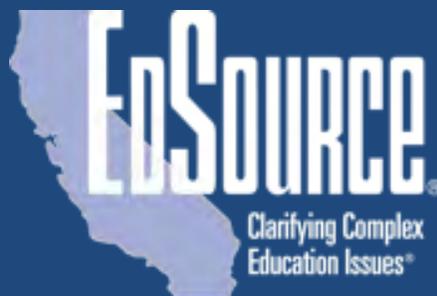


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Gaining Ground in the Middle Grades: Why Some Schools Do Better

A Large-Scale Study of Middle Grades
Practices and Student Outcomes



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A large-scale study of middle grades practices and student outcomes

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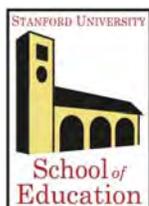
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Executive summary

There has been a great deal of focus in recent years on high school reform as a way to ensure all students graduate ready for a skilled job or additional postsecondary education. As expectations for a more highly educated American citizenry rise, what happens in the *middle grades*—the beginning of the secondary-to-postsecondary education continuum—matters more now than ever.

The middle grades are where many students begin to lose ground in key subject areas such as mathematics. But the middle grades may also be the last, best chance to identify students at risk of academic failure and get them on track in time to succeed in high school. Indeed, success in key subjects in the middle grades is a strong predictor of success in high school and beyond.

The past two decades have seen the release of many reports stressing the importance of the middle grades. All have focused to one degree or another—with more or less specificity—on the broad concepts of developmental responsiveness (to young adolescent needs), social equity (ensuring that all students are encouraged and supported to achieve at their highest), and academic excellence or rigor (consistent with standards-based instruction) as central tenets of their recommendations.

Only very recently has research and analysis begun to focus on academic *outcomes* in the middle grades, however. To date, very little research has been conducted on the relationship between particular middle grade practices and policies and improved academic outcomes.

Although it is widely accepted among educators that most of the difference in student outcomes among schools is directly related to student background, it is less widely acknowledged that there is great variation in student performance among schools serving very similar student populations. This variation is striking—and in many ways, hopeful. It makes clear that school and district practices can have a significant impact on student outcomes regardless of student background.

This study contributes to the field by identifying a broad range of traditional and newer middle grade policies and practices, and determining in California which of these differentiate higher- from lower-performing schools serving similar student populations, with performance measured by the state’s standards-based tests.

Study design

Based on a sample of 303 middle grade schools located across California, the research team conducted three large-scale surveys: of middle grade principals; of English language arts and mathematics teachers; and of many of these schools’ district superintendents. In total, 303 principals, 3,752 teachers, and 152 district superintendents and five charter management organization leaders responded.

The sample of schools for which the research team analyzed survey data included:

- **Two distinct subsamples** of middle grade schools that served predominantly low-income and middle-income students, respectively.
- **A broad spectrum of school-level academic performance** (for the 2008–09 school year) *within each* of the two subsamples of schools.
- **All major middle grade configurations**, including schools serving grades 7–8, 6–8, K–

8, and other configurations.

■ ***Both charter and traditional public schools.***

Respondents answered survey questions—more than 900 in total among the three surveys—developed out of an extensive review of middle grade research, literature on principal and district leadership, and related state and federal education policy. Many questions were designed to provide a look at the alignment of policy and practice between the superintendent, principal, and teacher levels.

The survey development was guided by *ten study domains* distilled from the research team’s literature and policy review:

- Domain A: A positive, safe, engaging school environment.
- Domain B: An intense, school-wide focus on improving academic outcomes.
- Domain C: School organization of time and instruction.
- Domain D: Coherent and aligned standards-based instruction and curricula.
- Domain E: Extensive use of data to improve instruction and student learning.
- Domain F: Early and proactive academic interventions.
- Domain G: Attention to student transitions.
- Domain H: Teacher competencies, evaluation, and support.
- Domain I: Principal leadership and competencies.
- Domain J: Superintendent leadership and district support.

For the purposes of analysis, the research team grouped the superintendent, principal, and teacher survey items into subdomains of practice within each of the ten study domains. These practice subdomains served as the independent variables for analysis.

School-level outcomes from *seven California Standards Tests (CSTs)* served as the study’s dependent variables:

- The Grade 6 English Language Arts CST.
- The Grade 7 English Language Arts CST.
- The Grade 8 English Language Arts CST.
- The Grade 6 Mathematics CST.
- The Grade 7 Mathematics CST.
- 8th graders’ outcomes on the General Mathematics CST.
- 8th graders’ outcomes on the Algebra I CST.

The research team analyzed the relationship between reported practices and school-level outcomes on each of these seven CSTs in *two different ways*:

- ***Cross-sectional analyses*** measured the power of each of the ten research domains, and the subdomains within them, in explaining variation in school-level mean CST outcomes in 2009, controlling for student demographics and other school variables.
- ***Longitudinal analyses*** measured the power of each of the domains, and the subdomains within them, in explaining variation in school-level mean student growth, by controlling for prior student achievement. These analyses used a data file with test scores over four years for the students in the sample to generate a 2009 “predicted” mean test score for the students in each school, based on their prior achievement. These

analyses identified which school and district practices were most strongly associated with 2009 school-level mean CST scores above the predicted levels.

These cross-sectional and longitudinal regression analyses revealed:

- Which domains of practice and policy most strongly predict higher school-level CST outcomes; and
- Which of the many subdomains within each domain correlate positively with these outcomes at the .05 level of statistical significance.

Findings

The ten research domains fell into three “groupings” with respect to their relative predictive strength in differentiating higher-performing middle grade schools in the sample:

- The *domain with the greatest predictive strength* across most of the cross-sectional and longitudinal analyses was Domain B, “An intense, school-wide focus on improving academic outcomes.”
- *Six domains* consistently followed Domain B in terms of predictive strength. Relative to one another, their predictive strength varied depending on the analysis, and there were relatively few statistically significant differences between them. These domains pertain to standards-based instruction and curricula; extensive use of data; proactive academic interventions; teacher competencies; principal leadership; and superintendent leadership/district support.
- *Three domains*, although they *did* differentiate schools with higher CST scores and higher gains in CST scores, did so with less predictive strength than the other seven domains in almost every analysis conducted. These three domains pertain to school environment; the organization of time and instruction; and attention to student transitions.

After accounting for specific school policies and practices, *no single grade configuration was consistently associated with higher performance on California’s standards-based tests in English language arts and mathematics in this study*. Both more effective and less effective policies and practices were found in schools with every grade configuration studied.

Although identifying the relative predictive strength of these three domain groupings is an important finding, equally important—if not more so—are the specific district- and school-level practices *under* each domain that distinguished higher-performing middle grade schools.

The power of this study is in the specifics. Readers hoping to get the most from this Initial Research Report are encouraged to spend time considering the specific policies and practices highlighted among the study’s findings as differentiating higher- from lower-performing middle grade schools in the sample.

For example, Domain B—“An intense, school-wide focus on improving academic outcomes”—includes a substantial number of reported policies and practices, such as:

- *The school’s curriculum and instruction are designed to prepare students for a rigorous high school curriculum.*
- *The school sets measurable goals for improving district benchmark test scores.*
- *The principal regularly communicates to faculty the importance of high expectations for the achievement of all students.*

- *Instructional time in the classroom is protected from unnecessary interruption.*
- *The school regularly communicates to students the importance of middle grade achievement to their future and of taking responsibility for their learning, and communicates to parents the importance of their role in setting high expectations for students' academic success.*
- *The school has requirements or contracts for parent participation.*

Readers will find these specifics presented in two places. The policies and practices are detailed, by domain, in the Findings section of this report. In addition, the specific survey items on which these findings are based are reproduced in Technical Appendix C, available from <http://www.edsource.org/middle-grades-study.html>.

Taken together, the subdomains that differentiated higher-performing schools in the various domains tell a coherent and compelling story. Other things being equal, school-level achievement in the 303-school sample tended to be higher to the extent that superintendents, principals, and middle grade English language arts and mathematics teachers strongly agreed on a clear, consistent, and intense focus on improving student academic outcomes.

Further, the combined findings suggest a range of interrelated practices through which this focus happens. For example:

- There is a strong organizational press toward improving student outcomes, with superintendents, principals, and teachers emphasizing and being evaluated based in part on such improvements.
- Middle grade educators closely align curricula, instruction, and assessments with the state's K–12 academic content standards in core subjects. From the district to the principal and the teachers, student assessment and other data are used extensively to evaluate and improve teacher practice and student outcomes.
- Middle grade educators have a *future* orientation toward preparing students to succeed in a rigorous high school curriculum. In other words, educators' focus on student outcomes is not geared only toward improving student achievement as measured by standards-based exams.
- Perhaps in recognition that they have only a few years to work with their students, middle grade educators implement comprehensive and targeted academic programs to identify quickly and intervene proactively with students who are two or more years behind grade level, are English learners, or are at risk of failure in the current school year.
- A strong and cohesive professional culture marshals and focuses time and other resources intently on improving middle grade student outcomes. In particular:
 - The superintendent establishes an academic vision and follows through with accountability, while at the helm of an effectively functioning district that provides middle grade schools with comprehensive support aimed at improved student outcomes.
 - Principals provide strong leadership to drive and orchestrate a schoolwide focus on improved student outcomes.
 - Teachers work collectively as a team and individually in their classrooms on a shared mission to improve student outcomes and prepare students for success in high school.

Notably, such practices and policies generally differentiated higher- from lower-performing middle grade schools in the sample *regardless* of whether schools served

predominantly low- or middle-income students. Equally important, these practices *can be adopted and implemented by any district, principal, and school community of teachers. They are not dependent upon grade configuration or internal classroom organization.*

Certainly, the California Standards Tests in English language arts and mathematics do not measure many other important things that middle grade students should be learning at school—such as art, social studies, science, and music, as well as citizenship and tolerance of differences.

But scores on these tests *do* provide middle grade students and teachers, their school districts, and the state with a consistent way to measure the progress students are making toward mastering the important mathematics, reading, and writing skills that will enable them to succeed academically in high school and beyond.

Across California—and no doubt nationwide—schools serving similar student populations can vary widely in how well their students perform on such tests. This study shows that, although the socioeconomic backgrounds of students are one strong predictor of school-level academic achievement, the practices and policies enacted by middle grade educators also have a significant relationship with these outcomes. Their focus on their middle grade mission, and the resources they have available to pursue their goals, can make a difference. The interrelated practices identified in this study may help middle grade schools and districts—in California and nationally—continue their efforts to improve students’ academic outcomes at a critical time in their academic careers.

I. Introduction: Why the middle grades?

There has been a great deal of focus in recent years on high school reform as a way to ensure all students graduate ready for a skilled job or additional postsecondary education. As expectations for a more highly educated American citizenry rise, what happens in the middle grades—the beginning of the secondary-to-postsecondary education continuum—matters more now than ever.

- The middle grades are where many students begin to lose ground in key subject areas such as mathematics. In California—which educates one in every eight students in grades 6 through 8 in the United States—student achievement in mathematics in any given year is lower in the middle grades than in the elementary grades, as measured by the state’s standards-based tests. Although California has made much progress in recent years in improving the performance of its middle grade students in the subject, two-thirds of 4th graders in the state scored proficient or advanced in mathematics in 2009, compared with only 43% of 7th graders, according to data published by the California Department of Education (CDE). Nationally, most states see a dip in middle grade proficiency (i.e., the percentage of students scoring “at” or “above proficient”) compared with elementary levels, as measured by the National Assessment of Educational Progress (NAEP).
- The middle grades are the last, best chance to identify students at risk of academic failure and get them on track in time to succeed in high school. Recent studies in California (Kurlander, Reardon, et al., 2008; Zau and Betts, 2008) and elsewhere (Balfanz, Herzog, et al., 2007; Balfanz, 2009) show that many students at the greatest risk of high school failure could be identified early—during the middle and even late elementary grades—by their grades, attendance, behavior, and test scores. For example, Balfanz and colleagues found that the middle grade experience of students in high-poverty Philadelphia schools strongly influences their odds of graduating from high school. The more “off track” indicators a student has and the fewer opportunities the school provides for intervention and correction, the more likely that student will not graduate from high school, much less enter a college preparatory curriculum there.
- Success in key subjects in the middle grades is a strong predictor of success in high school and beyond. In California, students’ scores on middle grade standards-based tests in English language arts and mathematics can predict whether they will pass the California High School Exit Exam, which students first take in grade 10. Further, students’ grades and test scores in mathematics help determine their course placement in the subject when they begin high school. This has implications for science placements as well, and consequently for students’ prospects of completing the college preparatory coursework needed to be eligible for admission to the University of California and the California State University systems.

The past two decades have seen the release of many reports stressing the importance of the middle grades. All have focused to one degree or another—with more or less specificity—on the broad concepts of developmental responsiveness (to young adolescent needs), social equity (ensuring that all students are encouraged and supported to achieve at their highest), and academic excellence or rigor (consistent with standards-based instruction) as central tenets of their recommendations.

But only very recently has research and analysis begun to focus on academic outcomes in the middle grades. To date, very little research has been conducted on the relationship between particular middle grade practices and policies and improved academic outcomes.

The California context

California's 1.5 million 6th-, 7th-, and 8th-grade public school students represent one out of eight middle grade students in the United States. Based on these numbers alone, California is important; but its student diversity and variety of school and district configurations add to the state's relevance for any consideration of middle grade education.

Grade and district configurations in California vary widely:

- Among more than 2,000 schools in California with grade spans that included 7th and 8th grade in 2007–08 (CDE, 2008b, pg. 3), about:
 - 35% were K–8 schools;
 - 41% were 6–8 schools;
 - 17% were 7–8 schools; and
 - 7% were a variety of other configurations.
- In 2008–09, California was home to 1,043 school districts and 746 charter schools.
- California's middle grade schools are distributed across three different kinds of school districts: K–8 elementary districts, K–12 unified districts, and high school districts (most of which serve grades 9–12). Although the vast majority of middle grade students in the state are enrolled in elementary or unified districts, a small number of high school districts also educate 7th and 8th graders.
- The school districts serving California's middle grade students range from very small districts with one school and one person who serves as both school principal and district superintendent—i.e., superintendent-principals—to Los Angeles Unified School District (LAUSD), which served more than 687,500 K–12 students in 2008–09.

Middle grade education in California is also influenced by the incredible diversity of the state's students:

- More than 40% of middle grade students in the state live in poverty (CDE, 2008b, pg. 3).
- Statewide across all grades in 2008–09, 49% of California students were Latino, nearly 28% were white, 8.4% were Asian, 7.3% were African American, and the balance were of various other ethnic backgrounds. The ethnic distribution of students throughout the state is uneven. For example, more than 40% of African American students in California attend public schools in just 13 school districts.
- One in five middle grade students in the state is categorized as an English learner (CDE, 2008b, pg. 3). Across all grades, about 85% of English learners (ELs) speak Spanish, and the rest speak a plethora of other languages. California's EL students are distributed unevenly throughout the urban, rural, and suburban areas of the state. EL students are over-represented in Los Angeles County, for example, but are also more than 30% of students in a few small, largely rural counties in the agricultural area of the state.

Although California serves the highest proportion of English learners in the nation and a disproportionate number of low-income students compared to the national average, the resources available to California schools are fewer than those in most other states. In addition, to the extent that California has invested in education reform in the past 15 years or so, that investment has largely centered on the early elementary grades and high school.

For 30 years, California has lagged behind the national average in its expenditures per pupil. In 2006–07, California ranked 49th among all states (and Washington D.C.) in its ratio of teachers to students, at about 74% of the U.S. ratio. Further, California's ratio of school site administrators to students was 71% of the U.S. ratio, and that of district officials was 39% (EdSource, 2009b). At the same time—given the state's relatively high cost of living—average educator salaries are the highest in the country.

(Data in this box are from the California Department of Education and the National Center for Education Statistics.)

Such questions are vital. The past few years have witnessed a global and national economic crisis. At the same time that public expectations for a better-educated workforce are rising, state budgets to provide funding for K–12 education have been cut across the nation, and in few places more than in California. While education funding from states is declining, federal education funding opportunities are increasing and civic groups are re-examining options to raise funds through other sources. We appear to be entering a “new normal,” where for many years ahead policymakers and educators will have to do more with less. On the upside, the crisis is causing individuals and institutions alike to rethink and justify their priorities and to be open to new goals and new ways of accomplishing important objectives.

