

WORKING P A P E R

School and District Improvement Efforts in Response to the No Child Left Behind Act

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Preface

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Introduction

Over the past several years the majority of attention paid to the No Child Left Behind (NCLB) Act has focused on the accountability aspects of the policy, including assessments, adequate yearly progress (AYP) determinations, school choice, and supplemental educational services. Significantly less attention has been paid to the specific improvement efforts of schools and districts in response to these new expectations and consequences. Understanding the improvement strategies adopted by districts and schools is vitally important because the success of any education reform will eventually be measured by its ability to bring about positive change in schools and districts. This paper draws on RAND's Implementing Standards-Based Accountability (ISBA)¹ project to present preliminary findings regarding how improvement is playing out in schools and districts in three states.

Background

NCLB's ultimate goal of proficiency for all students means that even schools and districts that are currently able to meet AYP targets will need to make considerable improvements as those targets increase in future years. Two simulation studies that project schools' AYP status over time illustrate this need. The first, conducted by researchers at the University of Minnesota, found that the percentage of elementary schools in Minnesota failing to meet AYP would rise from 7.7 percent in 2003 to 99.9 percent in 2014 if no school improvement was assumed (Minnesota Office of the Legislative Auditor, 2004). A second simulation using data on Connecticut schools used more favorable assumptions, allowing for student achievement growth to continue at current rates, but still found that 93 percent of the state's schools would fail to meet AYP in 2014 (Moscovitch, 2004). Schools and districts will clearly need to make substantial improvements above and beyond their current rate of student achievement growth if they are to meet AYP goals in future years. During the past two years, proficiency targets

¹ This paper also builds on last year's AERA paper by H. Barney and A. Robyn, *School Improvement Under the No Child Left Behind Act*. 2005

underlying AYP determinations have already increased in most states—some more rapidly than others.

NCLB includes several provisions aimed at helping schools and districts improve. First, the law provides considerable motivation for improvement. By setting standards for student achievement and annually assessing students' progress towards those standards, the state accountability systems established under the law create clear goals towards which schools must strive. Schools and districts are provided with strong incentives to achieve those goals, as failure to do so leads to escalating sanctions and success may lead to public recognition and financial rewards (Stecher, Hamilton & Gonzalez, 2003).

In addition to providing motivation, NCLB promotes improvement by mandating that states provide schools and districts with annual state test results disaggregated for a variety of groups of students that can be used for school- and district-level data-based decision making. The law specifies high standards for all schools to meet, but it does not prescribe how schools and districts should meet those goals, instead leaving to the discretion of school and district administrators the responsibility for identifying strategies that best fit their particular local context and address their specific needs. Finally, NCLB aids school improvement by providing for specific types of technical assistance to schools that do not meet their performance targets. School districts are required to ensure that schools that are identified for improvement after failing to meet AYP for two consecutive years receive technical assistance based on scientifically based research. Specific areas for assistance include data analysis, identifying and implementing strategies, and budget analysis. The law also requires states to “create and maintain a statewide system of intensive and sustained support and improvement” and specifies particular types of assistance that the state should provide to schools and districts in need of improvement.²

While our overall study focuses on the implementation of NCLB accountability provisions and student achievement in elementary and middle school science and mathematics in California, Georgia, and Pennsylvania, this paper focuses on how schools and districts are responding to NCLB and on their specific efforts to bring about improved student and school performance. While one might imagine multiple dimensions in which “performance” might be

² Although this paper does not examine in depth the technical assistance provided to schools and districts in need of improvement, the larger study and future reports will analyze such efforts.

improved, the incentive structure established by NCLB narrows the focus to one single clear goal: increasing students' academic achievement. As a result, schools and districts must pay significant attention to student learning and the instruction that produces it if they are to meet NCLB's lofty goal of 100 percent proficiency on state assessments. Our primary focus is on organizational practices at the school and district levels and the range of improvement levers available to administrators. Although at times we draw on teacher reports on various improvement strategies, we do not examine classroom practice (another paper in this symposium by Hamilton and Berends will do so).

Research Questions

Building on existing research, this paper provides descriptive evidence of how school and district improvement under NCLB is playing out in three states. We draw from survey and case study data from 2003-04 and 2004-05, and the results reported here provide a useful two-year look at improvement practices in the context of external accountability requirements, and beginning changes in practice as states' accountability systems mature. We are still at the early stages of our analysis and plan to add a third year of survey data to further measure change over time. Overall, this paper addresses three broad research questions:

- What strategies are schools and districts using to improve student performance?
- What is the perceived quality and usefulness of these efforts?
- What are the perceived constraints and enablers of improvement efforts?

Data and Methods

The introductory paper in this symposium describes the design, data, and methods used in the ISBA study (Stecher & Naftel, 2006). It also provides some information about state policy contexts in the three states (California, Georgia, and Pennsylvania) where we are working. The results presented in this paper rely primarily on superintendent and principal survey data from the 2004-05 school year, with some comparisons to data collected in 2003-04 (see Stecher et al., 2005 for details on 2003-04 samples and response rates). We also draw on data from teacher

surveys and interviews conducted with teachers, principals, and in some cases parents in case study schools. Table 1 provides the sample sizes for the estimates reported in this paper. For the 2004-05 school year, we added to the sample of districts (primarily in California to offset a higher refusal rate) drawn for the 2003-04 school year to both increase the overall number of districts and to increase the number of districts where high percentages of schools were not meeting NCLB achievement goals (See Stecher & Naftel, 2006, for further details). Schools that included both elementary and middle-level grades (e.g., K-8 schools) are included in both the middle and the elementary school samples.³

Table 1.
Sample Sizes for Each State

	California	Georgia	Pennsylvania	Total
Districts				
-agreed to participate	31	30	31	92
-superintendents responding to survey	24	24	19	67
-superintendents participating in interviews (year 1)	15	12	16	43
Elementary Schools				
-agreed to participate	51	52	56	159
-principals responding to survey	44	50	54	148
-teachers sampled within participating schools	592	772	646	2010
-teachers responding to survey	509	726	598	1833
Middle Schools				
-agreed to participate	40	59	43	142
-principals responding to survey	34	45	33	112
-teachers sampled within participating schools	421	833	404	1658
-teachers responding to survey	317	683	340	1340

State-specific weights were applied to all survey data to make the responses reflect the state as a whole, reflecting both the sample design for each state and the patterns of survey non-response. As a result, the statistics reported in this paper represent estimates of the responses of superintendents, principals, and teachers statewide. Because we used a nested sample of teachers and principals within schools and schools within districts, the number of responses grows progressively smaller as we move from teachers to principals to superintendents. As a result, the summary statistics based on teacher responses are more precise than those based on principal responses, which are more precise than those based on superintendent responses. To help the reader interpret the results, we have included estimates of the standard errors in all tables. It is

³ Note, however, that the estimates reported here are based only on teachers in the relevant grades (e.g., the middle school estimates include only teachers in grades 6 through 8).

also important to note that the study was not designed or intended to provide evaluative judgments across the three states; rather, the states should be considered three case studies from among the population of states. We report results by state with the intent to illustrate patterns within and across states, to suggest possible explanations, and to highlight how different state contexts influence the way in which school improvement is playing out under NCLB.

A final caveat concerns our reports of change across the two years of data collected. It is important to remember that superintendent and principal respondents may change from year-to-year either because of turnover or because the survey response is delegated to another staff member; moreover, the total sample of districts increased from 2003-04 to 2004-05. Therefore, changes in school/district operations may not reflect a planned progression by a given superintendent or principal, but rather the changed strategy or perception of a different or new administrator. In addition, given the small sample sizes for superintendents, we would not be likely to calculate reliable test statistics for differences in estimates from one year to the next or across states.

Organization/Overview of Paper

In this paper we first examine the broad array of school improvement strategies principals reported employing in 2004-05 and analyze efforts underway at both the district and school levels to support three efforts identified to be “most important”: the analysis of student test data, curriculum and instruction alignment with standards and assessments, and targeted assistance to low-performing students. Next, we examine other improvement efforts employed less frequently in certain states or with less perceived importance, including test preparation, building teacher and principal capacity, expanding instructional opportunities through changes in time allocations, and whole school reform models. Finally, we explore the reported constraints and enablers to these improvement efforts and conclude with some of the implications and lingering questions emanating from this analysis.

Most Important School Improvement Strategies

As in the work conducted in 2003-04, we asked principals surveyed whether they had employed a list of “strategies to make your school better” in the current school year (2004-05). And similar to last year, there was relatively little variation in the percentages of principals reporting use of these strategies across the three states, as shown in Table 2. A majority of principals reported using a wide variety of strategies for school improvement including alignment, data-based decision making, professional development, targeting specific students, and restructuring instructional time. Least frequent was increasing the total amount of instructional time e.g., by lengthening the school day or school year, or shortening recess. In almost every case, more Georgia principals reported using each of the strategies than did California or Pennsylvania principals.

This year we added a new question to the survey, asking principals to identify up to three of the listed strategies that were “the most important for making your school better in 2004-05.” Across the three states, principals identified the same subset of most important strategies: increasing the use of student achievement data to inform instruction, matching curriculum and instruction with standards and/or assessments, and providing additional instruction to low-achieving students. As shown in Table 2, approximately half or more of the principals in all three states identified these strategies as one of the three most important they employed in 2004-05. All of the other strategies failed to receive more than half of principals ranking them as most important. Although it is not surprising that principals would report utilizing these three strategies—particularly given that the theory of action underlying NCLB calls on these elements as important levers of change—many principals also are reporting that efforts in these three areas are making a difference. These findings are consistent with much of the data collected at both the district and classroom levels. Surveys and case study visits indicate that teachers, principals, and superintendents engaged in numerous activities within these three broad categories and often viewed them as helpful for improving teaching and learning. In the following sections we examine the efforts of individuals at the district, school, and, in some cases, classroom level within these three domains, exploring the variation both within and across states in the types of activities and reported usefulness of these improvement efforts.

