] reminds us, schooling has as one of its central purposes the nurturing of democratic beliefs and the realization of democratic means of governance. Educators have responded to pressures for democratic participation with enthusiasm when those seeking to participate embrace “boosterism” and act in support of current practices. With the maturation of the schools as archetypical public bureaucracies, however, responses to requests for participation, accommodation and program revisions have often led to deflection and resistance. As Ream and Palardy [86] have noted, however, networking among parents whose children attend school together provides,

...not only feedback on effective child-rearing strategies but also access to crucial information about school policies, teachers, and students’ peers [87]. This makes it possible for parents to work in unison to keep tabs on their children [88], and to collaborate with one another so as to influence school personnel [89].

This process supports the development of “social capital” that enables parents to successfully challenge professional educator control and secure adjustments in school design and academic service delivery. Indeed, especially middle and upper class families use this information exchange process to,

...influence school personnel on behalf of their children [90,91,92]. In exercising this strategy, parents aim to directly facilitate their children’s educational and social growth through strategic institutional interventions.^b Both individual and collective social engagement with institutional agents at the school site pay off: students whose parents participate in school activities and maintain contact with school personnel typically demonstrate elevated academic performance levels [93,94,95].

Parents on the lowest rungs of the class ladder prove less likely to tap their social networks for the explicit purpose of exerting

power over schooling practices [96]. Ream and Palardy [76] elaborate further:

This conclusion is supported especially by emergent field research on the particular influence of politicized middle class parent networks [97] as also on the relative lack of respect for and responsiveness to poor parents exhibited by school authorities [98,99,100]. Added to all of this is the consideration that while lower and middle class parents share similar educational goals for their children, their social networks tend not to overlap [101].

Clearly, if the democratic purposes of education are to be realized, school district leaders will need to not only accommodate parental engagement, they will need to nurture and support it as a means of improving school effectiveness, particularly for those students and families least comfortable presenting themselves to public officials.

Reorganizing Intermediate Units and Collaboratives

A sixth level of opportunities for reorganization and restructuring concerns the work of intermediate school organizations and school district consortia which, along with a broad array of entrepreneurial organizations, education management groups, charitable foundations, voluntary associations and “think tanks” that have sprung up around the public school system with serious intentions of altering their performance. The array of these intermediate level organizations is almost too numerous and varied to catalogue, much less to evaluate and confidently distinguish those that are helping to ease achievement gaps from those that seek private ends that may well be helping to create and sustain student group differences.

In California, the County Office of Education plays a number of very important roles. Historically, they were merely the point of contact for teachers who seeking recognition of their teaching credentials and thus their right to work at schools within the county. While substantively this function has been relocated to the state level, the counties may be able to provide leadership in a number of important areas, especially for the hundreds of districts that are too small to afford administrators with a number of crucial capacities. The counties also play a major role in the provision of special schooling services for special education and vocational education students. They provide monitoring and oversight for local districts discovered to be encountering fiscal

difficulties. They have major curriculum and staff development responsibilities and serve as the lead agency for a many categorically funded programs.

Consortia of schools and districts, often working with and through county offices of education, have acquired primary responsibility for a number of important services that influence the character and consequences of student achievement gaps. Vocational and technical education, for example, have been largely eliminated from most high school programs as a result of rising pressure to meet state test score targets. Recent studies show, however, that collaboratively organized Regional Occupational Centers and Programs play a significant role in raising motivation, improving academic performance and facilitating access to both the labor market and post-secondary schooling successes for non-college bound high school students [102,103]. Special education services are also greatly enhanced through the development of Special Education Local Planning Area (SELPA) agencies which organize data, monitor program performance, and provide technical assistance. The Governor's Committee on Educational Excellence [4] has made explicit recommendations for strengthening the role of county offices in the areas of educational data management, district support, staff development and problem solving.

Entrepreneurial Interventions

Ream [55] examines some examples of organized program interventions that involve school consortia. Two described in his work are AVID and PUENTE. Of these, he says,

Perhaps awkwardly described as an “untracking” program, AVID aims to counter current education trends

whereby student groups are increasingly segregated within schools as a result of tracking practices [104,105]. More specifically, AVID identifies students of mid-range abilities in the 8th grade who demonstrate the potential to go on to college, enrolling them in college-preparatory classes while also offering a system of social scaffolding [106] to help ensure their academic success.

