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Study Shows Positive Impact of Project Cornerstone Programs on Academic Performance and School Climate

Executive Summary

An independent evaluation reveals a strong correlation between Project Cornerstone programs at Trace Elementary School and significant increases in academic performance and student perceptions of positive school climate.

Background

In the 2008 report "Closing the Achievement Gap," California Superintendent of Education Jack O'Connell states unequivocally that improving school climate is essential to improving achievement for all students. Researchers generally agree that there are four essential elements of school climate, three of which are directly related to strong, positive interpersonal relationships throughout the school community. (The fourth element is related to a school's physical environment.) These elements are **safety, positive relationships, and supportive teaching and learning.**

Project Cornerstone's School Partnerships program offers a comprehensive range of programs and services that help schools strengthen the three critical elements of school climate. The programs are uniquely designed to engage all members of the school community—faculty and staff, parents and caregivers, and students—in creating a climate that fosters academic achievement and positive social development. All programs are based on the research-proven developmental assets model, and meet the California Department of Education criteria for research-based youth development for the Safe and Drug Free Schools program. In addition, Project Cornerstone programs complement PBIS to help align schoolwide efforts to improve climate by impacting student behavior.

Project Cornerstone at Trace Elementary School

Trace Elementary School has a diverse student population in which 57 percent of students are economically disadvantaged and 38 percent are English-language learners. Under the leadership of former principal Mary Martinez, Trace took full advantage of Project Cornerstone's programs and other resources over a three year period to build a positive, caring school climate and improve achievement. Project Cornerstone programs at Trace include faculty and staff training on improving school climate; the ABC and Spanish-language Los Dichos literature-based parent engagement programs; the intensive six-week "Take It Personally" workshop that challenges parents to work together to implement new strategies to support youth in their community; and the Expect Respect bullying prevention and leadership workshop for students.

Results

In 2010, the independent evaluation firm Applied Survey Research performed a longitudinal study of the effects of Project Cornerstone's programs at Trace over a three-year period. Source data included CST results, SJUSD database records of individual student performance and attendance, and SJUSD student survey data. The findings revealed:

- A significant improvement in student perceptions of school climate.
- Consistent upward trends in school-level performance on CSTs.
- Students who participated in the Expect Respect bullying prevention and leadership workshop showed greater gains in both English/Language Arts and Math CSTs than the general student population.

The results are evidenced in statewide evaluation data as well. Trace's API rose 25 points from 2007-08 and their caring school climate index increased by 10 percent. In addition to the significant increase in API, 99 percent of students now agree that Trace teachers care about their students.



Project Cornerstone: Evaluation of the School Partnerships Program

About Project Cornerstone

Project Cornerstone's School Partnerships Program empowers young people, parents, and school staff to improve school climate and generate ways to keep children healthy and safe. Their in-school programs include:

- The Expect Respect peer-abuse (bullying) prevention workshop, in which young people develop student leadership skills, promote healthy behaviors, and reduce bullying on campus through developing and implementing year-long action plans.
- The Asset Building Champions (ABC) English-language parent engagement program, in which adult volunteers are trained in strategies for creating positive, healthy connections with their own children and youth in the community, and are prepared to volunteer at schools reading specially selected books and leading classroom activities that illustrate making healthy choices, peaceful conflict resolution, family support, and more.
- The Cultural Heritage Asset Programs (CHAPs), in which adult volunteers are trained to read specially selected books and lead activities related to their cultural heritage in the classroom. CHAPs includes the popular Spanish-language Los Dichos de la Casa program, and opens new doors for parents from diverse cultures to support their children's school success as well as the healthy development of all young people in their communities. Other CHAPs programs support Vietnamese, Chinese, and Indian cultures.
- Project Cornerstone also delivers training and consultation to teachers, administrators, and staff on building developmental assets in young people and preventing bullying and peer abuse, and facilitates service-learning programs, peer-helper programs, and other special projects.

Measuring Project Cornerstone's Impact

To measure the effectiveness of its programs, Project Cornerstone partnered with Applied Survey Research (ASR) to create an evaluation plan with several measurement options for documenting the degree to which positive changes are occurring in the schools that partner with Project Cornerstone.

The core research questions that were addressed in the evaluation were as follows:¹

- Do schools participating in Project Cornerstone's School Partnerships Program demonstrate improvements in their school climate over time?
- Do schools participating in Project Cornerstone's School Partnerships Program demonstrate improvements in their students' academic performance over time?
- Do students participating more intensively in Project Cornerstone programs at their school show improvements in their academic, attendance, and disciplinary outcomes over time?