Table 2.
Percentage of Principals Employing School Improvement Strategies
and Identifying Them as Most Important

	Percent Employing School Improvement Strategy			Percent Identifying Strategy as One of Three Most Important		
	CA	GA	PA	CA	GA	PA
Matching curriculum and instruction with standards and/or assessments	100	98	99.5	58 (7)	59 (4)	62 (6)
Using existing research to inform decisions about improvement strategies	98 (2)	100	95(3)	40 (9)	23 (4)	21 (4)
Providing additional instruction to low performing students	96 (3)	99 (1)	97 (2)	48 (8)	40 (5)	55 (8)
Increasing the use of student achievement data to inform instruction	93 (7)	99 (1)	93 (6)	60 (8)	69 (6)	47 (8)
Increasing the quantity of teacher professional development	91 (4)	95 (3)	71 (7)	35 (9)	23 (4)	23 (7)
Improving the school planning process	77 (8)	96 (2)	85 (5)	6 (2)	23 (5)	20 (6)
Providing before- or after-school, weekend, or summer programs	86 (7)	87 (4)	74 (7)	21 (5)	18 (6)	21 (5)
Promoting programs to make the school a more attractive choice for parents	64 (8)	72 (5)	50 (8)	7 (2)	6 (3)	4 (3)
Restructuring the day to teach content in greater depth (e.g., a literacy block)	59 (9)	73 (6)	59 (8)	12 (5)	21 (5)	24 (5)
Increase instructional time (lengthening school day or year or shortening recess)	14 (6)	51 (6)	25 (7)	2 (2)	14 (4)	2 (2)

Notes:

Principal q.35.

Standard errors are shown in parentheses.

Data-Based Decision Making

One important aspect of the theory underlying standards-based accountability reforms is that increased availability of performance data will lead to better decision making by superintendents, principals, and teachers. With its focus on regular assessment of student progress towards clear and measurable performance standards and broad public reporting of results from those assessments, NCLB is intended to facilitate increased use of data by providing

schools and districts with new sources of data for analysis, as well as increasing the pressure on them to improve student test scores (Massell, 2001).

The selection by California and Georgia principals, and to a lesser degree Pennsylvania principals, of data-based decision making as one of their most important improvement strategies places them in the mainstream of theory and research regarding school improvement. Studies of high-performing schools and districts increasingly indicate that data-based decision making is a central feature of effective improvement efforts, and that administrators draw on data from multiple sources including state tests and frequent district and school progress tests to identify and address student learning difficulties (Symonds, 2004; Council of Great City Schools, 2002; Edmonds, 1979; Williams, et al., 2005; Ragland, 2002; Snipes, Doolittle & Herlihy, 2002). The identification of data use is also consistent with research by the Center on Education Policy (2005) on the implementation of NCLB, which finds that the most frequent strategy used by districts across the country for schools in need of improvement is increased use of student achievement data to inform decisions.

Not only did administrators in our sample recognize data use as vital for school improvement, but also many attributed the increased data use to state and federal accountability systems. More than three-quarters of superintendents in our study reported that because of their state's accountability system, the use of data has changed for the better throughout their district.

In the following sections we examine the availability and perceived quality of state and locally provided information about school and student performance in California, Georgia and Pennsylvania, the perceived usefulness of these data, and the types of decisions for which schools used them.

State Test Data

Similar to our findings last year (Barney & Robyn, 2005), principals reported that state assessment data were widely available and that they were especially useful when available for current students and for the previous year's students, as shown in Table 3. Principals in Pennsylvania were also more likely to find results useful when they were disaggregated by subtopic or skill as opposed to disaggregated by subgroup.

**Table 3.
Percentage of Principals Reporting State Test Results are Available
and Moderately or Very Useful (2003-04 State Test Results)**

	California		Georgia		Pennsylvania	
	Available	Useful	Available	Useful	Available	Useful
Reports of last year's test results for the students at your school last year	96 (3)	76 (7)	98 (6)	91 (3)	95 (4)	84 (7)
Reports of last year's test results for the students at your school this year	100	86 (7)	98 (2)	96(2)	99 (1)	89 (4)
Test results summarized for each student subgroup	100	77 (8)	94 (3)	91 (3)	100	60 (8)
Test results summarized by subtopic or skill	89 (8)	72 (9)	96 (2)	93(3)	100	83 (6)

Notes:

Principal q. 15.

“Moderately and very useful” is as a percent of principals who had results available.

Response options included not available; not useful; minimally useful; moderately useful; and very useful.

Standard errors are shown in parentheses.

As illustrated in Table 4, in all three states, majorities of mathematics teachers had access to test results and of those, about two thirds or more found the breakdowns by subtopic and skill moderately to very useful. In fact, they were more likely to find this subtopic/skill breakdown useful than the breakdowns by student subgroup.

Although NCLB does not require the measurement of science achievement until 2007-08, California implemented science testing in grades 5, 9-11 in 2004-05, and Georgia already had been administering science tests in grades 3-8 prior to the inception of NCLB. Pennsylvania will be implementing a state science test in the spring of 2008. Only about a quarter of California science teachers reported that state science test results were available or that they were moderately or very useful. In contrast, these results were available to three quarters of Georgia teachers and, of those, more than half reported that they were moderately or very useful when disaggregated by subtopic or skill.

Table 4.
Percentage of Mathematics and Science Teachers Reporting
Availability and Usefulness of Mathematics and Science Test Results

	California		Georgia		Pennsylvania	
	Available	Moderately or Very Useful	Available	Moderately or Very Useful	Available	Moderately or Very Useful
Math Teachers						
Mathematics test results summarized by student subgroup	86 (2)	36 (4)	88(2)	51 (3)	81(3)	27 (2)
Mathematics test results disaggregated by subtopic/skill	88(2)	68 (3)	94(1)	80 (2)	82(3)	66 (3)
Science Teachers						
Science test results summarized by student subgroup	26	18 (5)	74 (3)	39 (3)	NA	NA
Science test results disaggregated by subtopic/skill	25	27 (7)	79 (3)	58 (3)	NA	NA

Notes:

Standard errors are provided in parentheses.

Response options included not available, available and not useful, available and minimally useful, available and moderately useful, and available and very useful.

Percentages in “moderately or very useful” columns are percentages of those reporting the resource was available which includes teachers in tested and non-tested grades in California and Pennsylvania.

Source: Teacher survey, q.12, 25.

Timeliness and issues of quality. A key indicator of the usefulness of test results is the speed with which they become available to educators. Surprisingly, principals were much less sanguine about the timeliness of state test results than were teachers. As shown in Table 5 below, fewer than half of principals in all three states characterized the performance information they receive as “timely” compared with more than half of teachers at both levels in all states, with the exception of Pennsylvania elementary school teachers. In general, Pennsylvania educators at all levels were less likely than their counterparts in the other two states to find state test results timely. Perhaps the difference in responses between teachers and principals relates to the different uses they made of the data. One hypothesis is that principals use the data for decisions generally made during the summer before classes start (e.g., student placement and year-long planning), whereas teachers typically wait until the start of school to consult test

results and use them for areas where they need to strengthen their own content knowledge during the year.

Another issue regarding the quality of state test results is the misalignment of curricula and test content reported by teachers in all three states. With the exception of elementary mathematics teachers in Georgia, majorities of teachers reported some sort of misalignment (defined as either including content not in the curriculum or excluding important content in the curriculum) between state assessments and the curriculum. Other teachers reported that state tests were too difficult for the majority of their students. (For further discussion of this and other issues regarding test quality, refer to Russell and McCombs, 2006.)

Table 5.
Percentage of Principals and Teachers Agreeing or Strongly Agreeing
with Statements about Timeliness of State Test Results, 2004-05

	California		Georgia		Pennsylvania	
Principals: The information we receive about our school's performance is timely	37 (8)		47 (6)		19 (5)	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Teachers: I received the test results in a timely manner	58 (4)	70 (2)	71 (3)	69 (4)	36 (3)	64 (5)

Notes:

Standard errors are provided in parentheses.

Response options included strongly disagree, disagree, agree, and strongly agree.

Principal q. 16, Teacher q. 14.

Use and perceived usefulness of data. Research indicates that administrators use external data, such as state test results, to manage school improvement, set annual goals, align instruction with state standards, identify low-performing students, and make comparisons with similar schools. (Symonds, 2004; Supovitz & Klein, 2003; Williams et al., 2005). Principals and superintendents in our study reported using state test results for many of these purposes. Superintendents' priorities for state test data use focused on developing a district improvement plan, focusing principal and teacher professional development, making changes to district curriculum and instruction materials, and helping individual schools to develop school improvement plans, as shown in Table 6. They were least likely to report using state test data for decisions around allocating resources.

Table 6.
Percentage of Superintendents Reporting that State Assessment Data
are Moderately or Very Useful for Making The Following Decisions

	California	Georgia	Pennsylvania
Developing a district improvement plan	92 (4)	100	97 (2)
Focusing principal and/or teacher professional development	96 (3)	100	91 (5)
Helping individual schools develop school improvement plans	88 (7)	100	86 (9)
Making changes to the district's curriculum and instruction materials	89 (6)	90 (6)	92 (4)
Recommending specific instructional strategies	68 (11)	69 (13)	80 (10)
Making policy about how much time is spent on each academic subject	64 (11)	76 (10)	72 (12)
Allocating resources among schools	59 (11)	52 (14)	53 (15)

Notes:

Superintendent Q. 1.

Standard errors shown in parentheses.

Response options included not useful, minimally useful, moderately useful, and very useful.

Compared to last year (2003-04), Pennsylvania superintendents were substantially more likely to report using data in several areas, including focusing professional development (91 percent compared to 56 percent last year); developing a district improvement plans (97 percent compared to 71 percent); deciding how much time is spent on each academic subject (72 percent compared to 44 percent), and helping schools with their improvement plans (86 percent compared to 67 percent).⁴ These increases were not apparent in California or Georgia where state data use was already fairly high, nor was it paralleled by Pennsylvania principals who also already made fairly extensive use of state test results in 2003-04.

Similar to last year and to superintendent reports, in 2004-05, principals reported using data primarily for developing a school improvement plan, focusing professional development, making curriculum and instruction changes, and identifying students who needed additional instructional support, as shown in Table 7. In every decision category, more Georgia principals found the data useful than either California or Pennsylvania principals. The differences are most striking in two areas.

⁴ Estimated standard errors for last year's estimates: 11, 12, 10, and 12 respectively.