Recent studies indicate substantial AVID program successes (see [107,108]. Of the Puente Project, Ream [55] says it “targets Latino students across a wide achievement spectrum and within the first two years of high school with the academic momentum, offering to help them graduate and go on to college” [55].

The Chicano/Latino Policy Project offers a thorough overview of AVID and the Puente Project, including cost-benefit analyses [109].

Philanthropic Foundations and Education Management Organizations

Philanthropic foundations—Annenberg, Carnegie, Ford, Gates, Heritage, Hewlett, to name but a few—have provided substantial, off-budget resources and have had a major impact on stimulating program innovations and school restructuring experiments. King [110], for example, reports that,

Expanded access to pre-kindergarten in recent years is primarily the result of individual state legislative, state agency, state executive, and state referendum efforts. States have pursued these efforts at different times, unequal rates, and with no coordinating effort from the federal government. (Much of the existing coordination has come from private foundations, such as The Pew Charitable Trusts, Joyce Foundation, and David and Lucille Packard Foundation

and national non-profit organizations, such as the National Association for the Education of Young Children [NAEYC].)

Unfortunately, foundations do not make permanent commitments of resources and

thus leave local schools and districts with the need to use foundation resources as start-up money to get a program into operation, but must be careful not to cripple ongoing budget needs in order to provide the resources needed to sustain the programs when the foundation resources are gone.

Reshaping the State Policy and Governance System

Over the last half century education policy control has shifted dramatically away from local schools and school districts and into the hands of politicians and agency administrators at the state and federal levels. Historically, the California legislature has often led the way in setting new policy directions. They have repeatedly upped the ante on teacher preparation and professional development. They adopted most of the recommendations of the *Nation at Risk* [16] report before it had actually been written. They early adopted a substantial student testing program and have a reasonable record of creating programs for various special populations. Since passage of Proposition 13 in 1978 moved financing public education substantially into the hands of the state government, the legislature and governor have not just controlled financing, they have adopted dozens of special programs and policies demonstrating their belief that with fiscal responsibility comes the right and obligation to exercise policy control.

On some issues California has been relatively late in the national policy cycle. This state was late, for example, in creating a coherent teacher labor relations policy, and late in funding a significant class size reduction program.

As thoroughly documented in the recently published *Getting Down to Facts* studies [5], one important thing this state has not done is lead the nation in financing public

education. Particularly since passage of Proposition 13, California school finances have not only lagged significantly behind other states, but the financial system in this state has been both unstable from year to year, and highly constrained with regard to how the limited resources that are available can be used.

California educators have also witnessed significant and protracted political conflicts among the major education policy initiators—the governor, the legislature, the California Department of Education, and the Commission on Teacher Credentialing. As these agencies have wrestled with each other for power and authority over school policies, they have also had to interact with strong lobbying interests from multiple teacher unions, a reasonably strong administrators organization, activist citizen groups, county offices of education, and direct lobbying efforts by the state’s largest school districts (all of whom have highly paid lobbyists representatives in Sacramento on a full time basis). In this centralized and highly politicized policy environment, stability of policy direction, regulatory mandates and fiscal support have typically been overrun by competing demands for state policy maker attention and resources, by periodic crises in other public sectors (energy, prisons, etc.), and the demands of various special interests. They have been rendered spectacularly unstable by the state’s shaky tax revenue system.

The judicial branches of both the state and federal governments have also dramatically expanded their influence through sweeping judgments regarding student rights, administrative responsibilities and the statutory and constitutional responsibilities of state and local governments regarding financing and regulating public schools. California has provided much of the grist for the judicial intervention by federal courts. This state led the way in the litigation of landmark state school financing cases (e.g. [111]). Most recently, in the *Williams* [65] case settlement, this state has acknowledged its responsibility for assuring that students have equitable access to school facilities and instructional resources as well as to reasonably comparable funding levels.

Policy Coherence and Fiscal Stability

California's system of school finance does not adhere especially closely to the premise on which standards and accountability reforms have been developed—namely, the exchange of increased local educator flexibility for improved student outcomes. Instead, California has centralized control through highly restrictive categorical program budgets, while empowering teacher union negotiations to substantially constrain the rest of the local district budget. Though it is certainly true that revenue variations do not translate directly into achievement differences, nevertheless,

International evidence shows that school resources do have a strong effect on student achievement, for the poorest countries...countries that have passed a threshold of basic school resources...experience a diminishing (though non-zero) marginal return for additional school resources [8, p. 15].