Middle grade educators and their students, and their efforts and success, are important. This study contributes to the field by identifying a broad range of traditional and newer middle grade policies and practices, and determining in California which of these differentiate higher- from lower-performing schools serving similar student populations, with performance measured by the state’s standards-based tests.

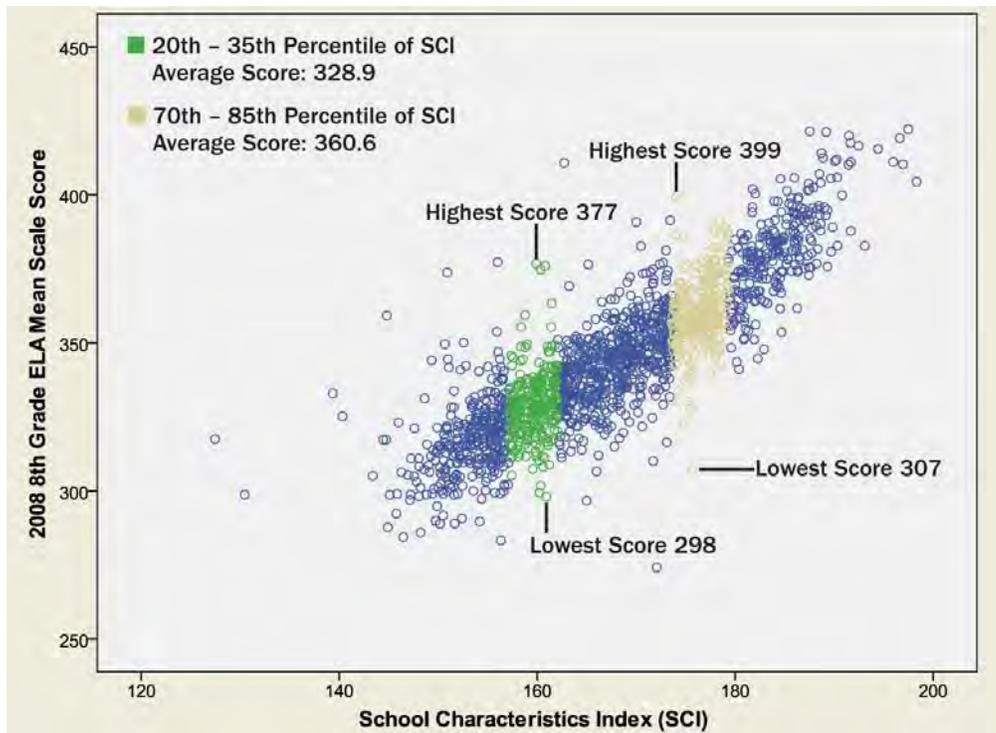
II. The research question:

What school and district practices and policies differentiate higher- from lower-performing schools serving demographically similar middle grade students?

Although it is widely accepted among educators that most of the difference in student outcomes among schools is directly related to student background, it is less widely acknowledged that there is great variation in student performance among schools serving very similar student populations. This variation is striking—and in many ways, hopeful. It makes clear that school and district practices can have a significant impact on student outcomes regardless of student background.

Figure 1 illustrates this clearly. This scatterplot shows the mean scale scores of California middle grade schools on the Grade 8 California Standards Test (CST) in English language arts in 2008, plotted against each school's score on the statewide Schools Characteristics Index (SCI), which serves as a proxy for student socioeconomic status. (For more information, see the California's School Characteristics Index box on page 23.)

Figure 1: Average Grade 8 English Language Arts CST scale scores among California schools serving at least grades 7 and 8



In the case of schools designated as “elementary” schools for state accountability (API) purposes, the SCI was recalculated to match the SCI metric for “middle” schools.

Data: California Department of Education (CDE), Standardized Testing and Reporting (STAR) Program.
Available at: <http://star.cde.ca.gov/star2008/> EdSource, 2/10

Figure 1 illustrates both of the patterns just highlighted. First, as expected, a higher SCI correlates with higher schoolwide student achievement on the California Standards Tests (CSTs). Student test scores increase as family education and socioeconomic status increase.

But Figure 1 also shows that average student outcomes on the CSTs vary widely—even among middle grade schools serving student populations with very similar backgrounds and demographic profiles. As the figure shows:

- Among middle grade schools located in the 20th–35th percentile range (or “band”) of the SCI, which serve students from predominantly lower-income families, school-level mean scale scores on the 2008 Grade 8 English Language Arts CST *varied by 79 points*, ranging from 298 to 377 (on a scale from 150 to 600).
- Among middle grade schools located in the 70th–85th percentile band of the SCI, which serve students from predominantly middle-income families, school-level mean scale scores on the test *varied by 92 points*, ranging from 307 to 399.

In comparison with these broad variations, the average scores on the test for each of these two SCI bands overall differed by *only about 32 points* (328.9 vs. 360.6 points in 2008). In other words, there is more variation in school-level student achievement on the Grade 8 English Language Arts CST *within* each of the two SCI bands than, on average, exists *between* them. This pattern recurs with respect to the other English language arts and mathematics CSTs taken by middle grade students.

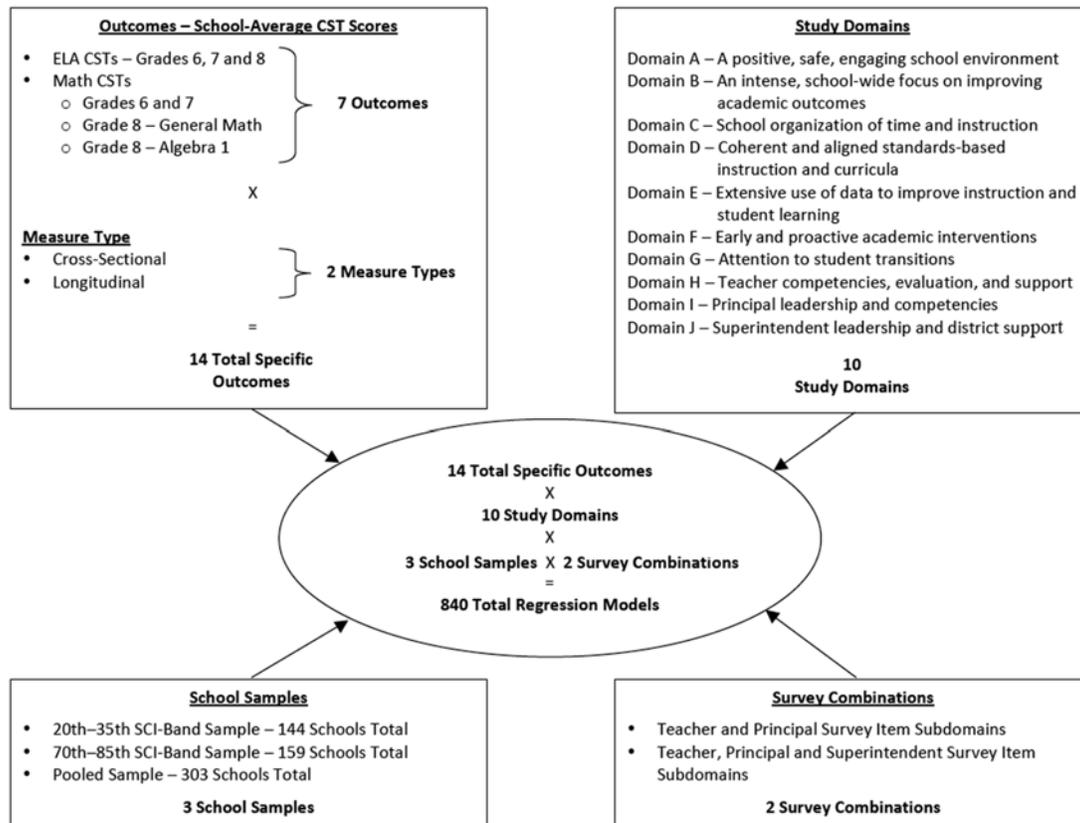
This study is designed, first and foremost, to identify *actionable school and district practices and policies that differentiate higher- from lower-performing middle grade schools (as measured by California’s standards-based tests) serving similar students.* Secondly, the study is also designed to shed light on the middle grade policies and practices currently in use in California schools, and on whether practices that differentiate higher-performing schools vary based on whether schools serve predominantly low- or middle-income students.

III. Study design: A large-scale survey of middle grade schools

Summary of the study's architecture

The study design required to answer these research questions was complex. Figure 2 below shows the overall organization, complexity, and scale of the study design.

Figure 2: Overall design of the study



The research team conducted a large-scale survey of middle grade principals, and English language arts and mathematics teachers, at schools across California—as well as a survey of many of these schools’ district superintendents.

The sample of schools for which the research team analyzed survey data:

- Was **bimodal**, including middle grade schools from:
 - The 20th–35th percentile SCI band, serving predominantly low-income students, and
 - The 70th–85th percentile SCI band, serving predominantly middle-income students.

- Included a *full spectrum of school-level academic performance* for the 2008–09 school year *within each* of those two SCI bands.
- Included *all major middle grade configurations*, including schools serving grades 7–8, 5/6–8, K–8, and other configurations.
- Included *both charter and traditional public schools*.

Respondents for these schools provided answers to survey questions—more than 900 in total—developed out of an extensive review of middle grade research and policy literature, as well as literature on principal and district leadership, tailored to California’s education policy context. The survey development was guided by *ten study domains* distilled from this literature review. The survey focused on neutrally-phrased, concrete, actionable practices and policies. In order to enable a view into the alignment of policy and practice between the superintendent, principal, and teacher levels, a portion of the questions were asked of at least two, if not all three, of these actors.

For the purposes of analysis, the research team grouped the superintendent, principal, and teacher survey items into subdomains of practice within each of the ten study domains. These practice subdomains served as the independent variables for analysis.

School-level outcomes from *seven California Standards Tests (CSTs)* served as the study’s dependent variables:

- The Grade 6 English Language Arts CST.
- The Grade 7 English Language Arts CST.
- The Grade 8 English Language Arts CST.
- The Grade 6 Mathematics CST.
- The Grade 7 Mathematics CST.
- 8th graders’ outcomes on the General Mathematics CST.
- 8th graders’ outcomes on the Algebra I CST.

The research team analyzed the relationship between reported practices and school-level outcomes on each of these seven CSTs in *two different ways*:

- *Cross-sectional analyses* measured the power of each of the ten research domains, and the subdomains within them, in explaining variation in school-level mean CST outcomes in 2009, controlling for student demographics and other school variables.
- *Longitudinal analyses* measured the power of each of the domains, and the subdomains within them, in explaining variation in school-level mean student growth, by controlling for prior student achievement. These analyses used a data file with test scores over four years for the students in the sample to generate a 2009 “predicted” mean test score for the students in each school, based on their prior achievement. These analyses identified which school and district practices were most strongly associated with 2009 school-level mean CST scores above the predicted levels.

The rest of this section describes the study design in more detail, with particular attention to:

- The research domains and survey instruments at the core of the study;
- How the research team defined the population of middle grade schools eligible to participate in the survey, the process by which the team recruited school principals and teachers—as well as districts leaders—to participate, and the resulting sample; and

- How survey responses for these schools were analyzed against school-level CST outcomes, through both cross-sectional and longitudinal analyses, to determine which areas of practice and policy differentiate higher-performing middle grade schools.

The research and review process

Ten broad conceptual domains guide the research team’s survey of middle grade schooling practices and policies in California. The domains and surveys were developed based on extensive review of the available research and policy literature. This included the myriad reports issued in the past several decades on middle grade reform and more limited outcomes-based research at the middle grade level. The research team also considered current education policy in California and followed state and national dialogue about such issues as algebra and literacy in the middle grades.

The research team’s previous study of effective school policies and practices in California elementary schools (Williams, Kirst, Haertel, et al., 2005) also informed the domains and surveys. That study drew from research related to “effective schools” practices in the standards-based era. The research team updated its understanding of these issues through attention to more recent literature on such topics as the use of technology to support data-informed decision-making, the early identification of students in need of assistance, and the role of district and school leadership.

In addition, a range of national and state experts on middle grade education reviewed and provided feedback to the research team on the domains and survey instruments. Three national experts were consultants to the study and the survey development process:

- Robert Balfanz, principal research scientist at the Everyone Graduates Center, Johns Hopkins University.
- Hayes Mizell, distinguished senior fellow of the National Staff Development Council and former director of the Edna McConnell Clark Foundation’s program for student achievement.
- Uri Treisman, professor of mathematics and director of the Charles A. Dana Center, University of Texas at Austin.

Other experts also provided the research team with review and feedback during the development process, including individuals from:

- The California Department of Education (CDE) Middle and High School Improvement Office.
- The CDE Curriculum Frameworks and Instructional Resources Division.
- The California Commission on Teacher Credentialing (CTC).
- The California Subject Matter Project (CSMP).
- NewSchools Venture Fund.
- Leaders and teachers from Aspire Public Schools.
- Current California superintendents and middle grade principals.
- Current middle grade teachers who provided feedback on the teacher survey instrument during pilot sessions at two middle schools, located respectively in northern and southern California.

The research team solicited additional feedback on aspects of the domains and survey instruments pertaining to the middle grade education of English learner (EL) students and English language development (ELD) practices. Robert T. Linqunti, project director for

English Learner Evaluation and Accountability Support (ELEAS) at WestEd, worked on contract with EdSource staff on the development of a framework related to instructional strategies and local policies for the education of EL students in the middle grades. A group of EL practitioners and researchers then prioritized the items included in the framework. Some of these experts participated in a conference call to discuss the framework, with a focus on policies and practices they believed would vary among schools and might correlate with middle grade CST outcomes in English language arts and mathematics. The research team also conferred with Aida Walqui, director of teacher professional development at WestEd, at several points during the study for feedback on the survey instruments and important context for interpreting findings.

The ten research domains

This section introduces the ten conceptual domains that guided the development of the survey instruments and the analyses. Each introduction discusses briefly:

- The relevance of the domain for middle grade education in California, as informed by the available research and policy literature; and
- Key areas of practice and policy encompassed by the domain, into which the survey instruments inquired.

The reader will note that certain topics cut across domains. In particular, elements of principal and district leadership are considered as they pertain to *both* a particular domain of practice and policy (e.g., as a component of “An intense, school-wide focus on improving academic outcomes”) *and* the domains focused on principal or district leadership.

Practices and policies pertaining to the support of English learners—and to ensuring these students’ access to core middle grade content in English language arts and mathematics—are considered across the domains. The aspects of the domains focused on EL students were informed greatly by additional expert review (described earlier) and relevant research and policy literature (e.g., Meltzer and Hamann, 2004, 2005; Short and Fitzsimmons, 2007; Abbott and Ganahl, 2008; WestEd, 2008).

Domain A—A positive, safe, engaging school environment

Responsiveness to the developmental needs of young adolescents, strong adult-student relationships, and student engagement are signature issues of the “middle school movement” that drove middle grade reform for several decades.

This emphasis has been driven, in part, by worry about student disengagement and countervailing influences that pull students away from school (e.g., Carnegie Council on Adolescent Development, 1989; see also Juvonen, Le, et al., 2004). Although some have criticized over-emphasis on developmental responsiveness at the expense of academic achievement (e.g., Bottoms, Cooney, et al., 2003; Yecke, 2005), the concern for engaging young adolescents in relevant activities is a fundamental aspect of most middle grade reform recommendations (e.g., CDE, 2008d; National Forum to Accelerate Middle-Grades Reform and California Middle Grades Alliance, 2009; National League of Middle Schools, 2010), and is typically viewed as one necessary condition for student success that complements a school’s academic focus (e.g., see Lee, Smith, et al., 1999).

Student behavior and attendance—both important indicators of positive engagement—are particularly important in light of research showing that behavior and attendance can predict, for example, whether students entering high-poverty middle schools behind grade level in mathematics will catch up before they leave. This research emphasizes the value of an immediate response to a student’s first unexcused absence and consistent modeling

and recognition of positive student behavior (e.g., Balfanz and Byrnes, 2006; Balfanz, Herzog, et al., 2007).