First, in Georgia more than three-quarters of principals reported that state test results were moderately or very useful for making decisions regarding student promotion or retention, compared with less than half of California principals and about one-fourth of Pennsylvania principals. This difference is not surprising given that Georgia, unlike the other two states, has promotion gateways based on state test results for the 4th grade in reading (as of 2003-04), the 5th grade in reading and math, (as of 2004-05) and the 8th grade in reading and math (as of 2005-06).

Second, Georgia principals were much more likely to find test results useful for identifying teacher strengths and weaknesses: two-thirds compared to less than half in California and Pennsylvania. One possible explanation for Pennsylvania is that at time of the survey, testing in Pennsylvania did not yet occur in all grades so principals did not have relevant data for all teachers' students

Table 7.
Percentage of Principals Reporting that State Assessment Data
are Moderately or Very Useful for Making The Following Decisions

	California	Georgia	Pennsylvania
Developing a school improvement plan	77 (8)	98 (1)	73 (7)
Focusing teacher professional development	71 (8)	85 (4)	78 (8)
Making change to curriculum and instructional materials	71 (9)	79 (5)	83 (5)
Identifying students who need additional instructional support	72 (9)	95 (8)	66 (7)
Making decisions on how much time is spent on each subject	54 (10)	69 (8)	51 (9)
Identifying teacher strengths and weaknesses	49 (9)	74 (5)	41 (9)
Making decisions regarding student promotion or retention	45 (11)	77 (6)	27 (9)
Assigning students to teachers	21 (5)	57 (7)	16 (5)

Notes:

Principal q. 17.

Standard errors shown in parentheses.

Response options included not useful, minimally useful, moderately useful, and very useful.

Teachers' use of data also appears to be prevalent across the three states. More than 80 percent of principals agreed or strongly agreed that teachers in their school review state test results and use them to tailor instruction. As for how teachers reported using the data, mathematics teachers generally found state test results more useful for identifying their own professional development needs rather than students' instructional needs (as shown in Table 8).

The majority of math teachers in all three states, especially in Georgia, also agreed or strongly agreed that state test results were useful for adjusting curriculum and instruction.

Table 8.
Percentage of Mathematics and Science Teachers Agreeing or Strongly Agreeing with Statements about the State Tests

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
State Test Results ...						
Allowed me to identify areas where I need to strengthen my content knowledge or teaching skills						
Math teachers	70 (4)	55 (4)	89 (2)	79 (2)	69 (4)	60 (5)
Science teachers	48 (6)	50 (5)	83 (2)	80 (2)	NA	NA
Helped me identify and correct gaps in curriculum and instruction						
Math teachers	63 (4)	53 (4)	86 (2)	84 (2)	63 (4)	58 (4)
Science teachers	41 (6)	47 (5)	79 (2)	74 (3)	NA	NA
Helped me tailor instruction to individual student needs						
Math teachers	54 (4)	35 (4)	84 (2)	78 (3)	40 (4)	50 (5)
Science teachers	33 (6)	27 (8)	72 (3)	58 (4)	NA	NA

Notes:

Teachers that said they did not receive test results are excluded. Only teachers in grades in which state tests were administered in 2004-05 in Pennsylvania are included. These grade levels were 3, 5, and 8.

Response options included strongly disagree, disagree, agree, and strongly agree.

Teacher q. 14, 27.

Standard errors are provided in parentheses.

One common use of test data is for identifying and targeting students most likely to profit from extra attention, i.e., those just below but very close to the proficiency cut-off. Teachers and principals frequently refer to these as "bubble students" or students "on the cusp." As Table 9 shows, most principals—particularly in California and Georgia—reported that their school and/or district encouraged teachers to focus on students close to proficiency. In contrast, only one third of teachers across the states reported focusing more on students who were close to proficient than they would have in the absence of the state testing program, and the teacher responses in 2005 represent a decrease in use of this practice from 2004.

Table 9.
Percentage of Principals and Teachers Reporting a Focus on Student Close to Proficient

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Principals: School and/or district encouraged teachers to focus on students close to proficient	85 (6)	94 (3)	90 (4)	93 (4)	77 (7)	57 (15)
Mathematics teachers: I focus more on students who are close to proficient	37 (5)	19 (3)	36 (2)	38 (8)	29 (3)	22 (15)

Notes:

Percentages for principals represent those answering “Yes”. Percentages for teachers represent those answering that their teaching is different in this way as a result of the state test.

Response options included not at all, a small amount, a moderate amount, and a great deal).

[P-14; T-13H]

This practice was common in several case study schools, and many educators attributed this increased focus to NCLB and the need to meet AYP goals. One elementary principal explained that previously the school had focused on students who were “really struggling,” but decided to change the focus. She explained, “If they’re sitting at Basic, it means that’s a group of kids that can move quite easily. If we just focus on what they need, they’ll move. This isn’t a group of kids that’s struggling and it’ll take a lot of racking our brains and a lot of money and resources to figure [how to help those students] out. This is the group that’s trying to go.”

Teachers in our case study schools described several examples of “bubble kid” strategies.

According to one elementary school teacher,

[T]he high-basic child that’s almost proficient ... that’s what we call our target group ... Every teacher got a printout of their target group. Every teacher has about four to five kids in their class. We went over strategies on how to make sure you involve them and you get them involved. We talked about seating. These children should be closer up to you. Whenever another child answers a question, refer back to that student and make sure can you tell me what the answer was or what did Johnny say, and always keep those four to five kids questioning and making sure they’re their target. They’re the kids that we need to push up to proficient. So, that’s our AYP strategy.

Other teachers, as well as a few parents, expressed discomfort with this practice and concern about low-performing students whom they feared would not receive the attention they needed. One middle school teacher commented:

They don’t go to the classroom and say, okay, who are the ones with the really, really bad grades here? Who are the ones who need help? No, they want to get the ones who are in the middle so they can push them to the top. ... I want to push everyone in my class, everyone in the school, to be better students, to be able to get into the labor force with the most knowledge that they can have. ... So that’s really hard for me.

Local Assessment Data

In all three states, administrators and teachers frequently reported using other student assessment data to guide improvements in teaching and learning. In fact, the vast majority of superintendents agreed or strongly agreed that information from assessments they administer regularly during the year was more useful than state test results (all of the superintendents in Pennsylvania, 84 percent in Georgia, and 81 percent in California).⁵

One type of local assessment data we examined in more depth was results from progress tests. Specifically, we defined these tests as “required tests that are administered periodically (e.g., every six weeks) to monitor your students’ progress (also called “interim,” “benchmark,” or “diagnostic” tests).” This form of testing has become a focus of attention for its promise as a means to improve data-driven decision making in schools (see, e.g., Supovitz & Klein, 2003). As Table 10 illustrates, there was considerable variation across the states in the numbers of districts requiring schools to administer progress tests. This form of testing was relatively more popular in Georgia, where 89 percent of superintendents required some or all of elementary and middle schools in their district to administer progress tests in math and approximately half required some or all of elementary and middle schools to administer the tests in science. Although approximately half of the superintendents in California and a third in Pennsylvania required math progress tests in some or all schools, they were much less likely to report this requirement in science. Again, Georgia’s history of state science testing in grades 3-8 helps explain this difference.

**Table 10.
Percentage of Districts Requiring Some or All Elementary and Middle Schools
to Administer Progress Tests in Math and Science, 2004-05**

	California	Georgia	Pennsylvania
Math Progress Tests Required At Some or All ...			
Elementary Schools	44 (13)	89 (6)	38 (14)
Middle Schools	56 (14)	89 (7)	32 (13)
Science Progress Tests Required At Some or All ...			
Elementary Schools	9 (5)	55 (14)	0
Middle Schools	17 (8)	43 (14)	0

Notes:

Superintendent survey, q. 20.
Standard errors are show in parentheses.

⁵ Standard errors were 0, 8, and 11, respectively.

Consistent with superintendent reports, teachers in Georgia were more likely than their counterparts in the other two states to report that their district or school required them to administer progress tests in 2004-05 in math and/or science, as shown in Table 11. Once again, the differences were particularly striking with regard to science progress tests. For example, 30 percent of Georgia elementary school teachers reported administering progress tests compared with 9 percent in California and 3 percent in Pennsylvania. Interestingly, teacher reports of progress testing were similar or just slightly higher this year compared with last year, with one exception. In Pennsylvania, elementary school teachers were much more likely to report math progress testing requirements in 2004-05 than the previous year: 47 percent compared with 30 percent in 2003-04.⁶

Table 11.
Percentage of Elementary and Middle School Teachers Required to Administer Math and Science Progress Tests, 2004-05

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Math Progress Tests	62 (6)	42 (8)	77 (5)	62 (6)	47 (6)	50 (14)
Science Progress Tests	9 (3)	11 (4)	30 (6)	44 (6)	3(1)	10(4)

Notes:

Teacher survey, q. 15, q. 28.

Standard errors are show in parentheses.

Similar to what we found last year, teachers using progress tests generally viewed the results as valuable for instruction and, in some cases, more useful than state test results. Because only small numbers of teachers reported administering progress tests in science, we focus here on the results for mathematics. As Table 12 illustrates, in California and Pennsylvania, teachers at both levels were more likely to report that progress tests compared with state tests were a good measure of student mastery of state content standards and that results from progress tests helped them identify and correct gaps in their teaching. These differences were particularly large at the middle school level. In contrast, the overall differences were much less pronounced in Georgia, where teachers were almost equally likely to find state and progress tests valid measures and helpful for identifying curriculum and instruction gaps. These patterns generally speak to the perceived limitations of state test data in California and Pennsylvania, as discussed in the previous sections. Additional information collected from surveys and case study visits also

⁶ Standard errors are 6 and 5, respectively.

highlight the specific features of progress tests that contribute to some teachers’ preferences for these data over state test results.

Table 12.
Percentage of Teachers Agreeing or Strongly Agreeing with Statements about Mathematics State Tests and Progress Tests, 2004-05

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Tests are a good measure of students’ mastery of state content standards						
State Test	42 (4)	38 (4)	60 (3)	57 (3)	45 (4)	50 (5)
Progress Test	57 (5)	59 (5)	62 (4)	68 (4)	70 (3)	70 (5)
Test results help me identify and correct gaps in curriculum and instruction						
State Test	63 (4)	53 (4)	86 (2)	84 (2)	63 (4)	58 (4)
Progress Test	76 (5)	76 (5)	82 (3)	82 (3)	84 (3)	86 (4)

Notes:

The results displayed for “state test” include responses from teachers in grades in which state tests were administered in 2004-05 and who reported having access to these results. For Pennsylvania, this included only teachers in grades 3, 5, and 8. The results displayed for “progress test” include only teachers that reported being required to administer these progress tests.