California schools have seen an unproductive collision between state revenue limits that impose restrictions on

expenditures and state demands for innovations aimed at improving overall achievement and reducing academic achievement gaps. There is something quite ironic about seeing the Governor's Committee on Education Excellence [4] report urging major new policy initiatives covered in the same daily newspapers as announcements of draconian staff and program cuts sweeping across California's local school districts.

Federal Policy and Research Directions

Federal education policy has long been the primary source of educational research and development resources, as well as the major source of resources aimed at improving educational opportunities for poor, minority and non-English speaking students. Though education is among the nation's largest business enterprises, research and development funds for education are quite modest when compared to the resources provided to other fields.

The twin education initiatives of the current federal administration—NCLB, renewal of the Elementary and Secondary Education Act, and the Educational Sciences Institute (which replaced the Office of Educational Research and Improvement)—mark a quite dramatic change in federal policy. These two new federal laws place the federal government at the center of the Standards Based Accountability approach to school management, and the Social Science Research-based approach to program innovation and improvement.

NCLB has its own theories about how gaps can be reduced. The law requires "highly qualified" teachers in every classroom, specified as teachers with college degrees, teacher certification, and subject matter competence. While the latter has been empirically associated

with higher test scores [62], the association, like other effects is modest. ...at present few programs and policies have rigorous evidence of causal effects [112]. [8, p. 19]

With substantial controversy surrounding the renewal of NCLB, it remains to be seen whether the new directions taken in the Bush Administration's primary education initiatives will survive the upcoming presidential election cycle.

Data Collection, Organization and Analysis at Levels Above the School and Classroom

No doubt the most important contribution by state and federal administrative agencies is the development of data record keeping and analysis systems that can enable both educators and their critics to discern the

effects of various factors influencing student achievement. Up to this point in time, statistical data on educational programs, staff, resources and actual operations have been collected in such delayed, disconnected and inconsistent ways that it has been impossible to create real-time models of school operations and their outcomes. Over the next decade or so, this should change dramatically, allowing local educators to monitor institutional actions and their effects in ways that allow for timely adjustments in curricular content, instructional services, and assessment procedures. Only as new data monitoring and analysis systems become available is it possible to imagine that educators can move from their current fears that reliable data is primarily a resource for school critics rather than for school managers and program implementers.

Conclusions

The materials reviewed in this paper support five broad conclusions about how policymakers might develop organizational structures and policies for addressing the very large achievement gaps separating poor, language learning and non-white students from their more advantaged peers.

Conclusion #1: No Single Policy Can Hope to Close the Achievement Gap

The academic gap in the public schools is not only very large, it is persistent, and, except for the moderate progress made during the Great Society's War on Poverty programs, has repeatedly resisted manifold policy and program changes adopted over the last half century. Of course one can find examples of powerful achievement gap closing policies working in specific locations, for some populations, or for short periods of time. But locally successful programs have not been reliably "taken to

scale." Changes in leadership or participant groups typically disrupt otherwise successful interventions, and repeated implementations of nominally identical programs do not have comparable effects. Thus we must conclude that for schools, like most other complex organizations, improvements will only emerge through many, generally small, changes produced through persistent, well supported, and energetically pursued efforts. In short, overcoming the achievement gap will not arise from, "doing the right thing," but will require "doing everything right."

To get things right requires intense engagement, an emphasis on problem-solving and a dedication to team building. As Tough [2] puts it,

The schools that are achieving the most impressive results with poor and minority students tend to follow three practices. First, they require many more hours of class time than a typical public

school. The school day starts early, at 8 a.m. or before, and often continues until after 3 p.m. These schools offer additional tutoring after school as well as classes on Saturday mornings, and summer vacation usually lasts only about a month. The schools try to leaven those long hours with music classes, foreign languages, trips and sports, but they spend a whole lot of time going over the basics: reading and math...

There is an emphasis on results but also on “team building” and cooperation and creativity [2].

Conclusion #2: Organizational and Policy Changes Will Need to Affect Relationships Among Family, School and Community.

To the extent that schools lead the change process it will be impossible to reach the needed level of impact without reaching inside the school classroom to redistribute educational outcomes at the classroom level.