This study's survey instruments inquired into such strands of policy and practice as:

- Reinforcing positive middle grade student behavior.
- Ensuring a safe campus environment.
- Developing strong staff-student relationships.
- Ensuring student attendance.
- Providing extracurricular activities and elective courses.
- Utilizing engaging instructional practices.

Domain B—An intense, school-wide focus on improving academic outcomes

Standards-based accountability makes raising student achievement in the middle grades and preparation for high school, as measured publicly against high academic standards and expectations, non-negotiable priorities. Criticism of the middle grades is often driven by concern that schools devote inadequate attention to building a pervasive culture of academic achievement (e.g., Bottoms, Cooney, et al., 2003; Yecke, 2005). In addition, some recent research suggests that many California students, by the end of grade 9, are already off-track for meeting the minimum course-taking requirements necessary to be eligible for admission to a public four-year state university (Finkelstein & Fong, 2008).

All involved in the education of middle grade students have a role to play in cultivating and sustaining a pervasive focus on academic achievement. For example:

- Districts can prioritize and set explicit goals for student achievement (e.g., Bottoms, Cooney, et al., 2007).
- Principals can cultivate collective responsibility for school improvement and a shared vision for academic achievement (e.g., Cotton, 2003; Leithwood, Steinbach, et al., 2002; Leithwood and Riehl, 2003; National Association of Secondary School Principals, 2006).
- Parents can play a key role in socializing students into future goals and aspirations that place a high value on educational achievement (e.g., Hill and Tyson, 2009; Juvonen, Le, et al., 2004).
- Students can also take responsibility for academic achievement. For example, one recent study found that academic behaviors such as “academic discipline”—student planning and organization, follow-through, and sustained effort—are important for course success in grade 8 and grade point average in grade 9, and can provide educators with important indications of which students need intervention (ACT, 2008).

This study's survey instruments inquire into such strands of policy and practice as:

- Setting measurable goals for student achievement—for example, with respect to federal and state accountability measures, CSTs, and district benchmarks.
- Setting priorities and measurable goals related to Algebra I course-taking and success.
- Focusing on preparing students for a rigorous high school curriculum.
- Local educators prioritizing and holding themselves accountable for student achievement.
- Communicating to students and parents the importance of taking responsibility for academic achievement.

Domain C—School organization of time and instruction

Time—for additional instructional support, for common planning and collaboration, and so forth—is an important resource for middle grade educators. In addition, how middle grade school leaders configure the master schedule and organize relationships among staff and students provide important contexts for how the school meets its academic and developmental goals (e.g., National Association of Secondary School Principals, 2006; Short and Fitzsimmons, 2007).

For example, middle grade research and reform literature frequently cites structural practices such as flexible scheduling, vertical looping (i.e., students have the same teachers for two or more years), interdisciplinary team teaching, and small learning communities as ways to enrich the interactions of students with adults, and educators with one another. Such practices are cited variously in middle grade policy reports and statements of educational philosophy (e.g., Carnegie Council on Adolescent Development, 1989; Juvonen, Le, et al., 2004; National Forum to Accelerate Middle Grades Reform, 2004; National Association of Secondary School Principals, 2006; National Middle School Association, 2010), as well as middle grade research (Flowers, Mertens, and Mulhall, 1999, 2003) and various comprehensive school reform models (e.g., Felner, Jackson, et al., 1997; Balfanz, Ruby, et al., 2004; MacIver, Ruby, et al., 2007).

This study's survey instruments inquire into such strands of policy and practice as:

- How much time the school provides for instruction in mathematics and English language arts, and whether this varies based on a student's academic proficiency.
- Extra instructional time for students with less-than-reasonable fluency in English.
- How periods or blocks of time are configured in the master schedule and whether it is flexible.
- Classroom organization (i.e., departmentalized, self-contained, or semi-self-contained).
- Special strategies for grouping students and teachers such as team teaching, vertical looping, and small learning communities.
- Common planning time for teachers to collaborate within subject departments and/or grade levels to discuss student needs and improve practice.

Domain D—Coherent and aligned standards-based instruction and curricula

Standards-based education is premised on the idea that high academic standards for all students should guide coherent educational programs. Current efforts to articulate common core standards nationwide, and regional efforts to encourage greater rigor in middle grade standards, assessments, and performance benchmarks in mathematics and reading (e.g., Southern Regional Education Board, 2009c), show this remains an ongoing concern.

The alignment of educational practice with high academic standards has been a core aspect of California's approach to middle grade education since the adoption of the state's academic content standards. *Taking Center Stage* (CDE, 2001b)—now in its second incarnation as an online resource for middle grade educators (CDE, 2008d)—called on middle grade educators to fully embrace the state's academic content standards as a common basis for the quality education of all middle grade students. These standards form the basis for instructional materials adopted by the state for grades K–8.

Adolescent literacy is a curricular topic of particular current interest (e.g., Kamil, 2003; Biancarosa & Snow, 2006; Heller and Greenleaf, 2007; WestEd, 2008; Southern Regional Education Board, 2009a; Carnegie Council on Advancing Adolescent Literacy, 2010).

Standards-based education in California's middle grades

California was an early adopter of standards-based education reform. By 1999, California had adopted statewide academic content standards in English language arts, mathematics, history/social science, and science. The standards in English language arts and mathematics—the two subject areas considered in this study—have been rated highly by some national organizations (e.g., Klein, Braams, et al., 2005; Stotsky, 2005; American Federation of Teachers, 2008), but have also stirred controversy. California's adoption of its K–12 academic content standards in mathematics, for example, revealed philosophical tensions about the extent to which the standards should emphasize basic operational skills and mathematical precision or conceptual understanding and practical relevance.

Although technically voluntary, the standards in English language arts and mathematics have been infused through most aspects of California's public education system, creating a strong incentive for schools to adopt them. For example, the standards form the basis for annual standards-based testing and for the state's periodic adoption of curriculum programs for grades K–8, from which local districts choose when using state-provided funds for instructional materials.

In English language arts, these include grade-level content standards for grades 6–8. In mathematics, grade-level content standards are established for grades 6 and 7. Beginning in grade 8, however, the mathematics standards are organized by *discipline*, beginning with Algebra I.

Statewide standards-based testing—the centerpiece of which is the criterion-referenced California Standards Tests (CSTs)—follows a similar pattern in the middle grades. Seven of these tests provide the middle grade outcome variables for this study, discussed in more detail later.

- In English language arts, California administers a grade-level CST in each of grades 6–8, which nearly all students at each grade level take.
- In mathematics, the state administers a grade-level CST in each of grades 6 and 7.
- Beginning in grade 8—or a year earlier in the case of more advanced 7th graders who take Algebra I—students take *different* mathematics CSTs depending on the courses in which they enroll. California 8th graders who are enrolled in a full Algebra I course—54% in 2009—take the Algebra I CST. A few more advanced 8th graders take more advanced tests such as the Geometry CST. Middle grade schools in California vary widely in the proportion of 8th graders who take these tests, however. In 2009, 39% of California 8th graders took the General Mathematics CST instead, which assesses these students' achievement in meeting primarily grade 7 standards. These 8th graders were enrolled in a course below Algebra I, or in the first year of a two-year Algebra I course.

California's practice of end-of-course testing in mathematics in grade 8 pre-dates and differs from the federal No Child Left Behind law, which assumes that math testing in grade 8 will be based on a state's content standards for that grade. Recently, this difference between state and federal policy set the stage for a controversial July 2008 motion by the California State Board of Education—which was subsequently blocked—that called for the state's Algebra I CST to become the sole mathematics test of record for federal accountability purposes in grade 8 (for more information, see EdSource, 2009a).

Unlike such tests as the National Assessment of Educational Progress (NAEP), which include both multiple-choice and constructed-response questions, the CSTs taken by middle grade students in English language arts and mathematics are entirely multiple choice, with the exception of a writing prompt included for grade 7 English language arts.

This topic is important because middle grade students do not read and write in school primarily as an end or basic skill in itself, but to learn new academic content, including in disciplines with varying conventions for organizing information and making arguments.

In addition, students enter middle grade schools with sometimes widely varying levels of academic preparation. Schools must consider carefully how to group and place students most effectively in their classes. This issue has received particular attention recently—and has been a topic of controversy in California—as it pertains to student placement in Algebra I in grade 8 (e.g., see Burris, Heubert, et al., 2006; Loveless, 2008; Kriegler and Lee, 2008; EdSource, 2009a).

This study's survey instruments inquire into such strands of policy and practice as:

- Adoption and ongoing review of schoolwide instructional improvement plans.
- Decisions about English language arts and mathematics curricula, and expectations for use.
- Factors that schools consider when placing students into English language arts and math classes, including Algebra I.
- The extent to which teachers coordinate curricular scope, sequence, and pacing.
- Literacy across the curriculum.

Domain E—Extensive use of data to improve instruction and student learning

Use of assessment and other data to reflect on and hold schools accountable for student progress is a core feature of standards-based education. This means schools must be effective learning organizations, capable of reflecting continuously on what is working, what is not, and how educators might change course—and that requires effective use of data to inform decision-making. In addition, some recent research shows that the middle and even late-elementary grades are a crucial time in which educators might identify students who are at particular risk of later academic failure and even dropping out of school (e.g., Jerald, 2006; Balfanz, Herzog, et al., 2007; Kurlaender, Reardon, et al., 2008; Rumberger and Lim, 2008; Zau and Betts, 2008). This research draws attention not only to test scores and grades, but also to behavior and attendance data.

Districts play a crucial role in making ongoing reflection on progress possible at the school level (Massell, 2000; Fairman and Firestone, 2001; Knapp, Copland, and Talbert, 2003; McLaughlin and Talbert, 2003; Petrides, Nodine, et al., 2005; Bottoms, Cooney, et al., 2007; Augustine, Gonzalez, et al., 2009). Districts do this by enabling schools to access student assessment data quickly and in a usable form, and by providing for reflection on common benchmarks for student learning.

This study's survey instruments inquire into such strands of policy and practice as:

- Review of behavior and attendance data.
- Principals' use of data to inform instructional improvement and their role in ensuring that teachers use data in common planning.
- Teachers' access to and use of student achievement and assessment data, including for English learner (EL) students.
- Teachers' use of different kinds of assessments in the classroom and their use of assessment data to inform instruction.
- The district's support for the school's capacity to use data, including benchmark data, and its support for diagnostic assessments.

Domain F—Early and proactive academic interventions

Reflecting on school progress and identifying middle grade students who need additional support is only the first step in keeping these students engaged in school. Schools must also have practices and policies in place to act quickly on this information. This requires practices for ongoing instructional support and/or interventions for students who are behind grade level. This also raises questions about the effective coordination of subject-area instruction with other instructional services, such as English language development (e.g., Short and Fitzsimmons, 2007).

Recent research and policy literature emphasize early action to ensure that students, including English learners, quickly receive any additional support they need in flexible ways that do not disqualify them from later academic opportunities (e.g., Balfanz, McPartland, et al., 2002; Bottoms, Cooney, et al., 2003; Balfanz, Ruby, et al., 2004; Southern Regional Education Board, 2005; Short and Fitzsimmons, 2007; CDE, 2008d). For example, schools applying for recognition as middle grade “Schools to Watch” in California are expected to assess the extent to which “accelerated, short-term interventions for students with similar needs are fluid and do not become low-level or permanent tracks” (National Forum to Accelerate Middle-Grades Reform and California Middle Grades Alliance, 2009, pg. 7).

This study’s survey instruments inquire into such strands of policy and practice as:

- District and principal assignment of teachers to ensure that students with the most need are served well.
- Teacher collaboration to coordinate interventions and English language development with regular instruction.
- A variety of intervention strategies for students identified for additional support—required and voluntary.
- The placement of non-newcomer ELs and primary language support for ELs in the classroom.

Domain G—Attention to student transitions

Depending on a school’s grade configuration, middle grade educators may be responsible for managing two key institutional transitions in students’ lives: from elementary school to the middle grades, and from the middle grades to high school.

Discussion of student transitions is closely linked to debates about school grade configuration. Some argue that the institutional transition from elementary to middle school is disruptive to early adolescent development (e.g., Juvonen, Le, et al., 2004; Eccles, 2008)—a concern also raised about the transition into high school (e.g., Alspaugh, 1998a). In light of these concerns, the California Department of Education’s *Taking Center Stage, Act II* (2008d) cites seamless student transitions, with clear academic and behavioral expectations, as a key form of developmental responsiveness.

Data are important for facilitating the transition to middle school. The National Association of Secondary School Principals encourages middle grade staff to “learn everything they can about new students” and to use student data to inform student placements, scheduling, and support (2006, pg. 245). Recent research on early predictors of high school success, described already under Domain E, shows the importance of data on students’ prior academic success, behavior, and attendance.

This study’s survey instruments inquire into such strands of policy and practice as:

- School review of the prior CST scores, grades, attendance and behavior records of

students entering the middle grades, and communication with elementary teachers.

- Provision of immediate, additional support for students who need it.
- The school's coordination of student transitions into and out of the middle grades (e.g., orientation programs; mixing students from different feeder schools in class placements).
- District priorities for middle grade staff regarding the above.
- Consideration of the language needs of incoming EL students.

Domain H—Teacher competencies, evaluation, and support

Teacher preparation and professional growth in the middle grades have become increasingly important topics of policy discussion in California in recent years, especially in mathematics. For example, some have raised concerns about the supply of teachers holding single-subject credentials in mathematics in the state (California Council on Science and Technology and Center for the Future of Teaching and Learning, 2007), and about the preparation of middle grade Algebra I and other mathematics teachers (Guha, Shields, et al., 2008; California Commission on Teacher Credentialing, 2008b, 2009a, 2009b; EdSource, 2009a).

Credentialing and preparation to teach at the middle grade level is widely recognized to be insufficient without useful and ongoing opportunities for teachers' professional development and growth, however. Practices and policies that support ongoing teacher collaboration and growth are central aspects of major reform and policy recommendations (e.g., National Staff Development Council, 2001; National Association of Secondary School Principals, 2006; CDE, 2008d; National League of Middle Schools, 2010), as well as the criteria used to identify middle grade "Schools to Watch" in California (National Forum to Accelerate Middle-Grades Reform and California Middle Grades Alliance, 2009). These are also central to various comprehensive school reform models (e.g., Felner, Jackson, et al., 1997; Cooney & Bottoms, 2003; Balfanz, Ruby, et al., 2004; MacIver, Ruby, et al., 2007), frequently with particular focus on collaborative contexts for the development of standards-based practice.

This study's survey instruments inquire into such strands of policy and practice as:

- The principal's perception of teacher skills and qualifications at his or her school.
- Teacher experience and education.
- Multiple- versus single-subject credentials, and other qualifications.
- Professional development and district/principal support.
- Teacher collaboration to discuss lessons and student work.
- Teacher involvement in decision-making.

Domain I—Principal leadership and competencies

The era of standards-based reform has highlighted the importance of principals as leaders of the school improvement process, drivers of their schools' vision and mission, and cultivators of human capital (e.g., Cotton, 2003; Leithwood, Steinbach, et al., 2002; Leithwood and Riehl, 2003; National Association of Secondary School Principals, 2006; Augustine, Gonzalez, et al., 2009; New Leaders for New Schools, 2009). As already described, the preceding domains highlight various aspects of principal leadership as they pertain to particular areas of practice and policy. These are also considered here as aspects of the principal's role.

In addition to aspects of principal leadership considered in other domains, this study's survey instruments inquire into such strands of the principal's role as:

- The principal's credentials, training, experience, and education.
- The principal's demonstrated commitment to the middle grades.
- Whether the principal builds strong relationships with parents.
- Considerations that influence the principal's academic priorities for the school.
- Evaluation of teachers and the district's support for doing so.
- The district's evaluation of the principal, review of student data with the principal, and support for professional growth and decision-making.

Domain J—Superintendent leadership and district support

School districts play an important role in guiding and supporting local capacity for continuous evaluation and instructional improvement (e.g., Massell, 2000; Fairman and Firestone, 2001; Knapp, Copland, and Talbert, 2003; McLaughlin and Talbert, 2003; Petrides, Nodine, et al., 2005; Bottoms, Cooney, et al., 2007; Augustine, Gonzalez, et al., 2009). The preceding domains highlighted such interrelated aspects of district leadership as common academic benchmarks and curricula, preferred credentials when hiring new middle grade teachers, support for ongoing professional development, evaluation of principals, and support of local capacity to use student data. These are also considered here as aspects of the district's role.