Source: Teacher q.11, 14, 19.

In general, progress tests provided teachers with results more frequently throughout the year than state tests. In Georgia, more than half of the teachers reported administering math progress tests every six to eight weeks, as shown in Table 13. Teachers in California and Pennsylvania were more likely to report administering them two to three times a year. More importantly, the majority of teachers in all three states reported receiving the results either the same/next day or within a week. In case study interviews, teachers often noted that this quick turnaround assisted them in applying the data to their instruction and that this timeliness generally did not characterize the speed with which they received state test results. One fourth-grade teacher in Pennsylvania told us, “[The progress test] is quicker, a faster turnaround. I teach it, I test it and I can see who gets it, who doesn’t get it and I can go back in and work with that student immediately. It’s just more direct.” Similarly, an elementary school teacher in California commented, “I use [interim assessments] more mostly because the test data that I have on these kids [from the state] isn’t the stuff that they’re doing right now.”

Table 13.
Percentage of Mathematics Teachers Reporting Progress Tests with Various Features

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
District or school requires you to administer a progress test	62 (6) (N=450)	42 (8) (N=113)	77 (5) (N=626)	62 (6) (N=277)	47 (6) (N=569)	50 (14) (N=152)
Progress tests administered two to three times per year	57 (8)	60 (9)	36 (6)	28 (5)	51 (6)	36 (4)
Progress tests administered approximately every six to eight weeks	30 (7)	21 (7)	54 (6)	65 (5)	32 (4)	38 (4)
Progress tests administered approximately every two to four weeks	13 (5)	20 (6)	10 (2)	7 (2)	17 (4)	28 (6)
Results are available the same or next day	36 (5)	53 (8)	57 (6)	56 (6)	56 (6)	50 (11)
Results are available within one week	30 (5)	24 (8)	25 (5)	24 (3)	25 (4)	28 (6)
Test contains only multiple-choice questions	35 (8)	58 (8)	69 (7)	81 (4)	25 (4)	35 (11)
Administered on a computer	4 (2)	4 (3)	20 (6)	17 (5)	6 (2)	20 (12)
There are consequences for teachers associated with performance on the tests	3 (1)	6 (2)	9 (3)	8 (3)	4 (2)	7 (3)

Notes:

Teacher survey, q. 16, 17, 18.

Standard errors are show in parentheses.

Other features of these tests varied across the states. Although in some places, such as Georgia, large percentages of teachers reported that the math progress tests contained only multiple-choice items, teachers were much less likely to report a strictly multiple-choice format in California and Pennsylvania. In general, most teachers did not report administering the tests on computers. Further, very few teachers noted that there were consequences for teachers associated with results from progress tests. We hypothesize that the lack of consequences and possibly pressure was another reason why teachers were apt to find progress tests results more useful than state test results—perhaps rendering the tests’ results much more of an instructional tool for an internal audience as opposed to an accountability tool for an external audience.

Curriculum and Instructional Alignment

Another popular improvement strategy in all three states was supporting the use of curriculum and instruction aligned with state standards and assessments. Rather than adopting a new curricular or instructional program, respondents were much more likely to report supporting existing curriculum and teachers' implementation of it. In fact, only a small percentage of superintendents and principals reported adopting new math or science curricula in the past two years. As Table 14 illustrates, approximately one third or less of principals in all three states reported implementing new math or science curricula in the past two years. In all cases, respondents were more likely to report implementation of new math curricula compared with science curricula. Survey results from last year suggest that curriculum adoption in many schools and districts already occurred in prior years and that the focus this year was on supporting teacher enactment of these new programs

Table 14.
Percentage of Principals Reporting New Curricula in 2003-04 or 2004-05

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
New mathematics curriculum	10 (5)	30 (9)	20 (5)	22 (7)	30 (10)	38 (15)
New science curriculum	14 (7)	24 (12)	9 (4)	8 (6)	16 (8)	17 (8)

Notes:

Principal q. 6,9; Superintendent q. 20, 21.
Standard errors are shown in parentheses.

The majority of reported activity related to curriculum appeared to be supporting teachers with their implementation of curriculum in ways that were aligned with state standards and tests. As noted in Table 2, virtually all principals reported matching curriculum and instruction with standards and/or assessments. Similarly, superintendents reported a lot of activity in this area over the past three school years. In all three states, approximately half or more of superintendents reported undertaking multiple actions to assist schools in aligning curriculum and instruction with state or district content standards in math, as shown in Table 15 below, including the development of pacing plans, instructional calendars, and sample lessons linked to state standards and “mapping out” alignment of required textbooks and instructional programs to state standards and assessments. The most popular strategy in math was monitoring and providing feedback on the implementation of state content standards in classrooms (e.g., by

reviewing lesson plans or students’ work or by conducting walk-throughs). There were, however, a few differences across states. California and Georgia districts were more likely to map out the alignment of instructional materials to state standards and state assessments. In addition, California districts were much less likely than districts in the other states to establish curriculum guides.

Table 15.
Percentage of Districts Taking the Following Steps to Assist Schools with
Aligning Math Curriculum/Instruction with Standards in the Past Three Years

	California	Georgia	Pennsylvania
Monitored or provided feedback on the implementation of state standards in classrooms	98 (3)	93 (4)	82 (10)
Mapped out the alignment of required textbooks and instructional programs to state <u>standards</u>	82 (11)	86 (6)	54 (15)
Mapped out the alignment of required textbooks and instructional programs to state <u>assessments</u>	68 (12)	88 (6)	49 (15)
Developed “pacing plan” or “instructional calendar” aligned with state standards	60 (12)	83 (8)	64 (15)
Established detailed curriculum guidelines aligned with state content standards	48 (11)	75 (13)	66 (15)
Provided sample lessons linked to state standards	65 (13)	70 (13)	76 (12)
Developed local content standards that augment state content standards	62(12)	51 (14)	72 (15)

Notes:

Superintendent q.18.

Standard errors are shown in parentheses.

However, there was much greater variation across the states in the area of science. Compared to the other two states, Georgia superintendents were much more likely to report undertaking these alignment activities for science curriculum and instruction, as shown in Table 16. Again, the testing of science in grades 3-8 in Georgia helps explain these differences. This state context clearly provides greater incentives for districts to pay attention to science instruction and its alignment with state tests and standards, which are newer and more limited in scope in the other two states.

Table 16.
Percentage of Districts Taking the Following Steps to Assist Schools with
Aligning Science Curriculum/Instruction with Standards in the Past Three Years

	California	Georgia	Pennsylvania
Monitored or provided feedback on the implementation of state standards in classrooms	43 (12)	92 (4)	40 (14)
Mapped out the alignment of required textbooks and instructional programs to state <u>standards</u>	54 (13)	76 (9)	34 (14)
Mapped out the alignment of required textbooks and instructional programs to state <u>assessments</u>	48 (12)	72 (11)	30 (13)
Developed “pacing plan” or “instructional calendar” aligned with state standards	24 (11)	72 (11)	32 (12)
Established detailed curriculum guidelines aligned with state content standards	27 (10)	70 (11)	48 (14)
Provided sample lessons linked to state standards	38 (12)	67 (13)	32 (12)
Developed local content standards that augment state content standards	35 (11)	47 (14)	49 (15)

Notes:

Superintendent q.18.

Standard errors are show in parentheses.

In many of our case study districts, administrators had developed pacing charts, standards calendars, and guides to align curriculum to state standards. Administrators often described their efforts as intended to help teachers know how to cover all of the standards over the course of the year and to ensure that “everyone is on the same page.” One of our districts also identified “highly assessed standards” to further help teachers focus on the key standards most likely to be covered on state tests. Many teachers and principals viewed all of these efforts as increasing the centralization and standardization of instruction across classrooms and schools. One California elementary school teacher explained,

There’s more emphasis on teaching to the standards. There’s a lot more standardization of what we have to teach and how we have to teach it. I don’t know that it’s all due to the No Child Left Behind Act, because some of the same things have been coming from different directions at us, but certainly it’s much more standardized. There’s less flexibility for the teacher or for the individual student.

Some teachers and principals—particularly in areas with high student mobility—viewed this centralized curricular guidance favorably: mainly for ensuring all students equal access to the same rigorous content. Others appreciated that these efforts brought greater consistency of instruction and held teachers accountable. As one California middle school teacher noted, “I do

see a change because now we're all on the same page, ... they try to keep us pacing the same now, we have the same materials – before we didn't have that.” In the surveys, teachers also reported that curriculum alignment efforts were helpful. As Table 17 below illustrates, in all three states, more than half of teachers whose district or state had undertaken these curricular alignment efforts in the area of math found them moderately or very useful. Interestingly, the action most frequently cited by superintendents—monitoring and providing feedback—was the action least frequently identified by teachers as useful relative to the other four options provided on the surveys.⁷ For example, teachers were much more likely in all three states to identify curriculum guidelines as useful.

Table 17.
Percentage of Teachers Reporting that District/State Actions to Align Math Curriculum/Instruction with Standards Were Moderately or Very Useful

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Detailed curriculum guidelines aligned with state standards	83 (2)	80 (4)	90 (2)	87 (2)	87 (2)	84 (4)
A “pacing plan” or “instructional calendar”	70 (4)	67 (7)	83 (2)	81 (3)	84 (2)	73 (8)
Monitoring and feedback on implementation of the state standards	56 (5)	52 (6)	63 (3)	61 (4)	58 (4)	51 (5)
Mapping out alignment of textbooks and instructional programs to state standards	74 (2)	76 (5)	77 (2)	70 (3)	83 (3)	61 (8)
Sample lessons aligned with state standards	65 (4)	66 (6)	75 (3)	72 (3)	72 (2)	57 (7)

Notes:

Percentages include teachers reporting both that their district or state took these actions *and* that these actions were either moderately useful or very useful.

Standard errors are shown in parentheses.

Unreported categories included not useful and minimally useful.

Yet for many teachers in our case study schools, this new guidance created intractable problems regarding pacing and resulted in a lack of time to teach for understanding and mastery. These concerns cut across all three states and levels of schooling. For example, a middle school teacher in Pennsylvania commented,

⁷ A similar pattern emerged in response to the same set of questions about efforts to align curriculum and instruction in science. In all three state, teachers were least likely to rate “monitoring and feedback” as useful.