More than two-thirds of the variance in student achievement is found *within* classrooms—less than one-third *between* classrooms and schools. School and district level changes can only be expected to substantially ameliorate achievement differences if they systematically reorganize what goes on within the classroom. The most optimistic estimates of how the extent to which school or district level changes could reduce the achievement gap do not come close to solving the problem.

Conclusion #3: It has Become Clear that Sustained Improvement in Classroom Performance Rests Heavily on Three Factors: Professional Capacity Among Teachers, Leadership Capacity Among School and District Level Administrators, and the Student Composition of the School

Several promising strategies for improving teacher professionalism can be identified in the literature. Recent research studies have suggested that the basic parameters of effective administrative leadership include such moral imperatives as trustworthiness, interpersonal authority, the boldness that springs from deep personal commitment to a vision of social justice, and thoroughly grounded professional competence.

As Coleman [18] long ago documented, the social composition of the student body—who you sit next to in class—is a very potent factor affecting student achievement, more important than teacher characteristics or school facilities.

Conclusion #4: Human and Social Capital Formation is at the Heart of Educational Success for all Students, and Attention to its Development is Especially Important for Children Who Have Fallen Behind in the Development of Academic Achievement

As Bowen and Bok [113] have argued, overcoming the achievement gap does not necessarily mean developing educational systems that produce equality of achievement test scores. Provided with appropriate educational opportunities and given adequate social and psychic support, students can reach superior life successes. Moreover, the powerful influence of family and community factors in determining student academic performance confirms that

academic achievement is itself one consequence of cultural integration and strong social support during childhood.

Central to a belief that achievement gaps can be meaningfully addressed is the operating assumption that poor, language learning and non-white students can, in fact, succeed in school, in spite of the many hardships they and their families endure. Additionally, their success is importantly dependent upon intentionally designing a *social support system* that encompasses every student—a network of people who seamlessly link home and school so as to produce a *countervailing* force in the lives of at-risk youth. Students are, of course, from their earliest childhoods already embedded in inter-connected networks of family, peers, and neighborhoods and eventually school personnel. Efforts to reduce gaps must build on these networks, enlarging them and training and mobilizing network participants to work together on behalf of the students. The most promising strategies for success will be those that guide students in the most effective utilization of the social resources and support they already have at their disposal, including family members, school-oriented friends, school counselors, teachers and even engaged school administrators. This powerful influence of family and community factors—of people as resources—confirms that academic achievement is, itself, one consequence of strong social support during childhood.

Conclusion #5: There are a Number of Promising Strategies for Improving the Effectiveness and Equality of Learning Within Classrooms

While the literature reviewed here counsels against thinking that state policy makers can formulate, mandate and secure implementation of the kind of comprehensive and detailed program and policy changes that are needed to overcome

student achievement gaps, we would commend the following options for stimulating engagement and pointing the way toward the development of schools capable of learning from their own experiences and nurturing a commitment to professionalism and continuing attention to multidimensional improvements. Professional educator communities have to become engaged in teamwork and continuous improvement in order for schools to achieve the level of performance needed to significantly reduce the achievement differences that are brought to the school when children enter the schoolyard gates and which are all too often made worse by the inequalities and inadequacies of current school operations. The following six initiatives represent good starting places – partly because they are likely to directly address achievement differences, but also because they help to stir a sense of possibility and allow staff teams to elaborate and refine the concepts as they try to implement them.

Targeted High Quality Preschool

Numerous studies of small-scale, intensive early education programs identify a variety of long-term benefits for participating children and their families ranging from lower high school dropout rates to decreased criminal activity. Studies of model programs, such as the Chicago Child-Parent Center and Expansion Program (CPC), Abecedarian Project, and High/Scope Perry Preschool Project, for example, largely form the basis of cost/benefit ratio reports of \$3–\$17 in savings for every \$1 invested in early care and education programs [110]. Preschools are also promising starting points because they promise to address achievement gaps when they first appear, before children have learned to think of themselves as unsuccessful in dealing with challenging curriculum materials.

Additionally, preschool programs are very likely to require close collaboration between educators and families in the community as parents of young children tend to be much more active in monitoring children's social experiences.

While preschool programs provide excellent opportunities for teamwork, community engagement, and developing educator leadership, resources, especially in tight budget times, have proven hard to secure.