In addition, this study's survey instruments inquire into such strands of policy and practice as:

- Effective district operations and capacity to support middle grade improvement.
- Considerations that influence the superintendent's priorities for the district.
- The school board's evaluation of the superintendent.
- Superintendent experience and education.

Survey development

The survey instruments developed for this study inquire into school and district practices and policies in the middle grades in California, based on the ten conceptual domains just discussed.

The research team developed three survey instruments:

- *A survey for school principals.* This survey had the most items (447), concerning both school practices and policies and district expectations. In addition, principals indicated which state-adopted curriculum programs in Reading/Language Arts and Mathematics were in use at their schools in 2008–09, and in what grades, using a provided list.
- *A survey for English language arts and mathematics teachers.* This survey was developed only for English language arts and mathematics teachers of record in grades 6–8. Its 313 items included *one large skip pattern*, so that questions specific to each of the two subject areas were directed to appropriate teachers. The teacher survey focused primarily on schoolwide and classroom practices and policies, and asked a limited number of questions about district practices.
- *A survey for district superintendents (or charter management organization leaders, when applicable).* This survey, which had 186 items, inquired into district practices and

priorities for the middle grades.

Several characteristics distinguish the survey instruments:

- The majority of items ask about *whether a range of detailed, concrete, actionable practices and policies are in place at each school, and the extent to which respondents agree that they are in place*. Schools may differ in the practices they report using, or in the intensity (typically on a five-point scale) to which they agree the practices are in place.
- The surveys were written *as neutrally as possible*. They provide a variety of acceptable response options for every area of inquiry—there are no “wrong” answers.
- Some common items bridge two or all three of the survey instruments—rephrased to be appropriate for different respondents (e.g., principals vs. teachers)—and other items ask respondents to report on their roles relative to one another. The goal of these items was to allow us to explore the “*vertical alignment*” of respondents’ answers: between the principal and teachers, and between the district and the school.
- Large portions of the surveys were developed in response to recent state and national debates about the middle grades and chart timely new ground. These included items pertaining to school practices and policies for placing middle grade students in English language arts and mathematics courses, student transitions into and out of the middle grades, and attention to student behavior and attendance problems.
- The surveys were written expressly to accommodate differences among the 303-school sample in terms of grade configuration, students’ socioeconomic status, and organization as a charter or traditional public school.

Where appropriate and consistent with the research domains and its understanding of California’s middle grade policy contexts, the research team also adapted or were inspired by questions from pre-existing surveys by the Center for Social Organization of Schools at the Johns Hopkins University (2006; Center for Research on Elementary and Middle Schools, 1988), the Consortium on Chicago School Research at the University of Chicago (2007a, 2007b, 2007c), and the RAND Corporation (2006a, 2006b, 2006c), and by the research team’s previous work (Williams, Kirst, Haertel, et al., 2005).

A team from WestEd led by John Bosma, associate director of WestEd's Evaluation Research Program, worked on contract with EdSource to ensure the quality of the survey instruments. Bosma and his staff provided expertise on such technical matters as the development of proper scales and helped refine the survey items to avoid “double-barreled” questions. The WestEd team also organized the teacher survey pilot sessions, formatted and produced the printed surveys, and delivered data files containing the survey responses.

Determining the schools eligible to participate in the study

The research team’s first task was to define a sample of schools that would be eligible to participate in the survey during the 2008–09 school year, based on earlier data on these schools available from the California Department of Education (CDE).

Given the research question, the research team decided to use California’s School Characteristics Index (SCI) to select an initial sample of similar middle grade schools that would be eligible for recruitment for the study. (For further explanation of California’s SCI, see the box on the facing page.) The team hoped to recruit from a sample of 500 or more schools, which meant defining a fairly wide SCI percentile range (or “band”).

California's School Characteristics Index (SCI)

The research team used California's School Characteristics Index (SCI) to identify the study's two samples of middle grade schools.

California education policymakers created the School Characteristics Index (SCI) to summarize multiple factors associated with student performance on state tests. The index permits comparisons of student achievement between schools with "similar characteristics."

The SCI is calculated slightly differently depending on whether a school is categorized for state accountability purposes as an elementary, middle, or high school. The SCI calculations used in this study considered school factors such as the following (see California Department of Education, 2008c):

- Socioeconomic indicators (average parent education, percent of students participating in free/reduced-price meals);
- Percent of students who are English learners (ELs) or have been redesignated as fluent English proficient (RFEP);
- Percent of students from different racial/ethnic groups;
- Percent of students with disabilities;
- Percent of students in the Gifted and Talented Education (GATE) program;
- Teacher credentials (percent of teachers who are fully credentialed, percent with emergency permits);
- Average class size;
- Percent of students first attending the school this year (i.e., student mobility);
- Whether the school operates a multitrack, year-round educational program;
- Percent of enrollment by grade span; and
- Percent of students in the Migrant Education Program.

To meet this goal, the research team decided to identify *a bimodal sample*, with half of the schools serving predominantly low-income students and the other half serving predominantly middle-income students. A bimodal sample would also make it possible to analyze empirically whether practices and policies differentiating higher- from lower-performing schools differ between two such SCI bands, if at all.

In addition, the research team decided to survey schools from *all major middle grade configurations* in California: K–8, 5/6–8, 7–8, and others. This decision was consistent with the team's interest in surveying middle *grade* schools across California rather than only middle *schools*. The research team was also mindful that grade configuration is a topic of recurring interest for policymakers and researchers.

Finally, the research team decided to include *both traditional public schools and charter schools*.

Eligible schools also needed to meet the following criteria:

- Each school needed to be designated by California's 2007 Base Academic Performance Index (API) as a middle school, *or* as an elementary school that the research team determined served students in both grades 7 and 8. K–12 schools and schools designated as high schools for state accountability purposes were excluded.
- Each school needed to have an SCI for the 2006–07 school year in order to make SCI band definitions possible. The research team recalculated a "middle school" SCI for

any middle grade school designated for state accountability purposes as an “elementary” school—as is often the case with K–8 schools—thus establishing a common SCI metric by which schools could be sorted and percentiles of the distribution calculated. This was done using the regression weights defining the 2006–07 middle school SCI.

- Schools that tested ten or fewer students on either the Grade 7 or 8 English Language Arts CST in 2007 were excluded.
- Alternative Schools Accountability Model (ASAM) schools—alternative schools of various kinds, mostly serving highly mobile, highly at-risk students—were also excluded.

During the period from August to September 2008, the research team settled on *the 20th–35th and the 70th–85th percentile bands* of the SCI distribution as its definition for middle grade schools serving predominantly lower- and middle-income students, respectively. This yielded a total of 528 schools—264 schools in each SCI band—that had served middle grade students during the academic year prior to the study for potential participation. (These are the same two groups of schools highlighted in Figure 1 on page 9.)

Accounting for schools later discovered to have closed or to no longer be serving students in grades 7 and 8, **516 middle grade schools** operating during the 2008–09 academic year were eligible to participate in the study. These included:

- 255 middle grade schools serving predominantly lower-income students, located within the 20th–35th percentile band of the SCI; and
- 261 schools serving predominantly middle-income students, located within the 70th–85th percentile band of the SCI.

Recruiting eligible schools for the study

The research team set out to recruit as many of these schools to participate in the study as possible, in order to strengthen the statistical power of the analyses. The team also set an ambitious target that all schools would need to agree to return surveys for at least 60% of English language arts and 60% of mathematics teachers of record in grades 6–8, as well as a principal survey, in order to be eligible to participate in the study. (Special Education and resource teachers were not surveyed.) The research team also hoped to survey the superintendent of each participating school but did not make that a condition for school participation.

EdSource took on the task of recruiting schools for the study because of its strong relationship with California school districts for more than 30 years. The process of recruiting schools and subsequently shipping and retrieving the survey instruments ran from November 2008 to July 2009. EdSource staff designed and provided oversight of this process. EdSource turned its small library into a campaign office and phone bank, hired a half-dozen active or former school board and PTA leaders to serve as the recruitment group, and developed a tracking and follow-up system. This group made numerous calls to district and school staff to encourage participation and followed up to encourage completion and return of the surveys. California’s economic climate and education funding cuts in 2008–09 made this a particular challenge.

EdSource first asked superintendents for permission to contact eligible schools within their respective districts (or charter management organization, if appropriate). In some cases, this process involved a formal research review process. Out of 304 districts contacted, 227 gave permission; 77 declined permission, did not respond, or reported that

a school had closed or consolidated with another, thus eliminating 133 schools from consideration. Districts declining permission usually cited school duress over the uncertainty of California's funding climate.

For the remaining 395 schools, the EdSource recruitment group contacted each principal to explain the study and participation targets, and to invite participation. The recruitment group tracked all school responses by grade configuration and SCI percentile group.

The time commitment for teachers was one of the greatest concerns expressed by the schools. Along with promising to do everything possible to minimize the time burden of the survey, EdSource offered a small incentive: a bookstore gift card of \$20 for each school's survey coordinator and principal, and every teacher who completed a survey. EdSource also offered a \$100 cash donation to every school that met the participation targets (completed surveys from the principal and from 60% of both English language arts and mathematics teachers).

The participating schools

The recruitment process was largely complete by February 2009. Of the 395 schools contacted, 315 agreed to participate; however, only 303 ultimately followed up to provide the teacher and principal data included in the study.

By the end of the survey retrieval process in spring 2009, the research team collected:

- **3,752 completed teacher surveys from the 303 schools.** The average school-level teacher participation rate was 88%, and 142 schools returned 100% of their teacher surveys.
- **A completed principal survey from each of the 303 schools.**

During the study year (2008–09), half of the 303 participating schools served grades 6–8 (including a few schools with unusual configurations such as 5–8), 26% served grades 7–8, and 24% served grades K–8.

Among the participating schools:

- **144 schools, including nine charter schools, were from the 20th–35th percentile SCI band group.** During the 2008–09 school year, these schools were more likely than the California average to serve middle grade students who were socioeconomically disadvantaged, Hispanic, ELs, and/or whose parents had achieved no more than a high school diploma. Fifty-five (38%) of these schools were designated as being in Year 5 of Program Improvement (PI) under the federal No Child Left Behind law in that year. The percentage of middle grade students who were African American was notably larger among the nine charter schools in this SCI band (26%) than among the non-charters (9%).
- **159 schools, including 19 charter schools, were from the 70th–85th percentile SCI band group.** During the 2008–09 school year, these schools were more likely than the California average to serve middle grade students who were white and/or whose parents had completed some college or more. At the same time, however, nearly three in ten middle grade students in these schools were socioeconomically disadvantaged. Only one of these schools was designated as being in Year 5 of PI in 2008–09, and charter and non-charter schools in this SCI band were very similar with respect to student demographics in the middle grades.

The research team undertook statistical tests to determine the extent to which the 303 schools are representative of the other schools in their respective SCI bands. For each SCI band, the team compared *participating* schools with *non-participating* schools with

respect to each of the following:

- Student demographics (socioeconomic disadvantage; English language proficiency; parent education; ethnicity);
- Middle grade cohort size;
- The average percentage of students (across all grades served) who were continuously enrolled during the school year;
- Mean school-level student achievement on the grades 6–8 English Language Arts CSTs, the grades 6 and 7 Mathematics CSTs, and General Mathematics and Algebra I CSTs taken by students in grade 8; and
- School grade configuration (K–8; 7–8; 6–8/other).

(Full comparative data are available in Technical Appendix B.)

The participating schools are representative of the SCI bands from which they were selected in virtually all these respects. There were no statistically significant differences (at the .05 level) between the participating and non-participating schools, in either SCI band, with respect to the ethnic backgrounds, socioeconomic disadvantage, or language status of the middle grade students they served, and virtually no differences with respect to parent education. There were also no differences with respect to the average percentage of students who were continuously enrolled during the school year or average middle grade cohort size, and virtually no differences with respect to school-level achievement on the seven CSTs considered (with the exception of a single English language arts outcome among schools in the 20th–35th percentile SCI band).

There was a statistically significant difference between participating and non-participating schools—slightly more pronounced in the 70th–85th percentile SCI band—with respect to grade configuration, however. K–8 schools were somewhat under-represented in the study, and 7–8 and 6–8 schools were somewhat over-represented.

An extraordinary response rate: Why schools participated in the study

The research team solicited feedback from participating middle grade principals on why their schools participated in the study during an economically difficult school year, and how the research process and survey could be improved in the future.

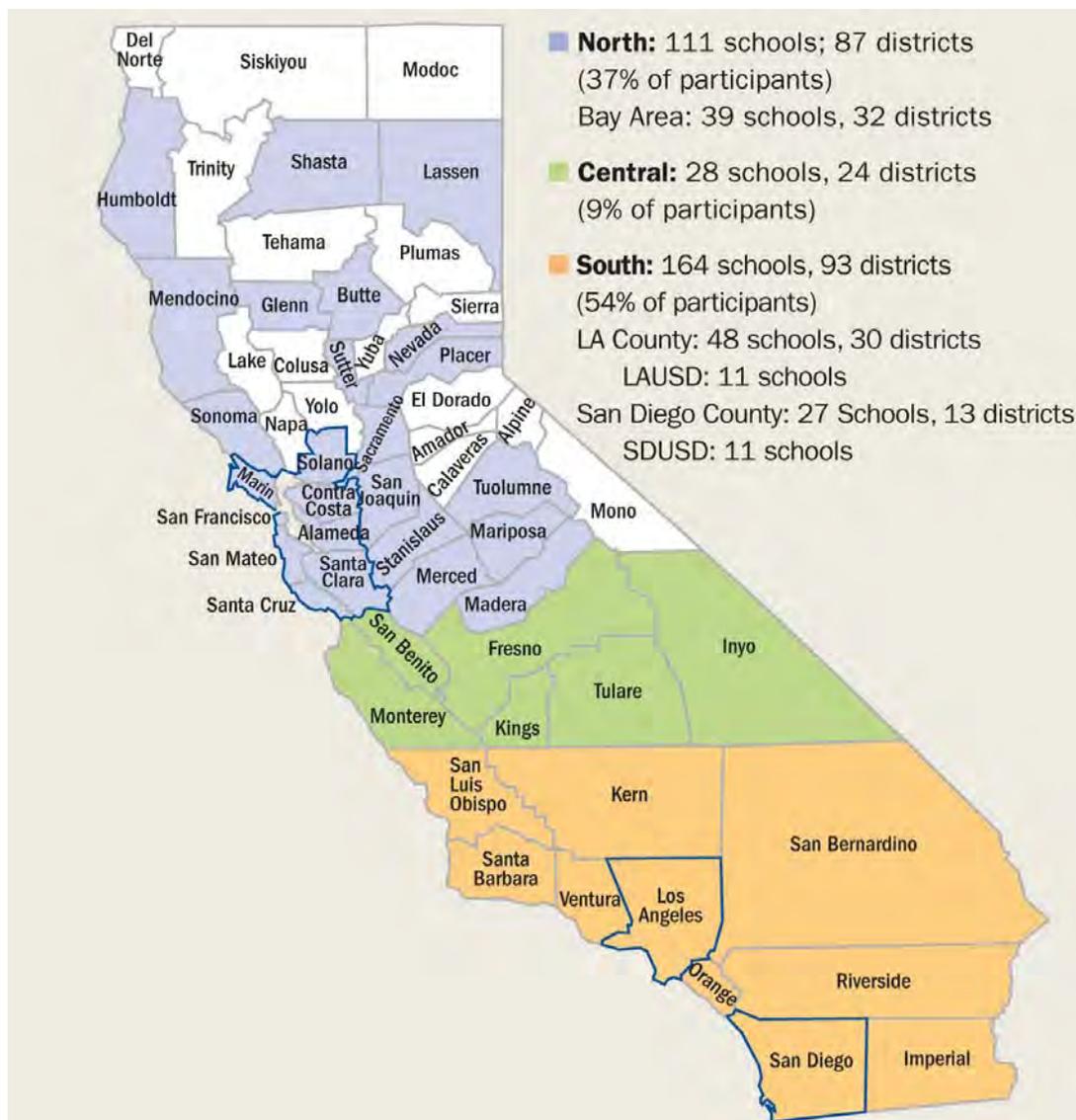
More than 150 principals returned a “One Minute Feedback” form by fax. The form provided the principals with 12 possible reasons why their schools might have committed the time to complete the teacher and principal surveys. Responding principals placed a check mark next to all reasons that applied to them, and placed a star next to their three strongest reasons for participating.