In some ways it's [district standards' calendar] good, but it can also be hurtful when you have a child that doesn't get a concept, and you know, 'Well next week, we did money and now, we're going to do time,' and you know some children just didn't quite get money and you'd like to spend more time, but it kind of pushes us a little bit more.

Similarly, a California elementary school teacher expressed concerns about her district's curriculum guides: "Sometimes you'll find a grade level that has 40 skills to teach in 20 days. There's no depth. It's a mile-wide, inch-deep kind of coverage of skills." Several case study school teachers also complained about not receiving needed guidance on how to modify the curriculum and curriculum guide or pacing plans for special education students.

Assisting Low-Performing Students

As shown earlier in Table 2, virtually all principals across the three states provided additional instruction to low-achieving students. In addition, districts in all three states undertook numerous efforts to further target and support this student subgroup, as illustrated in Table 18 below. For example, offering *remedial assistance* to students outside of the school day was particularly popular in Georgia and Pennsylvania, where more than 80 percent of superintendents required this at some or all elementary and middle schools. In addition, Georgia superintendents also were more likely than their counterparts to require an *increase in the amount of time* spent on mathematics instruction for low-performing students at some or all elementary (94 percent) and middle schools (92 percent). In contrast, less than half of California superintendents reported this requirement at either the elementary or middle school level. Also, more than half of the superintendents in all three states required some or all middle schools to create *separate mathematics classes* for low-achieving students, and more than half of the superintendents in Georgia and Pennsylvania reported this requirement at the elementary school level.

Table 18.
Percentage of Districts Requiring Some or All Elementary and Middle Schools
to Make Changes Targeting Low-Achieving Students, 2004-05

	California	Georgia	Pennsylvania
Offering <u>remedial assistance</u> to students outside the school day required at some or all ...			
Middle Schools	44 (12)	86 (12)	82 (11)
Elementary Schools	61 (13)	84 (12)	95 (4)
Increasing the amount of <u>time spent on math</u> instruction specifically for low-achieving students required at some or all ...			
Middle Schools	35 (13)	92 (4)	49 (15)
Elementary Schools	44 (13)	94 (4)	63 (15)
Creating <u>separate mathematics</u> classes for low-achieving students required at some or all ...			
Middle Schools	56 (14)	56 (14)	51 (15)
Elementary Schools	39 (13)	57 (14)	54 (15)
<u>Eliminating some remedial math courses or instruction</u> and requiring all students to take more challenging math courses or instruction required at some or all ...			
Middle Schools	76 (10)	22 (9)	32 (12)
Elementary Schools	53 (14)	19 (9)	11 (5)
Increasing the amount of <u>time spent on science</u> instruction specifically for low-achieving students required at some or all ...			
Middle Schools	12(7)	33 (14)	0
Elementary Schools	6 (3)	30 (14)	0
<u>Requiring</u> all students to take more challenging science courses or instruction required at some or all ...			
Middle Schools	9 (5)	43 (14)	28 (15)
Elementary Schools	6 (4)	33 (14)	17 (14)
Creating <u>separate science</u> classes for low-achieving students required at some or all ...			
Middle Schools	4 (3)	16 (11)	8 (8)
Elementary Schools	2 (2)	3 (3)	8 (8)

Notes:

Superintendent q.19-21.

Standard errors are show in parentheses.

Interestingly, California districts were much more likely to take a different approach to supporting low-achievers in math: eliminating some remedial courses/instruction and requiring all students to take more challenging math courses/instruction. More than half of California superintendents reported this requirement for some or all elementary schools and more than three-quarters reported this requirement at the middle school level—contrasting sharply with less than a third in the other states at both levels.

Finally, Georgia superintendents once again were more likely to report activity in the area of science. For example, approximately one third required some or all elementary and middle schools to increase time on science instruction for low-achieving students—compared with no superintendents in Pennsylvania and less than 15 percent in California. Nevertheless, in all three states, districts were far less likely to undertake these targeted support strategies in the area of science than in math.

All of the case study schools implemented some form of assistance to low-performing students (or those on the cusp of proficiency, as described earlier). These activities ranged from intervention plans, to after- and before-school tutoring, to remedial programs during the school day. Several schools offered extra periods of instruction in the tested subjects for low-performing students, which often displaced student participation in non-tested subjects such as physical education and music. While most case study schools provided some type of tutoring or after-school program, teachers and principals in several case study schools reported struggling to get the students in greatest need of assistance to attend. For example, a teacher in Pennsylvania remarked, “unfortunately, the ones who truly need it [tutoring], don’t go to it.” A principal from another district explained that parents’ schedules often contributed to low participation: “Because so many parents pick up their children, and they might have three other kids that they need to pick up at 2:40, they don’t want to have to come back for the other kids. I don’t have the participation because it’s very difficult to enforce if you don’t have parental support.” In other schools, teachers reported concerns about the quality of tutors and the degree of coordination between tutoring and the regular curriculum.

Finally, given this focus on low-performing students, some individuals interviewed and surveyed expressed concerns about the subsequent lack of attention paid to high-achieving students. Many identified this as a possible unintended consequence of new state and federal accountability. In fact, almost half or more of elementary and middle school teachers responding to surveys in all three states (except Pennsylvania elementary school teachers) agreed or strongly agreed that “as a result of the state’s accountability system, high-achieving students are not receiving appropriately challenging curriculum and instruction,” as shown in Table 19 below. One parent in Pennsylvania expressed a similar viewpoint:

I think when you get to the higher levels, my experience has been the kids aren’t being challenged. And I blame it on No Child Left Behind. I think those kids are seen as they’ll coast along and they’ll get high enough scores. But they’re not being challenged

to really dig deep.... And I really do believe that if you want the country to succeed educationally, you ought to do the best with your best and brightest.

Table 19.
Percentage of Teachers Agreeing or Strongly Agreeing that as a Result of the State Accountability System, High-Achieving Students are Not Receiving Appropriately Challenging Curriculum or Instruction

California		Georgia		Pennsylvania	
Elementary	Middle	Elementary	Middle	Elementary	Middle
52 (3)	47(3)	49 (2)	55 (2)	39 (2)	52 (6)

Notes:

Standard errors are shown in parentheses.

Nevertheless, some schools were undertaking efforts targeting high-achieving students, such as adding more advanced courses or the International Baccalaureate program in the middle schools. Administrators hoped these efforts would attract high-achievers back to the school if they had left or retain those who may have been considering other school options. Many viewed this population as critical to raising overall school test scores.

Other School Improvement Strategies

District and school administrators implemented a range of other strategies to improve instruction and student performance—although they often perceived these to be of less importance than the three strategies described above. In this section we focus on several of these strategies, including professional development, test preparation, and increasing instructional time.

Professional Development Activities

Ultimately, the success or failure of school improvement hinges on what occurs in the classroom. A large body of research has shown that teacher professional development can result in changes in instructional practice and teachers' knowledge and beliefs (Loucks-Horsley & Matsumoto, 1999), and a more limited literature has found direct impacts on student achievement for at least some types of professional development (Huffman, Thomas & Lawrenz,

2003). Research also demonstrates the importance of instructional leadership in reform, in particular that principals influence the likelihood of school change and student learning (Leithwood et al., 2004; Waters et al., 2003).

As noted in Table 2 at the start of this paper, most principals reported increasing teacher professional development in 2004-05. Teachers in all three states reported that professional development efforts emphasized similar topics, including the alignment of curriculum and instruction with state standards and tests, mathematics content and teaching, and instructional strategies for low-achieving students (Table 20). There were, however, some differences in what states chose to emphasize. Not surprisingly, teachers in California were much more likely than teachers in the other two states to report a professional development focus on instructional strategies for English Language Learners. In contrast, California teachers were less likely to report an emphasis on preparing students for state tests. Less than half of elementary school teachers and approximately one-quarter of middle school teachers reported this focus, compared to more than half at both levels in Georgia and Pennsylvania. Finally, consistent with other reported activity in the area of data use (see earlier discussion), Pennsylvania teachers were least likely to report a focus on interpreting and using reports of student test results.

Districts also engaged in other avenues of professional development to support teacher and principal learning and improvement—such as assigning coaches to teachers and principals—with considerable variation across the states. As Table 21 shows, Georgia districts were much more likely than districts in the other states to assign full-time school-level staff to support teacher development in some or all schools. They were also much more likely to undertake this strategy in 2004-05 compared to 2003-04: 71 percent compared with 38 percent. And of these districts assigning staff developers in 2004-05, 85 percent reported using this strategy with all schools. In contrast, districts in California and Pennsylvania were less likely to assign full-time staff to schools in 2004-05. One might hypothesize that the reason for this decrease in California and Pennsylvania is that this strategy is a more expensive intervention relative to other options for supporting teacher professional development (e.g., centralized training sessions). In fact, Pennsylvania superintendents indicated an increase this year in another, arguably less expensive form of assistance: helping schools obtain additional professional development based on scientifically based research. Tasking central office staff to identify providers and possibly

develop professional development opportunities may be a more cost-effective option available to districts facing budget constraints.

Table 20.
Percentage of Teachers Reporting a Moderate or Major Emphasis
in Professional Development Activities, 2004-05

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Aligning curriculum and instruction with state and/or district content standards	68 (5)	52 (5)	79 (2)	68 (3)	70 (3)	65 (4)
Instructional strategies for low-achieving students	57 (5)	45 (5)	68 (3)	57 (3)	47 (3)	39 (5)
Preparing students to take the state assessments	47 (6)	28 (4)	74 (3)	56 (3)	67 (3)	58 (4)
Instructional strategies for English Language Learners	57 (5)	40 (5)	27 (2)	17 (2)	14 (2)	10 (3)
Mathematics and mathematics teaching	53 (4)	42 (5)	57 (4)	52 (3)	64 (4)	44 (3)
Interpreting and using reports of student test results	44 (6)	24 (3)	65 (3)	45 (4)	36 (4)	33 (7)
Instructional strategies for special education students	25 (4)	25 (4)	39 (2)	42 (3)	33 (3)	33 (4)
Science and science teaching	28 (4)	26 (4)	20 (2)	32 (2)	23 (3)	30 (5)

Notes:

Response options included no emphasis, minor emphasis, moderate emphasis, and major emphasis. Standard errors are shown in parentheses.