Targeted School-Community Clinics

Millions of Californians are uninsured, and impoverished children suffer disproportionately from a lack of dental/vision/health care [3]. For these reasons, community health clinics housed within schools serving our most impoverished students also represent promising mechanisms for reducing one of the major causes of achievement gaps. There are challenges, of course, as health care professionals rely on case-based rather than program-based approaches to organizing services. And they have very different norms for protecting confidentiality and maintaining records. Recent experience with certified special education students has brought some of these norms into the public schools, however, creating a staff with substantial case-oriented experience.

Targeted After School and Summer Programs

A third area where local initiatives, professional leadership and close collaboration with families and communities holds promise is in the design and implementation of cultural and academic after school and summer programs. As Tough [2] notes, effective schools often offer additional tutoring after school as well as classes on Saturday mornings, and their

summer vacations usually last only about a month. Within these beefed-up school programs, educators try to leaven those long hours with music classes, foreign languages, trips and sports, but they spend a whole lot of time going over the basics: reading and math. Here again, the attack on achievement gaps can be direct as those children with the most challenges can be given disproportionately large doses of these supplementary services.

Targeted (and More Substantial) Class Size Reduction

It is quite clear that reducing class size is the most expensive school reform strategy that has been tried in most states. As implemented, despite its popularity with parents and teachers, the California approach has been largely unproductive. Quite likely this is because the effort was not sufficiently radical to actually produce the results that have been found when classes are reduced to 12 to 15 students per teacher. According to a "Getting Down to Facts" report, California's average student/teacher ratio is 21.4, more than five students per teacher above the national average [114]. Clearly California cannot afford across-the-board class size reduction that would give most or all children the benefits of more intimate and closely monitored instruction, but it might be possible to develop targeted reductions addressing the needs of children who will otherwise not keep up with their peers. Clearly there are lasting benefits for children who have initially been helped to high academic functioning in smaller classes.

Targeted School Integration

In spite of the *Supreme Court's* recent take on integration, ambitions are contagious and the accumulation and exchange of social capital is proscribed, in good measure, by social proximity. The social composition of

the student body—who sits next to whom—is one of the most important factor affecting student achievement, more important than teacher characteristics or school facilities. California’s school children need much more integrated educational experiences—social class and racial integration needs to be accompanied by academic, linguistic and vocational integration.

Targeted “De-categorical” Funding

California’s system of school finance does not support the basic principle around which standards and accountability reforms have been developed—namely, the exchange of increased local program and staffing flexibility for improved student outcomes. Instead, about 35 cents on each education dollar is restricted by one or more of a multitude of categorical programs—a situation that some sardonically dub California’s “clogged categoricals.”

Districts/schools with articulated plans for addressing the amelioration of student achievement gaps might be offered greater flexibility in how they spend education moneys by linking increased budget flexibility to locally developed and led program innovations. This was clearly the

idea behind the development of charter schools, but they have been increasingly subjected to similar fiscal constraints. There are risks involved, of course; you cannot have serious innovation without encountering some judgment errors and occasions when opportunism and unethical professional conduct abuse flexibility and deflect vital resources. At present, however, it looks like the efforts to prevent errors and malfeasance are also preventing creativity and innovation. Processes need to be transparent and leaders accountable, but within these boundaries it seems likely that much more local flexibility is needed.

In sum, exploration of the organizational and policy options available for addressing continuing achievement gaps in California’s public schools makes it abundantly clear that leadership, flexibility, creativity and multi-dimensional systems of action are urgently needed. The goal of producing educational equality has been almost completely overrun by relentless demands for the production of standardized adequacy in recent years. We may be marginally increasing average student performance, but the cost for doing so has been to institutionalize glaring gaps and leave them virtually untouched for two full generations of school children.

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Notes

^a At 21.4 students per teacher, California has unusually large classes. This compares with 13.8 in New York, 14.9 in Texas, and an average of 15.6 for all other states [114].

^b Illustrating what's functional about social capital, these ethnographers reveal the concerted processes whereby middle class parents draw on professionals within their interpersonal networks (e.g., lawyers and members of the media) to collectively influence school policy, sometimes converging on the school site *en masse* in order to effect change. Considering this same account from their more critical perspective, social ties between schools and middle class parent networks often exclude working poor parents who may lack the schedule flexibility necessary for developing cooperative and even politicized alliances [96] that might otherwise influence school personnel on behalf of *their* children.