The principals most frequently cited the following as being among their strongest reasons for participating:

- The research focus was on improving middle grade student achievement.
- The principal had confidence that a study/survey done by EdSource would be meaningful.
- The gift card for each participating teacher and principal made a difference.
- The survey focus was on concrete, actionable school and district practices.

This and other feedback provided by the principals will inform future EdSource research.

Figure 3: Distribution of participating schools by region in California



The participating districts

The 303 schools in this study are governed by 195 different California school districts plus six charter management organizations (CMOs). Most of the schools are located in unified school districts that serve grades K–12, about a third operate in elementary districts, and 11 schools were located in high school districts.

In most cases, a given district was home to only one school that participated in the study. However, 59 districts had two or more schools among the final research sample; four of these districts were home to more than five participating schools.

After the surveys for principals and teachers were mailed to schools—between January and March 2009—the research team finalized the superintendent survey. From March to June 2009, the EdSource recruitment group contacted district superintendents and CMO leaders who had at least one participating school to ask them to complete the superintendent survey. (Superintendent-principals who had already completed the

principal survey—a total of 18—were *not* asked to also complete the superintendent survey.)

Out of 177 district superintendents and seven CMO leaders to whom EdSource mailed surveys, **152 district superintendents and five CMO leaders** completed them. These leaders represented 244 of the 303 schools in the sample. Of the responding superintendents, 49 lead elementary districts, 96 lead unified districts, and seven lead high school districts. (See Figure 4 below.)

Figure 4: The majority of those who completed a superintendent survey were from unified (K–12) school districts

District Type	Number of District Superintendents or Charter Management Organization Leaders Returning a Survey
Elementary	49
Unified	96
High School	7
Charter Management Organization	5
Total	157

Data: EdSource Superintendent Survey Data

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Analyses conducted

(For full technical details of the analyses conducted for this study, see Technical Appendix A.)

After all survey responses for the 303 participating schools had been collected, the research team set about the task of constructing independent variables in order to represent each school’s reported practices and policies.

First, the research team categorized survey items as instances of one of the ten research domains described above on an *a priori* basis, guided by the same theory and practice considerations that produced the research domains and survey instruments. The team then grouped individual survey items further into *subdomains*, with each subdomain constructed to measure some aspect of the broader practice domain into which it was placed. Teacher survey items were grouped into teacher subdomains, principal items into principal subdomains, and superintendent items into superintendent subdomains. The team made every effort to group multiple items pertaining to a common practice into a single subdomain; however, some subdomains included only one survey item.

In addition, the research team placed each subdomain in only one of the ten larger practice domains, so as to minimize overlap between them. The only exceptions were subdomains that pertained to either *the principal’s or superintendent’s roles with respect to a domain-specific policy or practice*. For example, a subdomain pertaining to the principal’s use of data might appear in both Domain E (“Extensive use of data to improve instruction and student learning”) and Domain I (“Principal leadership and competencies”).

The research team then performed a statistical analysis to measure the reliability of the groups of items assigned to each subdomain. When necessary, the team made revisions to

ensure that each subdomain both substantively represented and statistically measured a single underlying dimension of variation in schooling policy or practice.

The final subdomains became school-level, independent variables measuring the presence and/or intensity of different practices and policies at each school. Typically, the research team created these variables by averaging across the items contained in the subdomain. In addition, teacher survey responses were averaged up to the school level, with these school averages representing all teachers or subsets of teachers (e.g., by grade or subject) appropriate for different outcome variables. The research team also defined relevant pools of subdomains for use in building statistical models for each CST outcome. For instance, a subdomain pertaining to instructional practices in mathematics would not be considered in predicting English language arts outcomes.

As noted earlier, seven California Standards Tests (CSTs) in English language arts and mathematics—taken by roughly 204,000 middle grade students among the participating schools—provided the dependent variables for this study.¹ The research team analyzed the relationship of school practices and policies with school-level outcomes on these CSTs, after controlling for student demographics and other school characteristics. The control variables used in these analyses included school-level measures of student demographics (i.e., student ethnicity, socioeconomic status, mobility, and parent education); average middle grade cohort size; school grade configuration; and—in the case of mathematics outcomes for grades 7 and 8—various school-level measures of student participation in Algebra I. (See Technical Appendix A for a complete list of control variables.)

Two sets of analyses were conducted:

- **Cross-sectional regression analyses** measured the power of each of the ten domains, and the subdomains within them, in explaining variation in the school-level CST outcomes in 2008–09. These analyses used school-level mean scale scores as the outcomes of interest.
- **Longitudinal regression analyses** measured the power of each of the ten domains, and the subdomains within them, in explaining variation in school-level mean student growth, by controlling for prior student achievement. These analyses used a data file with test scores spanning four years for the students in the sample to construct a 2009 “predicted” mean test score for the students in each school, based upon their prior achievement. These analyses identified which school and district practices were most strongly associated with student achievement beyond the predicted levels, as measured by the estimated portion of school-level CST scores for 2009 that could not be explained by prior-year scores. (The research team requested a set of restricted-use, student-level data files from the California Department of Education to permit the construction of these growth outcome variables. See Technical Appendix A for a detailed description of how the research team constructed these longitudinal outcomes.)

These analyses were designed to determine which reported schooling practices were most positively correlated with higher school-level achievement outcomes, other things being equal. The research team ran domain-specific regression analyses for each CST outcome (defined both cross-sectionally and longitudinally), doing so for the full (or “pooled”) sample of schools and for each SCI band. In addition, the team checked all subdomain variables in the final models to determine whether any statistically significant relationships between practices and achievement were limited to only one or the other SCI band. The team also analyzed whether any differences between the two SCI bands were

¹ To reprise, these included grade-level outcomes on the English Language Arts CSTs for each of grades 6, 7, and 8; grade-level outcomes on the Mathematics CSTs for each of grades 6 and 7; and 8th graders’ outcomes on the General Mathematics and Algebra I CSTs.

statistically significant.

The Findings section of this report describes in detail those subdomains under each domain for which a positive and statistically significant relationship with achievement was found, after accounting for demographic and school variables and other domain-specific practices. (See Technical Appendix C for a summary of the decision rules that the research team employed in making judgments about which regression outputs constituted reportable findings.)

The findings related to practices reported by *principals* and *teachers* are based on regression models using only the principal and teacher subdomains, using the largest school samples possible. The findings related to practices reported by *superintendents* are based on augmented regression models that also included superintendent subdomains, using the subsets of schools for which superintendent survey responses were available. (See Technical Appendix A for a detailed explanation of how superintendent subdomains were considered in the regression analyses.)

To further investigate the findings, the research team also determined the strength of the ten study domains in explaining achievement outcomes *relative to one another*. The final step, after building models for each domain separately, was to compare the domains in terms of their explanatory power for each outcome, and to test whether differences in their explanatory power were statistically significant. The substantive results of these comparisons are reported at the outset of the Findings section. (See Technical Appendix A for a detailed description of how the research team carried out these comparisons.)

Limitations of the study

Before presenting the study findings, it is fitting to note key limitations of the methodology and analysis just discussed. Every type of study has strengths and weaknesses, and this study is no different.

- Because the survey instruments covered a broad range of middle grade policies and practices, they could not delve deeply or narrowly into any one particular domain of effective-schools practices.
- Surveys are by nature “self reports” by the educators who complete them. The research team did not conduct school or district site visits to observe and verify implementation of the practices reported by responding superintendents, principals, or teachers. The size of the 303-school sample and the design of the survey administration—which included high teacher-participation rates at each school and subsequent consistency checks among teacher responses—add to the validity of the survey responses on which the analyses are based, however.
- Although the analyses found correlations between some practices and student outcomes on the California Standards Tests (CSTs), the estimated relationships should by no means be interpreted as causal. No non-experimental study of this kind can claim to identify causal factors between schooling practices and achievement outcomes.
- This study is not an evaluation of any particular middle grade program or philosophy, nor is it a study of middle grade pedagogy.
- The outcome measures used in this study are limited to scores on standards-based state tests in English language arts and mathematics taken by middle grade students. As a result, the study’s characterization of school performance reflects the limitations of the tests in these two particular subject areas, which cannot fully capture a school’s effectiveness. This study does not consider outcomes in other subject areas, nor does it consider outcomes pertaining to other important aspects of middle grade school

effectiveness, such as student engagement, attendance, or health.

- Finally, this study considers only CST outcomes for schools as a whole. Special Education teachers were not surveyed, and the outcomes studied do not include the results of assessments taken by many students who receive Special Education services (the California Modified Assessments or the California Alternate Performance Assessment). And although some survey items (and some subdomains) pertain to practices specific to the middle grade education of English learner (EL) students, this study does not examine the CST outcomes of EL students as a separate student group, nor does it investigate the CST outcomes of any other student group reported separately under the federal No Child Left Behind law.

IV. Findings

This section presents the study findings in detail for each of the ten research domains. As explained above, the research team grouped survey items measuring similar themes or practices into subdomains within the ten larger domains, with superintendent, principal, and teacher items being grouped separately. Each subdomain exemplifies some aspect of the domain in which it is located.

The cross-sectional and longitudinal regression analyses conducted reveal both:

- Which domains most strongly predict higher school-level CST outcomes, after controlling for student demographics and other factors; and
- Which of the many subdomains within each domain correlate positively with CST outcomes, at the .05 level of statistical significance.

The ten research domains fell into three “groupings” with respect to their relative predictive strength in differentiating higher-performing middle grade schools in the sample. (See the Technical Appendix C for the respective effect sizes for each domain across the multiple regression analyses.)

- *The domain with the greatest predictive strength* across most of the cross-sectional and longitudinal analyses was Domain B, “An intense, school-wide focus on improving academic outcomes.”
- *Six domains* consistently followed Domain B in terms of predictive strength. Relative to one another, their predictive strength varied depending on the analysis, and there were relatively few statistically significant differences among them. These domains pertain to standards-based instruction and curricula; extensive use of data; proactive academic interventions; teacher competencies; principal leadership; and superintendent leadership.
- *Three domains*, although they *did* differentiate schools with higher CST scores and higher gains in CST scores, did so with less predictive strength than the other seven domains in almost every analysis conducted. These three domains pertain to school environment; the organization of time and instruction; and attention to student transitions.

Although identifying the relative predictive strength of these three domain groupings is an important finding, equally important—if not more so—are *the specific district- and school-level practices under each domain* that distinguished higher-performing middle grade schools in the cross-sectional and longitudinal analyses.

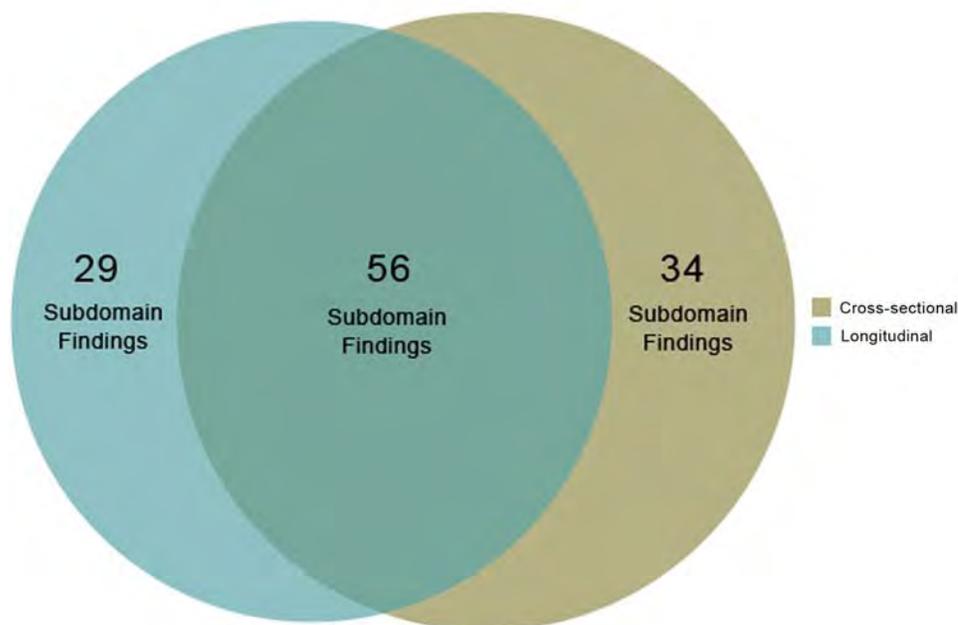
These particular findings are presented below, by domain. For each domain, the practices and policies reported as differentiating higher-performing schools are based on superintendent, principal, and/or teacher subdomains that correlated positively with one or more CST outcomes at the .05 level of statistical significance, among the cross-sectional and/or longitudinal analyses. (See Technical Appendix C for the decision rules the research team used in making judgments about reportable findings, as well as the actual survey items included in each reported subdomain.)

It is important to note that higher-performing schools are often set apart not by the mere fact that a particular practice is reported, but by how *consistently and intensely* (typically on a scale of 1 to 5) each school’s principal and teachers report implementing the practice, or by how strongly the superintendent reports the practice or policy.

Overall, there was substantial overlap between the cross-sectional and longitudinal analyses with respect to findings. (See Figure 5 below.) Of the 119 subdomains described in the following pages, 56 of them differentiated schools with higher achievement in both sets of analyses. Overlap varied among domains and in some cases was extensive. One interesting case of comparatively less overlap—Domain D: Coherent and aligned standards-based instruction and curricula—is described later.

Even when there were differences in the specific subdomains highlighted by the cross-sectional and longitudinal analyses, respectively, there were *not* substantive conceptual differences in the types of practices and policies these subdomains highlighted as differentiating higher-achieving schools. Rather, these practices and policies were complementary.

Figure 5: There was substantial overlap between the longitudinal and cross-sectional analyses with respect to subdomain findings



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One domain consistently had the greatest predictive strength

■ Domain B: An intense, school-wide focus on improving academic outcomes

In analyzing schools' and districts' reported practices, Domain B was consistently the strongest predictor of school-level CST outcomes. When considered in terms of all English language arts and mathematics CST outcomes combined, this domain was the single most influential differentiator of higher-performing schools in both the cross-sectional and longitudinal analyses.

This was true for the total (or “pooled”) sample of schools, and for both the lower-income and middle-income subsamples of schools. Domain B also consistently had a higher impact than all other domains on CST outcomes in mathematics, whether in the cross-sectional or the longitudinal analyses.

The subdomains under this domain that differentiated higher-performing schools each, in some way, emphasize the importance of actors at *all levels*—the district, the principal, teachers, parents, and students—setting, taking responsibility for, and holding one another accountable for meeting clear educational goals.

Certain of these goals—such as meeting or exceeding state and federal accountability targets—clarify how such schools report acting in response to public accountability measures. Others focus on the middle grades as essential for students' futures. For example, middle grade schools in which the principal and/or teachers reported that curriculum and instruction are designed to prepare students for a rigorous high school curriculum tended to have better school-level achievement across many CST outcomes in both the cross-sectional and longitudinal analyses.



Domain B—An intense, school-wide focus on improving academic outcomes

Other things being equal, stronger agreement about the following was associated with higher school performance

A curriculum designed to prepare students for high school:

- Principal and teachers report that the school's curriculum and instruction are designed to prepare students for a rigorous high school curriculum.

Setting and prioritizing measurable objectives for student achievement:

- Superintendent reports that she/he expects middle grade principals and staff to prioritize improving student achievement (for subgroups and regardless of proficiency level), and that the district sets measurable objectives for improving CST scores across all performance levels and by grade level and subject area.
- Principal reports that the district emphasizes improving student achievement across all CST levels, closing CST subgroup achievement gaps, and getting as many students to proficient as possible.
- Principal and teachers report that the school emphasizes improving achievement across all CST performance levels and sets measurable goals for CST scores by grade and subject matter.
- Principal reports that the school sets measurable goals for improving district benchmark test scores.
- Principal reports that English language arts and mathematics teachers take responsibility for improving their students' achievement; and that grade and subject-matter teams set goals for student achievement.

The priority of state and federal accountability targets:

- Teachers report that meeting and exceeding AYP (Adequate Yearly Progress) and API (Academic Performance Index) targets are school priorities.
- Principal reports that she/he places a priority on meeting AYP subgroup targets, and meeting and exceeding API growth targets.