Finally, in all three states, districts reported increasing the provision of a coach or mentor to assist school principals. Interestingly, approximately half of the superintendents in all three states who assigned principal coaches did so only in their low-performing schools (i.e., 41 percent of Georgia superintendents assigned a coach to the low-performing schools and the other 41 percent assigned them to all schools).

Table 21.
Percentage of Districts Providing Technical Assistance to Principals or Teachers
in Some or All Elementary and Middle Schools, 2003-04 and 2004-05

	California		Georgia		Pennsylvania	
	2003-04	2004-05	2003-04	2004-05	2003-04	2004-05
Helping the school obtain additional professional development based on scientifically based research	90 (7)	74 (12)	100	100	66 (12)	99 (1)
Assigning additional full-time school-level staff to support teacher development	44 (14)	22 (8)	38 (12)	71 (13)	40 (12)	30 (12)
Providing a coach or mentor to assist the principal	19 (9)	41 (12)	60 (14)	82 (8)	16 (8)	20 (11)

Notes:

Superintendent q.20-22.

Standard errors are shown in parentheses.

Response options included no schools, low performing schools, high performing schools, and all schools.

Test Preparation Activities

Given NCLB’s emphasis on school improvement as measured by student performance on state assessments, the prevalence of test preparation activities is to be expected. As Table 22 shows, the majority of principals in all three states reported employing various activities to help teachers prepare students for state tests, especially with regard to helping teachers identify content covered on the state test and discussing how to prepare students for the test at staff meetings. Also, roughly half of principals in all three states encouraged or required teachers to spend more time on tested subjects and less time on other subjects. This was consistent with many district efforts, such as requirements that schools increase instructional time in the areas of math and English language arts.

There was, however, variation across the states in certain activities. For example, Georgia and Pennsylvania principals were more likely than California principals to distribute released copies of the state tests. Both states were particularly active at the state level in producing and distributing materials for teachers and students specifically aimed at preparation for the state assessments. For example, both maintained on-line released test item banks freely accessible to students and teachers. Educators in case study schools also frequently noted that they had received test preparation materials directly from the state.

A few of the items in Table 22 also appeared on our 2003-04 principal survey. The most striking change in test preparation activities since last year were substantial increases in the distribution of test preparation materials in California and Georgia middle schools (from 36 to 61 percent in California and 73 to 88 percent in Georgia) and in Pennsylvania elementary schools (from 75 to 93 percent).⁸

Table 22.
Percentage of Principals Reporting Test Preparation Activities, 2004-05

	California		Georgia		Pennsylvania	
	Elementary	Middle	Elementary	Middle	Elementary	Middle
Helped teachers identify content that is likely to appear on the state test so they can cover it adequately in their instruction	94 (3)	99 (1)	100	100	100	99 (1)
Discussed methods for preparing students for the state test at staff meetings	94 (4)	95 (4)	100	100 (1)	99 (1)	100
Distributed released copies of the state test or test items	61 (10)	61 (11)	88 (4)	98 (2)	96 (3)	96 (2)
Encourage teachers focus their efforts on students close to meeting the standards	85 (6)	94 (3)	90 (4)	93 (4)	77 (7)	57 (15)
Distributed commercial test preparation materials (e.g., practice tests)	59 (10)	61 (11)	90 (5)	88 (5)	93 (4)	88 (8)
Encourage or require teachers to spend more time on tested subjects and less on other subjects	53 (11)	63 (9)	47 (7)	66 (8)	61 (11)	45 (13)
Discussed Assessment Anchors with teachers (PA only)					100	100

Notes:

Principal q.14.

Standard errors are shown in parentheses.

Expanding Instructional Opportunities through Time

Districts and schools also attempted to improve teaching and learning by altering the instructional opportunities that students had to interact with teachers and the curriculum. Research has shown a positive relationship between the amount of time formally allocated for

⁸ Standard errors for last year's estimates were 12, 7, and 8, respectively.

instruction and student achievement (McKnight et al., 1987; Mirel, 1994; Purvis & Levine, 1975; Schmidt et al., 1998; Stevenson & Stigler, 1992).

Superintendents—particularly in Georgia—reported several examples of adjusting time as an improvement strategy. In Georgia, 71 percent of superintendents required some or all elementary schools in their districts to increase *instructional time for all students* (as indicated in Table 2, by lengthening the school day or year, shortening recess), compared with only seven percent in California and 15 percent in Pennsylvania.⁹ Similar patterns emerged at the middle school level. Georgia superintendents also were much more likely than their counterparts to require their schools to increase the amount of *time spent on mathematics instruction for all students*. For example, 73 percent of Georgia district leaders required some or all elementary schools in their district to increase math instruction compared with 10 percent in California and 42 percent in Pennsylvania.¹⁰ Finally, more than half of the superintendents in Pennsylvania and Georgia required some or all elementary schools to institute full-day kindergarten in 2004-05, compared with less than a third in California.¹¹

As noted earlier, there also appears to be some efforts in all three states to shift time away from non-tested subjects to the tested subjects. Roughly half of principals in all three states reported that their school or district encouraged or required teachers to spend more time on tested subjects and less time on other subjects. In addition, approximately 40 percent of superintendents across the states reported eliminating programs (e.g., art, music) to provide more instruction in core subjects.¹² (For a more detailed discussion of teachers' allocations of instructional time see Hamilton and Berends' paper in this symposium.)

Constraints and Enablers of School Improvement

A number of factors and conditions might serve as perceived or real barriers to improving school and student performance. In surveys, we asked principals and superintendents what

⁹ Standard errors were 13, 4, and 11, respectively.

¹⁰ Standard errors were 13, 5, and 14, respectively.

¹¹ Sixty-three percent (standard error of 14) of Pennsylvania superintendents, 58 percent (standard error of 16) of Georgia superintendents, and 31 percent (standard error of 12) of California superintendents reported this requirement.

¹² Forty-two percent (standard error of 13) of superintendents in California agreed or strongly agreed with this statement, 42 percent (standard error of 14) in Georgia, and 39 percent (standard error of 16) in Pennsylvania.

hindered their efforts to improve the performance of students in their schools and districts. These questions generally pertained to five major categories: fiscal/physical capital (e.g., materials, funding)¹³, human capital (e.g., quantity and capacity of staff), intellectual capital (e.g., research knowledge), time, and policy context (e.g., stability of leadership, policies). As we discuss in the following sections, four major factors were most frequently identified as hindrances across the three states: lack of adequate funding, lack of staff capacity in some areas, inadequate time to prepare for reforms, and frequent changes in state policy and/or leadership. Within certain categories, we also found some variation across the states. Drawing on survey results and additional interview data, we discuss each of these factors and any relevant variation observed across states.

Fiscal and Physical Capital: Lack of Funding a Hindrance in All Three States

Administrators in all three states expressed strong concerns about funding. Almost all of the superintendents in all three states identified lack of adequate funding as a moderate to great hindrance to their efforts to improve student performance, as shown in Table 23. In fact, this factor was the most frequently cited hindrance out of the list of 13 presented on surveys to superintendents. Many principals also expressed concerns about funding, particularly in California where 80 percent of principals identified lack of funding as a moderate to great hindrance compared with 68 percent in Pennsylvania and 49 percent in Georgia. The numbers in Georgia, however, represent a significant decrease over the previous year, when 73 percent of Georgia superintendents identified this as a hindrance (in California the percentage rose slightly and in Pennsylvania the percentage was virtually identical).

¹³ The category of fiscal capital (i.e., funding) overlaps with many of the other conditions. Thus, when administrators cited inadequate staff capacity as a hindrance that may have stemmed from budget constraints preventing them from hiring more staff. However, in this example, other aspects of staff capacity may have had nothing to do with funding, but instead the skills or knowledge of existing staff members, as discussed later.

Table 23.
Percentage of Administrators Reporting the Following Fiscal/Physical Capital Conditions as Moderate to Great Hindrances to their Improvement Efforts

	California		Georgia		Pennsylvania	
	Superint.	Principal	Superint.	Principal	Superint.	Principal
Lack of adequate funding	98 (2)	80 (6)	99 (1)	49 (6)	98 (1)	68 (9)
Inadequate school facilities	10 (6)	5 (3)	19 (12)	21 (6)	26 (12)	20 (6)
Shortage of standards-based curriculum materials	14 (9)		46 (14)		34 (13)	
Unanticipated problems with space, facilities, transportation		28 (8)		19 (5)		21 (6)

Notes:

Superintendent q. 30, Principal q.41.

Standard errors are shown in parentheses.

The pattern of increased concern over fiscal matters, particularly in California and Pennsylvania, is consistent with interviews in the case study schools. For example, parents in one Pennsylvania district expressed fears about the district’s eroding tax base. One parent described the district as “economically distressed,” noting that “without adequate funding, none of the students are going to get the education they deserve.”

Interestingly, administrators at both the district and school level were far less likely to cite other physical capital factors as impediments to improvement. Across all three states, approximately one third or less of superintendents reported inadequate school facilities and unanticipated problems with space, facilities, and transportation as significant hindrances. Lack of materials, however, was a perceived barrier in some places. Approximately half of Georgia superintendents and one third in Pennsylvania identified lack of standards-based curriculum material as a hindrance, while less than 15 percent of superintendents in California identified this as a problem. Although some administrators may not have viewed lack of materials as a problem, many teachers in our case study schools identified this as a significant barrier to learning, particularly in the area of science. Several teachers felt strongly that more hands-on materials were needed to ensure improved student learning and performance.

Human Capital: Some Staff Capacity Weaknesses Identified in All States

Research indicates that human capital—including level of staffing and staff commitment, knowledge, and skills—is an important enabler of wide scale reform (Burch & Spillane, 2004, Elmore & Burney, 1999; Massell & Goertz, 1999; Firestone, 1989; Spillane & Thompson, 1997). Administrators in all three districts reported some level of satisfaction with the current level of staffing, skill, and knowledge of staff but also some identified areas of need. In all three states, principals reported insufficient staff to handle administrative matters and superintendents noted weaknesses in central office staff capacity to bring about school improvement. Further, Georgia superintendents expressed concerns about teacher shortages and Pennsylvania administrators reported needs in the area of data analysis skills. We examine these in more detail below.

As for quantities of staff, the majority of superintendents appeared to be satisfied with the number and availability of qualified principals, as shown in Table 24. In some states, however, superintendents noted that shortages of certain teachers were a hindrance to improvement efforts. Almost 70 percent of Georgia superintendents reported that shortages of highly qualified mathematics and science teachers were hindrances, compared with approximately 40 percent in California and 30 percent in Pennsylvania. In contrast, principals generally did not view teacher shortages as an impediment. Less than a quarter in each state identified shortages of highly qualified teachers as a moderate to great hindrance to improvement efforts.

Principals in all three states did however indicate some concerns over having adequate staff to handle the high volume of administrative tasks such as filling out paperwork. This was especially true in California where 70 percent of principals identified insufficient staff time to meet administrative responsibilities as a moderate to great hindrance, compared with slightly more than half in Georgia and Pennsylvania.

Table 24.
Percentage of Administrators Reporting the Following Human Capital Conditions
as Moderate to Great Hindrances to their Improvement Efforts

	California		Georgia		Pennsylvania	
	Superint.	Principal	Superint.	Principal	Superint.	Principal
Shortage of qualified principals	22 (11)		36 (13)		29 (13)	
Shortage of highly qualified teachers		21 (5)		14 (4)		15 (51)
Shortage of highly qualified <u>mathematics</u> teachers	40 (12)		69 (13)		33 (14)	
Shortage of highly qualified <u>science</u> teachers	43 (13)		69 (13)		28 (12)	
Shortage of highly qualified teacher aides and paraprof.		26 (8)		8 (4)		30 (7)
Teacher turnover		20 (7)		18 (5)		16(5)
Shortage/lack of high-quality PD opportunities for <u>teachers</u>	47 (13)	31 (8)	45 (13)	16 (4)	39 (14)	19 (7)
Shortage/lack of high-quality PD opportunities for <u>principals</u>	37 (12)	30 (7)	45 (14)	11 (4)	51 (15)	29 (8)
Insufficient staff time to meet administrative responsibilities		70 (6)		54 (5)		55 (8)

Notes:

Superintendent q. 30, Principal q.41.

Standard errors are shown in parentheses.

There was considerable variation across the states in administrator reports about staff skills and knowledge. With regard to the *use of student data*, most principals agreed or strongly agreed that teachers had the skills and knowledge to analyze and make use of test results; however the consensus in Pennsylvania (67 percent) was considerably lower than that in California (89 percent) and Georgia (87 percent).¹⁴ A similar pattern emerged at the district level, where more than half of all superintendents reported that their districts had sufficient staff with the necessary skills to help schools analyze data for school improvement (see Table 25 below). Once again, however, the numbers were slightly lower in Pennsylvania. Finally, Pennsylvania and Georgia superintendents were more likely to report a district need in 2004-05 for technical assistance in using data more effectively: 87 percent and 74 percent respectively, compared with 48 percent in California.¹⁵ Despite this reported need, Pennsylvania superintendents believed they did not receive adequate support in this area. Only 57 percent

¹⁴ Standard errors are 4, 4, and 8, respectively.

¹⁵ Standard errors are 9, 13, and 14, respectively.

received technical assistance from the state or regional educational offices in this area and of those who received it, only half felt it was sufficient to meet their districts’ needs.¹⁶

Table 25.
Percentage of Superintendents Reporting the District has Adequate Staff Capacity in the Following Areas

	California	Georgia	Pennsylvania
Facilitate Improvements in low-performing schools	62 (14)	68 (13)	32 (15)
Help schools to analyze data for school improvement	68 (12)	66 (14)	56 (16)
Help schools identify research-based strategies for improvement	57 (12)	73 (13)	58 (16)
Conduct professional development tailored to the needs of teachers	35 (11)	68 (14)	74 (13)
Conduct professional development tailored to the needs of principals	27 (10)	64 (14)	48 (16)
Align curriculum with state content standards and state assessments	52 (11)	70 (13)	86 (10)

Notes:

Source: Superintendent q.31. The question asked “Does the district have sufficient staff with the necessary skills to perform the following school improvement functions?”

Standard errors are shown in parentheses.

As for building the capacity of staff, superintendents were more likely than principals in their respective states to report problems with availability of professional development opportunities. For example, as shown in Table 25 earlier, approximately 40 percent or more of superintendents in all three states identified shortages of high-quality professional development (PD) opportunities for teachers and principals as moderate to great hindrances to improvement efforts. In contrast, principals were less likely to identify these factors as problems, as less than a third reported them as moderate to great hindrances. In California there appeared to be more agreement between principal and superintendent reports on this topic.

¹⁶ Standard errors are 15 and 20, respectively. Similar numbers of California superintendents reported receiving assistance in this area (45 percent, standard error of 15) and rating it as sufficient (58 percent, standard error 24). Unlike Pennsylvania, however, a much smaller percentage (48 percent, standard error of 14) reported actually needing assistance with data use from the outset. Given California’s prior state accountability system that relied heavily on student test scores, it is possible that many administrators and educators in the state had already developed skills in this area. In contrast, Georgia superintendents reported a need in this area, but appeared to be much more satisfied with the support received: 86 percent reported receiving assistance from state or regional educational offices (standard error of 7) and of those, 80 percent (standard error of 11) felt the support was sufficient.

As for opportunities to enhance the skills of central office staff to then support school-level staff, more than 70 percent of superintendents in all three states reported needing technical assistance in providing effective professional development. The needs were particularly strong in California where the majority of superintendents reported a lack of adequate capacity to conduct professional development tailored to the needs of teachers and principals, as shown in Table 25 above. Superintendents in the other two states were much more confident in their staff's ability to conduct professional development.

Finally, Table 25 also illustrates a striking difference across the states in the perceived capacity of district staff to help with school improvement. Most notably, less than a third of Pennsylvania superintendents reported having adequate capacity among their staff to facilitate improvements in low-performing schools, compared with more than 60 percent in the other two states. This also represents a huge drop in confidence compared to last year, when 81 percent of Pennsylvania superintendents reported having adequate capacity in this area.

Time: Inadequate Lead Time an Obstacle across the States

Many administrators identified lack of time as a major obstacle to improvement efforts. More than half of the superintendents and more than a third of principals in all three states identified inadequate lead time to prepare before implementing reforms as a moderate to great hindrance to their reform efforts, as shown in Table 26. Compared with last year, however, administrators were slightly less likely to identify this as a hindrance.¹⁷ Case study visits confirm that administrators were farther along in their improvement efforts this past year and possibly more settled in the new accountability milieu of NCLB. Many had moved beyond the initial frustration of being asked to quickly implement new provisions of NCLB and other state reforms. Of course, others remained frustrated with the rapid pace of change and the ratcheting up of AYP targets.

¹⁷ For example, last year 92 percent (standard error of 2) of superintendents in California, 86 percent (standard error of 7) in Georgia, and 64 percent (standard error of 12) in Pennsylvania cited inadequate time to plan before implementing reforms as a moderate to great hindrance.

Table 26.
Percentage of Administrators Reporting the Following Time Conditions
as Moderate to Great Hindrances to their Improvement Efforts

	California		Georgia		Pennsylvania	
	Superint.	Principal	Superint.	Principal	Superint.	Principal
Inadequate lead time to prepare before implementing reforms	85 (7)	41 (7)	69 (13)	36 (6)	57 (15)	33 (7)
Lack of teacher planning time built into the school day		62 (8)		40 (5)		33 (7)

Notes:

Superintendent q. 30, Principal q.41.

Standard errors are shown in parentheses.

Administrators, particularly in California, also expressed concerns about a lack of teacher planning time built into the school day. Among principals, 62 percent in California, 40 percent in Georgia, and 33 percent in Pennsylvania identified this as a moderate to great hindrance to improving student performance in their schools. As noted earlier, many teachers also complained about a lack of time to cover curriculum content.

Policy Context: State Instability a Hindrance to Most Superintendents

Many administrators in our sample identified unstable political environments as barriers to change. As illustrated in Table 27, the majority of superintendents in all three states reported that frequent changes in state policy or leadership were impediments to their improvement efforts—particularly in Pennsylvania where 98 percent identified this as a moderate to great hindrance.

Although superintendents in all of the states were much less likely to cite disagreements with school boards as an impediment, leaders in California and Pennsylvania did identify teacher unions as a potential obstacle. Seventy-one percent of California superintendents and 51 percent in Pennsylvania reported that complying with teacher association policies was a moderate to great hindrance (as a right-to-work state, this was not a factor in Georgia). Like their superintendents, California principals were more likely than those in the other two states to report perceived hindrances emanating from the policy environment. More than one third of these principals reported frequent changes in district policy and priorities, and frequent changes

in district leadership as moderate to great hindrances to improvement efforts. One case study principal in California explained how the district’s “state of flux” affected his morale:

I just see so much that could be done that’s not getting done. And with the change of leadership in the district, and knowing who the board is and who’s selecting, I don’t know. Because of the state of flux I’m in, I’m wondering what may happen with the superintendent in the district and I quite honestly wonder whether I want to continue this line of work. Especially if I’m not going to have the support for the kind of work I feel is important to do. ... I love the school. I love the potential and I [hate] my desire to leave that but I feel so crippled.

Table 27.
Percentage of Administrators Reporting the Following Policy Context Conditions as Moderate to Great Hindrances to their Improvement Efforts

	California		Georgia		Pennsylvania	
	Superint.	Principal	Superint.	Principal	Superint.	Principal
Frequent changes in state policy or leadership	71 (12)		79 (12)		98 (1)	
Frequent changes in district policy and priorities		37 (9)		12 (3)		18 (7)
Frequent changes in district leadership		32 (9)		14 (4)		13 (6)
Complying with teacher association rules/policies	71 (12)		7 (6)		51 (15)	
Disagreements with district school board over policies	2 (2)		17 (9)		21 (11)	

Notes:

Superintendent q. 30, Principal q.41.

Standard errors are shown in parentheses.

Intellectual Capital: Information Needed at School and District Levels in All States

Administrators in all three states also cited potential obstacles related to lack of information, knowledge, and/or guidance. As noted in Table 28, many principals cited lack of guidance for teaching grade-level standards to special education students and English Language Learners (ELLs) as moderate to great hindrances to their improvement efforts. Most notably, almost half of California principals identified as an impediment the lack of guidance for special education students and more than third identified this for ELLs.