Principal expectations:

- Principal reports that she/he regularly communicates to faculty the importance of high expectations for the achievement of all students.

Uninterrupted instructional time:

- Teachers report that instructional time in their classrooms is protected from unnecessary interruptions.

Student and parent responsibility for student learning:

- Teachers report that they frequently communicate with parents about middle grade academic standards and students' progress, and provide ways for parents to support their students' academic achievement.
- Principal reports that the school regularly communicates to students the importance of middle grade achievement to their future and of taking responsibility for their learning, and communicates to parents the importance of their role in setting high expectations for student academic success.
- Principal reports that the school has requirements or contracts for parent participation.

The study also found, for schools in the 20th–35th percentile of the SCI:

- Teachers report that the district communicates high expectations that schools will meet or exceed state and federal accountability targets.
- Principal reports that the school uses student progress and achievement data as part of teacher evaluations.

The six, next-strongest domains varied in their relative predictive strength, depending on the analysis

Next in terms of overall predictive strength were *six domains* that varied, depending on the analysis, in the power with which they differentiated higher-performing schools relative to one another. They are, in no particular order:

- Domain D: Coherent and aligned standards-based instruction and curricula.
- Domain E: Extensive use of data to improve instruction and student learning.
- Domain F: Early and proactive academic interventions.
- Domain H: Teacher competencies, evaluation, and support.
- Domain I: Principal leadership and competencies.
- Domain J: Superintendent leadership and district support.

The relative predictive strength of these domains varied depending on:

- The type of analysis conducted (i.e., cross-sectional vs. longitudinal);
- Whether superintendent survey responses were included (which reduced the sample size); and
- The CSTs considered (i.e., all English language arts vs. all mathematics vs. both subject areas combined).

In addition to their varying “order”—and again depending on the analysis—there were frequently very few statistically significant differences among these six domains with respect to their relative predictive strength. See Technical Appendix C for the respective effect sizes of these domains across the multiple analyses.

Domain D—Coherent and aligned standards-based instruction and curricula

The subdomains that differentiated higher-performing schools under this domain highlight schools’ ongoing evaluation of their instructional improvement plans and the concrete actions they report taking to align instruction with state standards and ensure curricular coherence among teachers. Regarding the latter, for example, schools in which teachers reported collaborating on curriculum scope and common benchmark assessments, and closely aligning instruction with state standards—such as by focusing on key standards or breaking down prerequisite skills—had better school-level achievement on multiple CST outcomes, across both the cross-sectional and longitudinal analyses.

Districts’ reported emphasis on attention to the placement of English learners in English language arts and mathematics classes, and the school’s reported consideration of a range of factors when placing students into general mathematics classes in grades 7 and 8, were also associated with higher achievement. In addition, principals’ reports of a structured program to promote literacy across the grade 8 curriculum were associated with higher school-level outcomes in 8th grade English language arts in the longitudinal analysis.

Interestingly, reported practices and policies related to curriculum adoption and expectations about how frequently the curriculum should be used by teachers emerged as much stronger findings in the longitudinal analyses than in the cross-sectional. Schools where respondents reported a stronger district role in driving curriculum adoption and/or the alignment of instruction with standards, and/or where principals reported expecting more frequent use of adopted curricula (e.g., daily) by English language arts and mathematics teachers, tended to have higher school-level outcomes after controlling for prior student achievement.

Domain D—Coherent and aligned standards-based instruction and curricula

Other things being equal, stronger agreement about the following was associated with higher school performance

Planning for instructional improvement:

- Principal reports that the school has well-defined plans for instructional improvement and assesses their effectiveness regularly.
- Teachers report that the school assesses the effectiveness of its instructional improvement plans on an ongoing basis.

Administrative expectations for curricula and instruction:

- Principal reports that the district leads decisions about the school's 6th–8th grade curriculum program adoption in English language arts.
- Principal reports that she/he expects the school's teachers to use the school's adopted English language arts and mathematics curriculum programs frequently.
- Principal reports that the school's English language arts and mathematics instruction is closely guided by state academic standards and state-adopted curriculum programs, takes into account English Language Development standards, and emphasizes key standards in each grade and core subject.
- Teachers report that the district communicates high expectations that instruction will closely align with state standards.

Teacher engagement with standards and curricula:

- English language arts and mathematics teachers each report that they closely align instruction with the California academic content standards and CSTs, emphasize key standards, and work together to break down prerequisite skills.
- Teachers report that they collaborate on curriculum pacing, common benchmark assessments, and instruction.
- English language arts teachers report that they modify or augment the adopted English language arts curriculum with additional materials to meet the needs of students.
- Mathematics teachers report that they augment the adopted mathematics curriculum.

Attention to student placement:

- Superintendent reports that the district expects middle grade schools to consider a range of factors when placing non-newcomer English learners in English language arts and mathematics classes.
- Mathematics teachers report that the school considers a range of factors in placing students into general mathematics classes in grades 7 and 8.

Student literacy:

- Principal reports that the school has a structured program to promote literacy across the grade 8 curriculum.
- English language arts teachers report that they hold students accountable for reading outside of class and teach strategies for writing.

The study also found, for schools in the 70th–85th percentile of the SCI:

- Superintendent reports that the district leads decisions about schools' 6th–8th grade curriculum program adoptions in English language arts and mathematics.
- Principal reports that the school has explicit written criteria for placing students in mathematics classes, department chairs revise math placements for academic appropriateness, and the administrative team reviews placements to ensure wide access to a rigorous math curriculum.

Domain E—Extensive use of data to improve instruction and student learning

Taken together, the findings in this domain indicate a strong, schoolwide culture focused on student outcomes, such that a school uses data to inform decisions about additional academic support and student placement, and to set goals for meeting the needs of individuals and student subgroups.

The subdomains that differentiated higher-performing schools under this domain also highlight how actors at multiple levels—district, principal, and teachers—report taking action to support the ongoing improvement of instruction through assessment and the analysis of student data. For example, schools whose teachers reported that their districts provide timely data and a user-friendly information system tended to have higher 8th grade mathematics outcomes in both the cross-sectional and longitudinal analyses.



Domain E—Extensive use of data to improve instruction and student learning

Other things being equal, stronger agreement about the following was associated with higher school performance

District support for local data capacity:

- Teachers report that the district supports their data analysis by providing schools with timely CST data and a user-friendly information system, and emphasizing regular teacher use of benchmark and/or diagnostic assessments.
- Principal reports that the district provides schools with timely CST, CELDT (California English Language Development Test), and district benchmark data; provides a computer-based data system and adequate staff training; and uses achievement data to improve and recognize teacher practice.

Principal use of data:

- Principal reports using assessment data extensively and in multiple ways to improve student learning and teacher practice.
- Principal reports that she/he meets with teachers individually, by grade, and by subject to review CST results (including subgroups), and meets with the entire school to review schoolwide CST scores.

Teacher access to CST data:

- Teachers report that they receive individual CST data for all students they teach, as well as data disaggregated by skill and subgroup and summarized across grade levels.

Data-informed instruction, planning, and reflection on practice:

- Principal reports that teachers regularly monitor student grades and class test scores to rapidly report student intervention needs, discuss and use data to evaluate the achievement of different student groups, and set measurable student goals.
- Teachers report that they use assessment data to evaluate individual student achievement, set measurable goals, help students see progress, correct gaps in instruction, and identify effective instructional practices.
- Teachers report that they use assessment data to evaluate student achievement and set measurable goals by subgroup.
- Teachers report that the school uses CST scores for placement, promotion, and/or intervention.
- Teachers report that they frequently administer benchmark, diagnostic, and classroom-based assessments of student learning to inform their teaching.
- Superintendent reports that the district gives middle grade staff discretion over developing, determining the need for, and analyzing the results of diagnostic assessments.

The study also found, for schools in the 20th–35th percentile of the SCI:

- Principal reports that she/he meets with teachers individually, by grade, and by subject to review benchmark test results, and meets with the entire school staff to review schoolwide benchmark scores.

The study also found, for schools in the 70th–85th percentile of the SCI:

- Teachers report that attendance and/or behavior teams meet to review student data and devise solutions.

Domain F—Early and proactive academic interventions

The subdomains that differentiated higher-performing schools under this domain highlight a range of reported practices and policies for providing additional academic support to different student groups when needed and the positive roles to be played by:

- Districts, such as setting priorities for addressing the needs of students who are two or more years behind grade level;
- Principals, such as ensuring common planning time for English language arts and mathematics teachers to meet with intervention teachers to coordinate instruction; and
- Subject-area teachers, such as acting on the principal’s expectation for coordination with intervention teachers and providing different forms of support in the classroom.

Also tending to have higher achievement in both the cross-sectional and longitudinal analyses were schools that reported offering required interventions, voluntary support, and/or individualized intervention plans developed by staff and parents for:

- Students at risk of failure in the current year;
- Students identified for intensive intervention (i.e., who are two or more years behind grade level); and/or
- English learner (EL) students.



Domain F—Early and proactive academic interventions

Other things being equal, stronger agreement about the following was associated with higher school performance

District emphasis on early identification and student support:

- Principal reports that the district emphasizes early identification of students needing academic support and addresses the needs of students two or more years behind grade level.
- Teachers report that the district ensures that policies and resources are in place to serve English learner (EL) students.
- Principal reports that the district emphasizes the importance of English language development and subject-matter learning by EL students and addresses the needs of EL students who are new immigrants.

Collaboration between subject-area and intervention teachers:

- Principal reports that she/he ensures common planning time is available for English language arts and mathematics teachers to meet with intervention teachers to coordinate instruction.
- Teachers report that subject-area teachers meet with intervention teachers to coordinate instruction.

Required intervention strategies:

- Principal and teachers report that the school employs a range of required intervention strategies for students at risk of failure in the current year; principal reports the same for students identified for intensive intervention (i.e., who are two or more years behind grade level).

Voluntary academic support:

- Principal reports that the school provides voluntary academic support (such as during non-classroom time, AVID, online tutorials) for students at risk of failure in the current year; teachers report the same for students identified for intensive intervention.

Individualized intervention plans developed by staff and parents:

- Principal and teachers report that school staff and parents meet to develop intervention plans for individual students at risk of failure and students identified for intensive intervention; principal reports the same for individual EL students.

Differentiated instruction and flexible grouping:

- Teachers report using differentiated instruction and flexible grouping in the classroom.

The study also found, for schools in the 20th–35th percentile of the SCI:

- Teachers report that principal assigns teachers to ensure students with the greatest need are served well.

The study also found, for schools in the 70th–85th percentile of the SCI:

- Teachers report that they pre-teach lessons (e.g., lead some students through a lesson the day before).

Domain H—Teacher competencies, evaluation, and support

The subdomains that differentiated higher-performing schools under this domain—across both the cross-sectional and longitudinal analyses—draw attention to the importance of teacher evaluation and professional development. In particular, schools where teachers reported strongly that the principal provides meaningful evaluations of their practice were more likely to have better school-level achievement outcomes, as were schools where teachers and/or principals reported that the district provides useful professional development for teachers.

Schools in which principals reported that their schools' respective mathematics and English language arts teachers had a range of characteristics associated with effective teachers also tended to do better. Teachers' preference for teaching at the middle grade level was also a predictor for some achievement outcomes.

Many subdomains already discussed with respect to other domains describe more fully the range of reported teacher practices that differentiated higher-performing schools in the various analyses, other things being equal. Taken together, these indicate a culture of collective and individual actions focused on effective instruction and improved student outcomes.

This study could determine no clear relationship between teacher credentialing practices and policies and CST outcomes, however.



Domain H—Teacher competencies, evaluation, and support

Other things being equal, stronger agreement about the following was associated with higher school performance

Useful professional development provided by the district:

- Principal and teachers report that the district provides useful professional development for teachers.

Meaningful teacher evaluation and other principal support for teaching:

- Teachers report that the principal:
 - Understands and acknowledges excellent teaching.
 - Arranges for evaluation of teaching skills by teacher leaders.
 - Ensures that evaluations of teaching are substantive and meaningful.
 - Ensures that teachers receive effective professional development to improve instruction.
 - Builds strong relationships with teachers and staff.

Collaboration to evaluate and discuss practice:

- Teachers report that they collaborate to evaluate lessons and discuss student work.

Principal evaluation of teacher characteristics:

- Principal reports that a high proportion of the school's mathematics and English language arts teachers have such characteristics as:
 - The ability to use student assessment data to improve learning.
 - Knowledge of California's state standards.
 - Fitting well into the school culture.
 - The ability to raise student achievement.
 - Strong subject-area knowledge.
 - The ability to map curriculum standards to instruction.
 - Being likely to remain in the teaching field.
 - Enjoying teaching at the middle grade level.
 - Understanding adolescent developmental issues.
 - Having taught at the school last year.
 - The ability to collaborate effectively with peers.
 - The ability to make personal connections with students.
 - Being well prepared by their teacher credential programs (new teachers).
 - Having expertise in working with English learner (EL) students.

Teacher preference for teaching in the middle grades:

- Teachers report that middle grades are their current first choice of teaching assignment.

The study also found, for schools in the 70th–85th percentile of the SCI:

- Principal reports that teachers are surveyed to determine ranked preference of subject/grade-level assignments.

Domain I—Principal leadership and competencies

Domain I indicates the importance of strong principal leadership in driving and orchestrating a schoolwide focus on improving student outcomes.

Many of the subdomains that differentiated higher-performing schools under this domain—such as those pertaining to the principal’s use of data, expectations about frequency of curriculum use by teachers, and so forth—reprise topics already discussed under other domains. This is by design. As described earlier, subdomains pertaining to the principal’s reported role in using student data within the school, for example, appeared in two sets of regressions: those pertaining to Domain E (on extensive use of data) and here in Domain I (as an aspect of principal leadership). Thus, many of the findings reported below reinforce findings from other domains, but within a different conceptual context. (Such relationships between domains are specified in the box on the facing page.)

Domain I also highlights other aspects of reported policy and practice related to the principal’s role that differentiated higher-performing schools. These include aspects of the principal’s relationship with the school district, such as principal evaluations that consider middle grade student achievement. These also include the principal’s training with respect to the instruction of English learner students; ensuring a clean and safe school environment; and communicating high expectations for student achievement and holding teachers accountable for common planning time to this end.



Domain I—Principal leadership and competencies

Other things being equal, stronger agreement about the following was associated with higher school performance

Subdomain findings unique to this domain:

- Superintendent reports that she/he evaluates middle grade principals on the effectiveness of academic interventions, improving student performance on district benchmarks and CSTs, improving EL students' English proficiency, and exceeding state and federal accountability targets.
- Principal reports that her/his priorities for schoolwide improvement are influenced by expectations from superintendent/school board, CST scores, and state accountability measures.
- Principal reports that her/his priorities for schoolwide improvement are influenced by recommendations from an external provider (if in Program Improvement under the No Child Left Behind law).
- Teachers report that the principal regularly communicates the importance of high expectations for student achievement and holds teachers accountable for common planning time to focus on student achievement.
- Teachers report that the principal ensures a clean, safe, and disciplined school environment.
- Principal reports that she/he has been trained in the evaluation of instruction for EL students, understands the principles of EL second language acquisition, and is comfortable conversing in a language other than English.

Subdomain findings also reported in other domains:

- Principal reports that she/he expects the school's English language arts and mathematics teachers to use the school's adopted curriculum programs frequently. (*Domain D*)
- Principal reports using assessment data extensively and in multiple ways to improve student learning and teacher practice. (*Domain E*)
- Principal reports that she/he meets with teachers individually, by grade, and by subject to review CST results (including subgroups) and/or benchmark test results, and meets with the entire school staff to review schoolwide CST and/or benchmark scores. (*Domain E*)
- Principal reports that she/he ensures common planning time is available for English language arts and mathematics teachers to meet with intervention teachers to coordinate instruction. (*Domain F*)

The study also found, for schools in the 20th–35th percentile of the SCI:

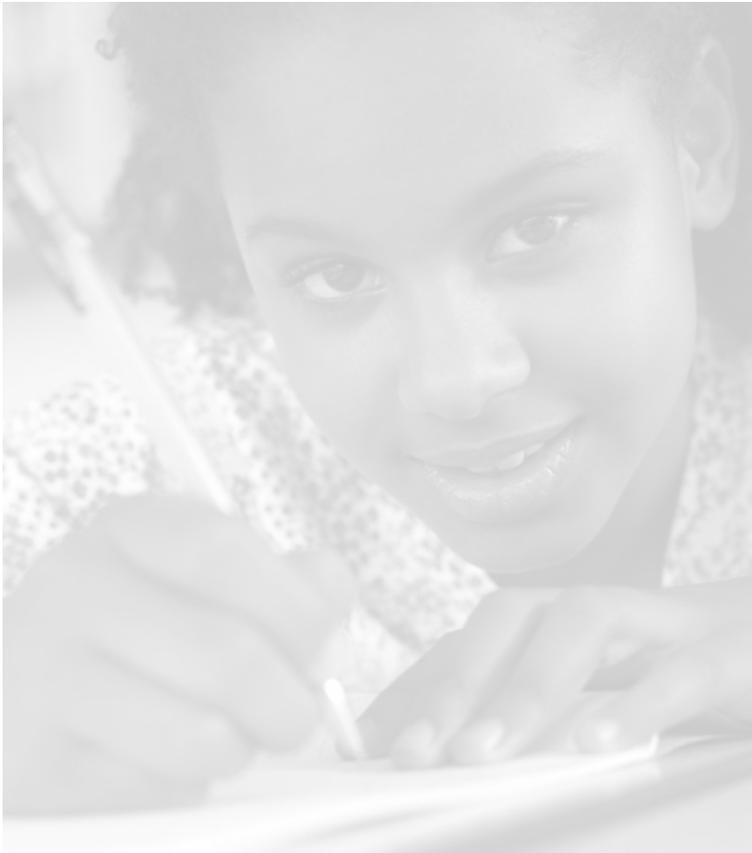
- Teachers report that the principal assigns teachers to ensure students with the greatest need are served well. (*Domain F*)
- Principal reports that she/he meets with district administrators to review the school's CST scores, benchmark test scores, AYP and API progress, and grades and/or grading policy. (*Domain J*)
- Principal reports district support if she/he wants to replace the school administrative and/or instructional leadership team. (*Finding unique to this domain*)

Domain J—Superintendent leadership and district support

Domain J indicates that academic achievement in the middle grades can be supported when district leaders set a clear academic vision, follow through with accountability for student outcomes, and provide comprehensive resources to the middle grades (e.g., professional development, experienced district staff, data support).

As with Domain I, many of the subdomains that differentiated higher-performing schools under this domain—such as those pertaining to district support for local use of data, useful professional development for teachers, and emphases on improving middle grade student achievement and early identification of students needing support—reprise and reinforce topics already discussed under other domains. (Such relationships between domains are specified in the box on the facing page.)

Domain J provides additional context for understanding how district policies and practices might foster conditions that support higher middle grade student achievement. Subdomain findings unique to this domain pertain to such reported practices as evaluation of the district superintendent by the school board based in part on middle grade outcomes; consideration of student outcomes when setting district priorities for the middle grades; and providing the financial and human resources necessary for middle grade schools to meet their goals.



Domain J—Superintendent leadership and district support

Other things being equal, stronger agreement about the following was associated with higher school performance

Subdomain findings unique to this domain:

- Superintendent reports that her/his evaluation is based in part on middle grade academic outcomes.
- Superintendent reports that the district's priorities for middle grade improvement are influenced by analysis of student CST scores and progress on other measures, and by published statewide ranking of schools.
- Superintendent reports that the district's priorities for middle grade improvements are influenced by categorical funding requirements and private grant expectations.
- Superintendent reports that the district functions well across many dimensions (e.g., union, board, staffing, finance).
- Teachers report that the district provides the financial and human resources necessary for the school to meet its goals and that district staff visits the school at least once a year.

Subdomain findings also reported in other domains:

- Principal reports that the district emphasizes improving student achievement across all CST levels, closing CST subgroup achievement gaps, and getting as many students to proficient as possible. (*Domain B*)
- Principal reports that the district leads decisions about the school's 6th–8th grade curriculum program adoption in English language arts. (*Domain D*)
- Teachers report that the district communicates high expectations that instruction will closely align with state standards. (*Domain D*)
- Principal reports that the district provides schools with timely CST, CELDT, and district benchmark data; provides a computer-based data system and adequate staff training; and uses achievement data to improve and recognize teacher practice. (*Domain E*)
- Teachers report that the district supports their data analysis by providing schools with timely CST data and a user-friendly information system, and emphasizing regular teacher use of benchmark and/or diagnostic assessments. (*Domain E*)
- Principal reports that the district emphasizes early identification of students needing academic support and addresses the needs of students two or more years behind grade level. (*Domain F*)
- Principal and teachers report that the district provides useful professional development for teachers. (*Domain H*)

The study also found, for schools in the 20th–35th percentile of the SCI:

- Principal reports that she/he meets with district administrators to review the school's CST scores, benchmark test scores, AYP and API progress, and grades and/or grading policy. (*Domain I*)

The study also found, for schools in the 70th–85th percentile of the SCI:

- Principal reports that the district leads decisions about the school's 6th–8th grade curriculum program adoption in mathematics. (*Finding unique to this domain*)

Three domains, although positively correlated with CST outcomes, had the least predictive strength

The three remaining domains also differentiated higher-performing middle grade schools in the sample, but they did so with less predictive strength than the seven domains already described. This was the case in almost every analysis performed, whether cross-sectional or longitudinal, for the “pooled” sample or the two SCI bands independently, or for all CST outcomes combined or by subject area.

The three domains that were least associated with higher school-level CST outcomes were:

- Domain A: A positive, safe, engaging school environment.
- Domain C: School organization of time and instruction.
- Domain G: Attention to student transitions.

The fact that these three domains had the least strength in predicting higher school-level outcomes on standards-based tests does *not* mean that they represent unimportant concerns, however. The following highlights aspects of these three domains that clearly differentiated higher-performing middle grade schools in the sample.



Domain A—A positive, safe, engaging school environment

Subdomains differentiating higher-performing schools under this domain pertain primarily to practices and policies focused on student attendance and behavior. For example, teachers' reports of clear communication with students and parents about attendance and behavior, and of teacher collaboration to develop responses to problems, correlated with higher school-level achievement outcomes in both the cross-sectional and longitudinal analyses. The same was true of principal and teacher reports about the enforcement of school safety measures.

Schools in which the principal reported larger proportions of students enrolled in extracurricular activities and electives also tended to have higher student achievement, across multiple outcomes and both the cross-sectional and longitudinal analyses.

FINDINGS

Domain A—A positive, safe, engaging school environment

Other things being equal, stronger agreement about the following was associated with higher school performance

Student behavior and attendance:

- Teachers report that:
 - The school clearly communicates rules and policies on behavior to students and parents.
 - Excellent student behavior and/or attendance gets classroom and/or schoolwide public recognition.
 - The importance of attendance and the consequences of frequent absenteeism, such as academic failure, are clearly communicated to students and parents.
 - Little of their time in class is spent managing student behavior.
 - Teachers in the school collaborate to develop strategies to address student behavior and/or attendance issues.

A safe and positive school environment:

- Principal reports that the school enforces a comprehensive set of strategies to ensure a safe and positive school environment.
- Teachers report school enforcement of comprehensive safety strategies and that they feel safe in their school.

Extracurricular activities and course electives:

- Principal reports that a high proportion of students participate in:
 - One or more extracurricular activities.
 - Course electives: Music, drama, art, dance.
 - Course electives: Exploratory wheel (providing for short explorations in several subjects during a one- or two-semester course) or mini-courses.

The study also found, for schools in the 20th–35th percentile of the SCI:

- Principal reports that school staff/teachers accept shared responsibility for improving student attendance, such as by personally contacting students who cut classes and requiring detention for tardy students.
- Principal reports that school staff regularly analyze suspension data to ensure criteria are fairly applied to all students.

Domain C—School organization of time and instruction

Subdomains differentiating higher-performing schools under this domain pertain primarily to time as a key school resource. For example, schools in which the principal reported greater provision of common planning time per month in grades 7 and/or 8 tended to have higher achievement across a number of CST outcomes in those grades.

In addition, some results regarding the positive role of subject-matter leadership emerged, at least for grade 8. The reported presence of subject-matter department chairs in English language arts and mathematics correlated positively with school-level outcomes on both the English Language Arts and Algebra I CSTs in grade 8, across both the cross-sectional and longitudinal analyses.

This study cannot report clear and coherent positive findings pertaining to the internal organization of classroom instruction (e.g., self-contained vs. single-subject vs. semi self-contained classrooms) or master scheduling structures (e.g., 6–7 period days vs. block schedules), however. Although a number of subdomains pertaining to particular classroom organization and scheduling practices correlated positively with a few student outcomes, these results were confounding and frequently contradicted one another, and thus are not reported as findings below. Further descriptive observations regarding classroom organization as it relates to grade configuration are presented in the Additional Descriptive Findings and Observations of Note section of this report, however.

FINDINGS

Domain C—School organization of time and instruction

Other things being equal, stronger agreement about the following was associated with higher school performance

Time for common planning:

- Principal reports a considerable amount of time allocated per month for common planning in grades 7 and/or 8 by English language arts and mathematics teachers.

Instructional time beyond what the state requires:

- Principal reports that the school exceeds the state’s minimum annual requirements for instructional minutes/days.

Provision of instructional time for different groups of English learner (EL) students:

- Principal reports that the school adjusts the amount of instructional time provided to EL students in English language arts, mathematics, and/or English language development based on students’ level of fluency, with “reasonably fluent” EL students spending less instructional time in these subjects than EL students with “less-than-reasonable” fluency.

Subject-matter department chairs:

- Teachers report that the school has subject-matter department chairs in English language arts and mathematics.

Domain G—Attention to student transitions

As noted elsewhere, several recent studies draw attention to the potential use of student data—e.g., academic, behavior, attendance—in the middle and even late elementary grades to provide “early warning” signals to educators about prospective academic or other problems in students’ subsequent years. The research team reviewed these studies and, in response, designed survey items and subdomains explicitly to study schools’ data practices as they pertain to student transitions into the middle grades.

The findings reported for Domain G are consistent with and support these recent studies, and pertain directly to schools’ reported use of diverse student data in managing the transition into the middle grades. In particular, these findings highlight the importance of reviewing the academic, English proficiency, attendance, and behavior histories of incoming students and implementing academic support strategies when needed.

FINDINGS

Domain G—Attention to student transitions

Other things being equal, stronger agreement about the following was associated with higher school performance

Review of prior academic records, attendance, and behavior for students entering the middle grades:

■ Principal and teachers report that school administrative staff and teachers:

- Review prior CST scores.
- Review prior English language arts and mathematics grades.
- Review prior attendance records.
- Review prior behavior reports.
- Communicate with elementary teachers about any students entering the middle grades with low CST scores, failing English language arts or math grades, poor behavior reports, or poor attendance records.

■ Teachers report that school administrative staff and teachers review prior CELDT (California English Language Development Test) scores and other English proficiency information for entering EL students.

Classroom and intervention support for incoming students:

- Teachers report that school administrative staff and teachers implement classroom and intervention strategies to address academic weaknesses among incoming students.

Additional descriptive findings and observations of note

Practices and policies pertaining to English learner (EL) students

This study did not specifically examine the CST outcomes of middle grade English learner (EL) students enrolled in the participating schools. Rather, the research team only considered school-level CST outcomes for *all* students taking each of these tests in a school, regardless of students' English proficiency. That said, some subdomains pertaining specifically to EL students *did* predict higher *overall* student achievement in the cross-sectional and longitudinal analyses.

Several of these subdomains pertain to the messages districts send and the actions they take to demonstrate to local educators that meeting the needs of EL students is a priority for the middle grades. Specifically, other things being equal, overall achievement on various CST outcomes was higher in schools where:

- The principal reported more strongly that the district emphasizes the importance of English language development and subject-matter learning by EL students, and addresses the needs of EL students who are new immigrants;
- Teachers reported more strongly that the district ensures that policies and resources are in place to serve EL students; and
- The superintendent reported expecting middle grade schools to consider a range of factors—such as English and native language proficiency levels, prior academic performance, and time in California schools—when placing non-newcomer EL students into English language arts and mathematics classes.

Similarly, overall achievement was higher in schools where teachers reported reviewing prior CELDT (California English Language Development Test) scores and other English proficiency information for entering EL students, and where principals reported that school staff and parents meet to develop intervention plans for individual EL students. Overall achievement on some outcomes was also higher to the extent that the principal reported having been trained in the evaluation of instruction for EL students and understanding the principles of EL second-language acquisition.

A finding regarding instructional time for middle grade EL students raises questions for further study. Other things being equal, several 8th grade outcomes were higher in schools where the principal reported more consistently that the school adjusts the amount of instructional time provided to EL students in English language arts, mathematics, and/or English language development based on differences in students' fluency levels. Specifically, these principals reported that “reasonably fluent” EL students do not spend as much time in these subjects as do EL students with “less than reasonable fluency.” This finding raises the possibility that there is an academic benefit when schools draw more nuanced distinctions among EL students with respect to English proficiency. It also suggests that middle grade schools that provide reasonably fluent EL students with more instruction in subjects other than English language arts and mathematics are more likely to be higher-achieving.

Grade configuration and classroom organization

Among middle grade educators in particular, questions often arise regarding the most effective grade configuration for serving students in the 6th, 7th, and 8th grades. Views differ about whether certain configurations offer educational advantages or if perceived advantages reflect other organizational or socioeconomic characteristics of schools. (For an introduction to the many different perspectives and concerns at stake in this debate see,

e.g., Cuban, 1992; Alspaugh, 1998b; Juvonen, Le, et al., 2004; Weiss and Kipnes, 2006; Byrnes & Ruby, 2007; Rubenstein, Schwartz, et al., 2009). Further, although K–8, 6–8, or 7–8 configurations are sometimes adopted as educational strategies, decisions about grade configuration can also be driven by practical and political concerns, such as the availability of facilities, changing enrollment trends, and parental preferences.

This study included schools with varying grade configurations. Among the 303 participating schools:

- 73 (or 24%) were K–8 schools;
- 80 (or 26%) were 7–8 schools; and
- 150 (or almost 50%) were 6–8 schools, which includes a small number of schools with less common configurations, such as 5–8.

After accounting for specific school policies and practices, *no single grade configuration was consistently associated with higher performance on California's standards-based tests in English language arts and mathematics in this study*. Both more effective and less effective policies and practices were found in schools with every grade configuration studied.

However, the survey instruments used in this study do provide an opportunity to inquire descriptively into differences—if any—in how schools with these various grade configurations are organized internally.

Popular wisdom often presumes that, on one end of the spectrum, K–8 schools tend to operate more like elementary schools while, on the other end of the spectrum, 7–8 schools operate more like high schools. Some of this study's survey questions explored this. For example, principals were asked to report whether their schools have subject-matter departments for English language arts and mathematics. Only 31% of K–8 principals in the sample answered “yes,” compared with 94% of 6–8 principals and 98% of 7–8 principals.

Principals' responses to another survey question—this one pertaining to classroom organization—are likely typical of the reality in many California middle grade schools. The survey asked principals to indicate—separately for classes in grades 6, 7, and 8—whether classes were organized in one or more of the following ways:

- A. A different teacher for each subject area;
- B. One teacher for English language arts/history, one teacher for mathematics, and a separate teacher for science;
- C. Self-contained classrooms;
- D. One teacher for a block of English language arts/history and one teacher for a block of mathematics/science; or
- E. Other.