Table 28.
Percentage of Principals Reporting the Following Intellectual Capital
Conditions as Moderate to Great Hindrances to their Improvement Efforts

	California	Georgia	Pennsylvania
Lack of guidance for teaching grade-level standards to special education students	45 (9)	21 (5)	30 (8)
Lack of guidance for teaching grade-level standards to English Language Learners	38 (7)	21 (5)	23 (6)

Notes:

Principal q.41.

Standard errors are shown in parentheses.

Interviews at case study schools across the states confirmed a pervasive concern about teaching these students and providing teachers with the appropriate knowledge of how to modify curriculum and instruction for these populations. In all three states, almost all of the case study schools that missed their AYP targets did so as a result of special education subgroups (some missed it only in math, others in only reading, and some in both subjects). Yet, even in schools that made AYP, educators frequently mentioned frustrations about inadequate guidance on how to tailor standards and instruction for special education students. Many teachers reported using their professional judgment in the absence of clear direction. Similarly, many educators—particularly in California—expressed concerns over knowing how to improve the performance of ELLs. As one California middle school principal told us,

I wish somebody could give me the magic wand that I need to get my English Language Learners to the levels that the federal government thinks they should be. ... Is there a pill? Is there a silver bullet...? ... I mean I can get these kids in middle school probably to basic or maybe the higher ranges of basic, but to get to proficient is really difficult because they're starting so low. ... And a lot of principals that are high urban impact schools feel that way, that we're making incredible improvement ... but I want to know, how do I get these kids that just came here a year and a half, two years ago, to be proficient in Language Arts? ... And half my kids are English Language Learners.

Similarly, another perceived obstacle to improvement was a lack of information on “effective” teaching methods. As this is one of the tenets of NCLB, most administrators were aware of the need to implement research-based strategies, yet many appear to lack the information on how to identify and access such strategies. In fact, the majority of superintendents responding to surveys in all three states reported needing technical assistance in “identifying effective methods of instructional strategies grounded in scientifically based

research” (74 percent in California, 70 percent in Georgia, and 88 percent in Pennsylvania).¹⁸ Once again, superintendents in Pennsylvania were much less likely to report receiving support in this area from state or regional educational offices: only 35 percent said they had received support compared with 69 percent in Georgia and 49 percent in California.¹⁹

Other Factors

As the frustration in the remarks above of the California principal illustrates, decreased morale is another possible factor impeding improvement efforts in some schools. In fact, the majority of district and school administrators reported that staff morale had changed for the worse due to the state’s accountability system, with the exception of principals in Georgia who were much less likely to report negative effects on staff morale. Similarly, more than 60 percent of teachers in Pennsylvania and 40 percent in California and Georgia felt the morale of school staff had changed for the worse as a result of state accountability.²⁰

Many teachers and principals also frequently reported that student background and issues outside of school hindered their ability to improve student performance.²¹ During case study visits, many expressed an inability to affect issues beyond their control and sympathy for students who should not be expected to focus on standards and tests when faced with other more important basic needs. As one middle school teacher explained, “The problem is [that] I’m not in control of the sociological factors that are out there that is keeping Hector or little Johnny down there, or little Samantha from handing in her stuff. And it’s all psychological. It’s the very, very stuff that I can’t control. And so what am I supposed to do?” Similarly, an elementary school teacher commented, “when you are looking at children who are walking into your building with the lack of experiences, the lack of language, some of them not knowing where they’re going to sleep tonight, eat breakfast, those are challenges that No Child Left Behind leaves behind.”

¹⁸ Standard errors are 9, 14, and 9, respectively.

¹⁹ Standard errors are 13, 13, and 15, respectively.

²⁰ See another paper in this symposium by Russell and McCombs for detailed survey results on this topic.

²¹ Teacher surveys asked views on many of these “out of school” factors, as well as within school conditions related to teacher learning communities and trust. Future analyses will examine these in more detail.

Conclusions and Next Steps

In sum, we found evidence that school improvement strategies were well under way in all three of our states. Three of the most important strategies that principals, and to some extent superintendents, identified for improving their schools were increasing the use of student achievement data to inform instruction, matching curriculum and instruction with standards and/or assessments, and providing additional instruction to low-performing students.

Districts and schools made use of a variety of student assessment data including state and local test results. Superintendents and principals found state data especially useful for making decisions regarding improvement plans, focusing professional development, and making curriculum and instruction changes. Although principals and teachers reported that state assessment data were widely available, they varied in their views about the quality and usefulness of this information. Similar to last year, many expressed concerns about a lack of timeliness. As for local assessments, districts frequently required progress tests in mathematics, especially in Georgia where they were required by nearly all of our surveyed districts. In California and Pennsylvania, teachers reported that progress test results were more helpful than state test results in measuring student mastery of state content standards and allowing teachers to identify and correct gaps in curriculum and instruction. There were some obvious advantages to progress tests which teachers noted in our surveys and/or in our case study visits: they were administered frequently and thus more closely aligned with current curricular topics, there was a fast turnaround for receiving results, and results lacked consequences for teachers.

Almost all principals reported aligning curriculum and instruction with state standards and/or assessments and districts actively supported these efforts by providing pacing schedules, calendars, sample lessons, and classroom feedback on the implementation of state standards, as well as mapping out the alignment of textbooks and materials to state standards and assessments. Although more than half of teachers in all three states viewed these district alignment activities as helpful, some teachers interviewed expressed concerns about pacing and lack of time to teach for understanding and mastery.

Schools and districts took some similar approaches to assisting low-performing students. In all three states, approximately half or more of districts required some or all schools to provide remedial assistance to students outside of the school day. In Georgia, and Pennsylvania to a lesser extent, many districts required schools to increase the amount of time spent on

mathematics for low-achieving students. Other popular strategies included the creation of separate classes for low-performers (popular at middle schools) and the elimination of some remedial mathematics classes and the subsequent requirement that all students take more challenging instruction (most frequently reported in California).

Perceived hindrances to school improvement centered on issues of funding, human capital, policy context, time, and intellectual capital. The number one hindrance reported by superintendents and principals across the states was the lack of adequate funding. Nevertheless, our data suggest that state and district capacity issues may be due not simply to low financial resources, but also to a lack of qualified, trained personnel with the skills and expertise that schools and districts need to bring about improved student achievement. Local contextual factors also influenced district and school improvement efforts. Frequent changes in state policy or leadership remained an issue for the majority of districts in all three states. Unlike their counterparts in the right-to-work state of Georgia, superintendents in California and Pennsylvania also frequently reported that complying with teacher association rules or policies was an impediment to reform. As for time, more than half the districts across the states identified inadequate lead time to prepare before implementing reforms as an impediment to improvement, although this was reported less frequently than in 2004. Finally, superintendents and principals reported a lack of intellectual capital to bring about change. In particular, superintendents requested information on effective, research-based teaching methods and principals (mainly in California) expressed needs for better guidance in tailoring standards and instruction for special education students and ELLs.

Several state-specific findings also emerged from this analysis. First, Georgia schools and districts appear to be much more active in the area of science than California and Pennsylvania. Given the state's history of science standards and testing, it is not surprising that we found more local strategies targeting this discipline in Georgia than we did in the other two states, which have just recently developed science standards and tests in certain grades. Second, Pennsylvania districts and schools appear to be at an earlier stage of development in the use of data to drive instructional decisions—many reported a lack of capacity and need for support in this area. Third, California districts appear to be taking a slightly different approach to assisting low-performing students, focusing less on increasing instructional time and providing remedial

assistance outside of the school day and more on requiring all students to take more challenging courses and instruction.

Finally, this preliminary research points to areas of promise and of need that state departments of education, regional educational offices, and school districts may want to consider addressing to further bolster local improvement efforts. First, teachers' positive views of progress test data suggest that local assessments administered at several points throughout the year, with quick access to results, may be useful instructional tools.

Second, while administrators clearly saw the value of test data and reported using it for multiple purposes, many reported a need for greater support in how to effectively use the data. Past research confirms the need to cultivate better data analysis skills among educators, such as formulating research questions, interpreting results, using technology to complete analyses (Choppin, 2002; Feldman & Tung, 2001; Mason, 2002). State and local education agencies may want to consider enhancing technical assistance in this area. Several recent initiatives focused on creating better models of professional development for improving data use skills may provide useful guidance (e.g., Using Data Project, Center for Research on Evaluation, Standards and Student Testing: see Love, 2004; Chen et al., 2005). Other human capacity issues identified by administrators in all three states point to several additional areas where technical assistance may be needed—such as helping central office staff develop better skills in coaching schools and conducting professional development. As AYP targets increase over time, this technical assistance will be critical to enabling schools and districts to meet their goals.

Finally, although NCLB intended to shine the light on students traditionally overlooked or often not held to challenging standards, some students may not be receiving the attention that many educators in this study felt they deserved. As reported throughout the paper, teachers, principals, and parents expressed concerns about the unintended consequences of improvement strategies targeting low-achieving students and students close to proficient. Further research and attention is needed to determine the effects of such activities on the quality of instruction and educational outcomes for high-achieving students and the lowest performers. The reported lack of guidance on tailoring instruction for special education students and ELLs, particularly in California, also suggests the need for greater support to enable these subgroups of students to truly benefit from higher standards.

Next Steps

The results here do not represent the full range of possible improvement strategies, nor are we able to clearly attribute those articulated in this study to NCLB and state accountability systems since our findings are based on principal reports for a two-year period. Nonetheless, they provide a useful preliminary view of the efforts that schools and districts are making to increase student achievement and meet the federal goal of 100 percent proficiency. In coming years, we will continue to track these variables, and will also examine the influence of other school, district, and state contextual factors, and eventually their relationship to student achievement. In particular, we hope to address the following questions: How do school improvement strategies vary across various subsets of schools, such as those identified for improvement or failing to make AYP? Are the strategies principals identified as “most important” those most closely associated with gains in student achievement? How does Georgia’s head start in the area of science—longer history of state standards and testing, as well as greater local implementation of science-related reform efforts such as progress tests and curriculum alignment—affect student achievement in science over time? How does this relationship between student achievement and standards, testing, science reform, and curriculum alignment compare to such relationships in the other two states?

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