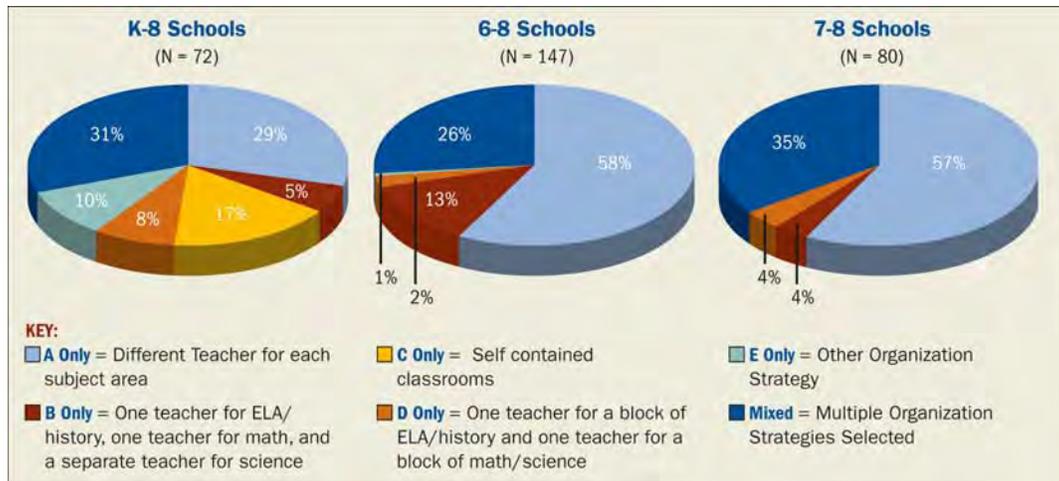
In grade 6, the participating K–8 and 6–8 schools differ markedly in the extent to which principals reported exclusive use of self-contained classrooms (option C). In all, 48% of K–8 principals reported that 6th grade classrooms were exclusively self-contained, compared with only 8% of 6–8 principals. For both grade configurations, schools not exclusively using self-contained classrooms in grade 6 used a diverse range of reported alternatives.

In grade 8, however, classes organized with a different teacher for each subject area (option A) appear to be the dominant strategy. As Figure 6 on the next page shows, K–8

schools employed a wide range of reported strategies for organizing 8th grade classrooms, while 6–8 and 7–8 schools tended to organize 8th grade classrooms in accordance with option A either exclusively or in combination with another organizational practice.

These results hint at the extent to which such practices in many 6–8 and 7–8 schools in California may be more alike than different. Meanwhile, the reported practices in K–8 schools in the sample are far from uniform; further examination of the survey items related to school organization could provide a clearer picture of how their practices vary. This is outside the scope of this Initial Research Report, however.

Figure 6: How K–8, 6–8, and 7–8 schools in the sample organize classrooms in grade 8



Source: EdSource Principal Survey data

EdSource 2/10

Total number of responding principals does not add up to 303 due to four missing responses.

82% of K–8 principals who reported a mix of classroom organizational practices in grade 8 included option A; **95%** of 6–8 principals who reported a mix of classroom organizational practices in grade 8 included option A; and **100%** of 7–8 principals who reported a mix of classroom organizational practices in grade 8 included option A.

V. Summary of findings and conclusion

Taken as a whole, the findings presented in the previous section tell a coherent and compelling story. They highlight practices and policies that researchers, policymakers, and educators might consider when establishing plans for further improvement in the middle grades.

Other things being equal, school-level achievement in the 303-school sample tended to be higher to the extent that superintendents, principals, and middle grade English language arts and mathematics teachers strongly agreed on a clear, consistent, and intense focus on improving student academic outcomes. Further, the combined findings suggest a range of interrelated practices through which this focus happens. For example:

- There is a strong organizational press toward improving student outcomes, with superintendents, principals, and teachers emphasizing and being evaluated based in part on such improvements.
- Middle grade educators closely align curricula, instruction, and assessments with the state's K–12 academic content standards in core subjects. From the district to the principal and the teachers, student assessment and other data are used extensively to evaluate and improve teacher practice and student outcomes.
- Middle grade educators have a future orientation toward preparing students to succeed in a rigorous high school curriculum. In other words, educators' focus on student outcomes is not geared only toward improving student achievement as measured by standards-based exams.
- Perhaps in recognition that they have only a few years to work with their students, middle grade educators implement comprehensive and targeted academic programs to identify quickly and intervene proactively with students who are two or more years behind grade level, are English learners, or are at risk of failure in the current school year.
- A strong and cohesive professional culture marshals and focuses time and other resources intently on improving middle grade student outcomes. In particular:
 - The superintendent establishes an academic vision and follows through with accountability, while at the helm of an effectively functioning district that provides middle grade schools with comprehensive support aimed at improved student outcomes.
 - Principals provide strong leadership to drive and orchestrate a schoolwide focus on improved student outcomes.
 - Teachers work collectively as a team and individually in their classrooms on a shared mission to improve student outcomes and prepare students for success in high school.

Notably, these practices and policies generally differentiated higher- from lower-performing middle grade schools in the sample regardless of whether schools were located in the 20th–35th or 70th–85th percentiles of the School Characteristics Index (SCI). Subdomains that differentiated higher-performing schools in only one of the two SCI bands across both the cross-sectional and longitudinal analyses were the exception rather than the rule. (Subdomains fitting this description are identified as such in the Findings section of this report.)

Equally importantly, the district and school practices detailed in the Findings section as

correlating with higher school achievement in the middle grades can be adopted and implemented by any district, principal, and school community of teachers. They are not dependent upon grade configuration or internal classroom organization.

Certainly, the California Standards Tests in English language arts and mathematics are not the only way for middle grade schools in the state to measure how well their students are mastering the academic content of the state's standards. They also do not measure many other important things that middle grade students should be learning at school—such as art, social studies, science, and music, as well as citizenship and tolerance of differences.

But scores on these tests do provide middle grade students and teachers, their school districts, and the state with a consistent way to measure the progress students are making toward mastering the important mathematics, reading, and writing skills that will enable them to succeed academically in high school and beyond.

Across California—and no doubt nationwide—schools serving similar student populations can vary widely in how well their students perform on such tests. This study shows that, although the socioeconomic backgrounds of students are one strong predictor of school-level academic achievement, the practices and policies enacted by middle grade educators also have a significant relationship with these outcomes. Educators' focus on their middle grade mission, and the resources they have available to pursue their goals, can make a difference. The interrelated practices identified in this study may help middle grade schools and districts—in California and nationally—continue their efforts to improve students' academic outcomes at a critical time in their academic careers.

VI. Further studies

The scope and complexity of this study made it impossible for the research team to inquire deeply into every important topic about which it collected survey data. This leaves opportunities for further inquiry on timely topics—such as middle grade policies and practices in mathematics, including Algebra I—that could further enrich the discussion of these critical years of education.

In the spring and summer of 2010, the research team will conduct a deeper, more detailed analysis of middle grade mathematics and Algebra I outcomes and their relationships with school placement policies, student participation rates in Algebra I, school choice of curriculum, teacher credentials and other subject-matter qualifications, and other relevant practices and policies.

If funded, another analysis could explore the possibility of tracking the 8th graders in this study into high school to examine their 9th-grade mathematics placements and CST scores to see what these reveal about the impact of middle grade mathematics in high school.

EdSource also wants to follow up with fieldwork and case studies to more deeply understand how some districts and schools—especially those previously but no longer in Program Improvement under the federal No Child Left Behind law—were able to develop alignment around and an intense focus on student outcomes.

VII. Implications for practice and policy

The research team believes this report makes an important contribution to the field by identifying policies and practices that correlate with higher achievement in middle grade schools. The team invites educators and policymakers to use this collection of rich findings to evaluate their own practices and guide conversations about reform at the state, district, and school levels. Some general recommendations based on the report's findings are:

- **Local educators can use these findings to learn more about what is working in some higher-performing schools and as the basis for staff discussions about ways to improve student outcomes in their own schools.**
- **State policymakers should examine the extent to which current state policies and budget cuts either strengthen or inhibit local schools' and districts' ability to carry out the practices this study found to be significant.**

While further research and discussion are warranted, the research team wants to highlight the following implications for consideration in the context of policy development, evaluation of current practices, and improving reform strategies.

Implications for districts and schools

There may be good reasons for deciding to have a K–8, 6–8, or 7–8 grade configuration, but improving student outcomes is not necessarily one of them. After accounting for specific school policies and practices, no single grade configuration was consistently associated with higher performance on the state's standards-based tests in English language arts and mathematics.

Superintendents and boards overseeing grades 6–8 students should discuss the priority they give to academic improvements in the middle grades. This study clearly documents the positive influence of district superintendents and boards on middle grade student academic outcomes when they communicate the importance of outcomes; include those outcomes in their annual evaluations; provide leadership and policies around curriculum and other instructional practices; and align resources to meet academic goals.

The results of this study should encourage principals to engage their staff members and their teachers in conversations about their mission for the middle grades in their schools. Educators in the middle grades have long believed that responsiveness to early adolescent developmental issues and strong adult-student relationships are a central part of the middle grades imperative. They are, but so is academic learning. Educators from higher-performing schools in this study provided a safe and positive environment, extracurricular activities, and frequent efforts to reach out to students and parents. However, the central focus of their collective time and energy was on the kinds of strategies—extensive review and use of data, proactive student interventions, and standards-based instruction—that are associated with improved student learning and outcomes in English language arts and mathematics.

Prioritize strategies for helping students make gains on standards-based exams in the context of the middle grades' unique position in the K–12 hierarchy to prepare all students to succeed in high school. Students who do well on standards-based exams in English language arts and mathematics in the middle grades are more likely to pass California's high school exit exam and graduate. Students who do well on 7th and 8th grade mathematics CSTs are more likely to start high school in a college preparatory

curriculum. If the school views improved student outcomes on standards-based exams as a priority because students benefit, then the school mission will reflect that belief.

When hiring middle grade principals, districts should consider looking for the kind of skills and competencies found in principals of the higher-performing schools in this study. In addition, the district can ensure that a principal has the authority to replace the school leadership team, if necessary, with one that can better support him/her in driving change.

When hiring middle grade teachers, districts and principals should consider looking for the kinds of interests, skills, and competencies that principals in higher-performing schools report about their teachers. And if those competencies are present, this study suggests that many teachers asked to work at the middle grade level will grow to love it. Of the 3,752 teachers surveyed for this study, only 1,609 entered teaching with the intention of working with middle grade students—but 3,247 now report the middle grades as their current first choice of teaching assignment.

Examine the extent to which their middle grade curricula, instructional practices, and assessments are tightly aligned with state academic standards. Questions include: Does teacher professional development help teachers map key state standards by grade and subject to instruction? Does the district provide standards-based benchmark tests for middle grades and return results quickly? Do teachers work collectively and know how to respond to test results? Do teachers use diagnostic tests to determine why a student is struggling? Is there support to help teachers address students' instructional needs?

Consider making improvements in middle grade student outcomes a part of professional educator performance evaluations. Consistent with much of the national conversation around educator effectiveness, this study found that evaluating superintendents, principals, and teachers in part on improvements in student outcomes was associated with higher student outcomes on standards-based exams. This practice should be part of a comprehensive strategy that also includes availability of student data, meaningful professional development for teachers and principals, and schools' possessing a complete portfolio of student intervention strategies. This study did not find that salary adjustments for superintendents or principals based upon student performance, which is not a common practice in California, was associated with higher student outcomes. The survey did not ask a question about teacher salary adjustment based on student outcomes.

Implications for state policy

California policymakers should make it a priority to do what they can to sustain the state's investment in public education, including a focus on the middle grades. The middle grades are critical to student success in high school. *And despite California having fewer resources than many other states, this study shows that many middle grade schools here are succeeding at improving student outcomes.* This study has identified practices associated with these higher-performing schools—such as frequent and adequate time for common planning, a comprehensive array of student intervention strategies as well as extracurricular classes, access to timely student assessment data, and the computer software and training to effectively use it to improve instruction and learning. Each of these requires resources that are difficult to find when budgets are being cut. State policymakers should do all they can during these challenging fiscal times to continue to support middle grade schools in their efforts to improve student outcomes.

The practices in this study reflect a positive intersection between state policy and the schools' ability to implement it effectively. It has taken time, but California's aligned standards-based reforms are taking hold and are reflected in the higher-performing schools no matter what the socioeconomic background of their students. California should stay the

course, completing the reforms where there are gaps, refining the system where improvements would have the most impact, and doing all it can to provide local educators with critical support.

California should be thoughtful when refining its K–12 academic content standards.

This study’s findings make it clear that higher-performing middle grade schools use the state’s academic standards, and the adopted curriculum programs, to support their efforts to improve student outcomes and prepare students for high school. This momentum should be taken into consideration as state officials consider changes to the state’s academic standards. That said, higher-performing middle grade schools also report that they identify and focus on select “key standards”—those most critical to master—at each grade level and in each subject. A state policy that keeps standards rigorous but moves toward fewer standards of greater depth might especially help lower-performing schools better focus their efforts.

Completing California’s student data system, combined with support to help districts effectively access and use the data, must remain a high priority.

Effective use of data can make a difference in student outcomes, but the ability to access and use data varies widely across the state. Although California and its school districts have been developing data capacity for years, criticism lingers that the state has not invested enough to make this a reality for its nearly 1,000 school districts.

Based on this study, student academic interventions at the middle grade level are an essential tool for educators to get on track the students who are behind grade level, students who are growing disengaged, and English learners.

California’s budget cuts to K–12 education this past year and looking forward are likely to have a seriously negative effect on schools’ ability to provide an array of effective intervention strategies for all the types of students, including English learners, who could benefit. Districts and schools trying to improve student outcomes will need state, federal, or philanthropic support to maintain effective required and voluntary interventions.

Implications for federal policy

The findings reinforce several Race to the Top (RTT) central principles for improving student outcomes, in particular rigorous standards and quality assessments, and the use of student data to improve teaching and learning.

California might highlight the following in its future discussions with the U.S. Department of Education about its RTT grant program:

- RTT requires states to demonstrate they are making progress toward rigorous college- and career-ready standards and quality assessments. The state’s higher-performing middle grade schools exemplify these principles: they report that the state’s academic standards are the foundation for high expectations for all students, rigorous instructional programs, and student assessments.
- Similarly, principals and teachers in these districts and schools use data and data systems as envisioned by RTT. They report that districts provide data in a timely manner using systems that allow easy access and management. These schools use data extensively to guide instruction, identify student needs, and improve teacher practices.
- In two other RTT areas—turning around low-performing schools and distributing high-quality teachers and leaders in equitable ways—the findings point to policies and practices that support these priorities. For example, the state’s higher-performing middle grade schools report that their districts provide useful professional development, ensure teachers are assigned so that students with the greatest need are served well, and give principals the opportunity to reconstitute leadership teams.

For federal policymakers, the findings can help inform the reauthorization of the Elementary and Secondary Education Act in several areas:

- The term “college ready” does not apply only to what happens in high schools. This study makes it clear that higher-performing middle grade schools think about and plan for a rigorous high school curriculum as a foundation for college- and career-readiness.
- The early identification of struggling students and appropriate interventions—particularly in the middle grades—are priorities for California. These findings offer examples for how federal policy and spending could reflect these priorities in any new education legislation.

Implications for research

As both benchmarking and diagnostic assessments become more common, researchers, K–12 educators, and state policy groups should carefully review the quality and validity of these tools. Further development and improvement in these types of assessments could strengthen their usefulness for teachers in their daily work and for adjusting their practice.

Current efforts by foundations, researchers, and federal policymakers to develop a new definition of what makes an effective teacher could contribute significantly to the field. Teacher effectiveness, based upon a list of attributes and competencies cited by principals, was strongly associated with higher student achievement. This study did not find that a specific credential was associated with higher school performance, but it did find that other attributes—such as teacher subject-matter knowledge and skills in using assessment data to identify student needs—were important.

Principal training and certification programs should be reviewed to ensure that they prepare leaders who can meet the needs of local schools. This study is consistent with others in recent years that chronicle the changing role of principals in higher-performing schools to that of manager of school improvement and change, and driver of an orchestrated and coordinated effort by the whole staff to boost outcomes for all students.

Concluding thoughts

The effective middle grade practices reflected in this study are actionable and replicable. They can serve as a kind of research-based checklist against which educators wanting to improve their student outcomes can compare what they are doing to ensure academic success to the effective practices reported by higher-performing middle grade schools in California.

The study's findings also provide valuable information to California state policy leaders and those in other states as they consider refining state academic standards and other policies, targeting investments, and improving how data are collected and provided.

The research team is confident that though the findings are from California schools, they have national applicability. The team invites educators and policymakers nationally and in Washington, DC, to review what this EdSource study found and to draw ideas and inspiration from this work to help make all middle grade schools high performers.

Finally, the research team also invites discussion and suggestions for additional implications of the findings and for meaningful follow-up studies that could make a contribution to the field and to the knowledge base of reformers and policymakers.

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