¹ Decisions were made to focus resources only on collection and analysis of child and school-level data for this project. Although changes in parent engagement were certainly of interest for Project Cornerstone, they were deemed less critical information needs than the child and school outcomes.

Analysis Approach

Project Cornerstone and ASR explored the feasibility of several options for answering the key evaluation questions. For all measurement methods, the core approach would involve tracking changes over time, i.e., comparing outcomes occurring prior to Project Cornerstone program implementation at a school to outcomes occurring after one or more years of their presence in a school.

One approach that was initially considered involved comparing changes occurring over time across two initially demographically and academically similar schools, one that had introduced Project Cornerstone, and one that had not. However, this proved to be difficult to implement because Project Cornerstone has been introduced in so many schools in Santa Clara County that it was not possible to find a suitable comparison school in the region that had not been touched by the Project Cornerstone programs.

Consequently, the analysis approach that was settled on involved an in-depth investigation of changes occurring in one school in particular where Project Cornerstone had implemented its programs: Merritt Trace Elementary School.

About Trace Elementary

Trace Elementary is located in the Rose Garden area of San Jose and is part of the San Jose Unified School District. Trace has a highly diverse student body. For the last several school years, close to two-thirds of Trace students have been from Hispanic/Latino backgrounds (between 64-67% of students since the 2006-07 school year). Approximately one in five students (19-21%) are Caucasian, and Asian students comprise the third-largest racial/ethnic group (4-5% of the student population). A large portion of students are English Learners (between 40-42% since 2006-07), and more than half (58-63%) are economically disadvantaged.

In addition to this diversity, Trace experienced significant increases in its student enrollment in recent years, with the student population nearly doubling in size from its 2004-05 school-wide enrollment of 473 students to 941 students in 2009-10.

Trace Elementary was selected for investigating the impact of Project Cornerstone's programs for several reasons:

- Trace had implemented all four of the core Project Cornerstone program elements;
- The school community at Trace had shown good support and willingness to engage in these programs; and
- It was possible to easily map the history of Project Cornerstone' efforts at Trace, thereby allowing for designation of baseline measurement years against which progress could be measured.

Trace's partnership with Project Cornerstone is shown in the figure that follows on the next page.

Figure 1: History of Project Cornerstone at Merritt Trace Elementary School

School year	2006-07	2007-08	2008-09	2009-10
Project Cornerstone involvement:	None	Small initial outreach to parents; limited staff training	School-wide implementation	School-wide implementation
How data was used in analysis	Baseline, pre-intervention year	“Ramp-up” year	Intervention Year 1	Intervention Year 2
Expected impact on outcomes	No impact	Beginning (but likely very small) improvement in outcomes	Significant improvements in outcomes	Sustained (or growing) improvements in outcomes

It is important to note that there were also other programs being implemented at Trace during these years that were not Project Cornerstone-sponsored, but were still consistent with Project Cornerstone’s goals. These programs certainly also contributed to the changes at Trace that are described in the sections that follow. For example, the Parent Involvement in Education (PIE) program at Trace was a larger effort to engage parents in the school community by asking them to volunteer four hours per month in service to the school. Project Cornerstone’s ABC and Los Dichos programs were two of the ways that parents could participate in the PIE program, but there were non-Project Cornerstone parent volunteering options as well, such as in-class tutoring and sponsoring lunch-time clubs for students.

In addition, although it was not fully implemented until the 2010-2011 school year, Positive Behavior Interventions and Supports (PBIS) began its teacher and staff training during the 2009-2010 school year. This program promotes positive student behavior by encouraging students to “Be respectful, be responsible, and be safe.” It is likely that the delivery of training to all school staff contributed to improvements in student outcomes during the 2009-2010 school year.

Overview of analyses

To examine associations between the introduction of Project Cornerstone programs at Trace Elementary and improvements in student outcomes, ASR analyzed data at two levels:

- **School-level changes:** These analyses are based on the expectation that the set of Project Cornerstone interventions are having an impact on the student body as a whole. These investigations look at the extent to which school climate and academic outcomes improved for the school as a whole after Project Cornerstone’s programs began there.
- **Changes in students receiving more intensive program exposure:** In addition to expecting improvements among all students at Trace on school climate, academic and behavioral outcomes, it is also expected that the Trace students who had more intensive experiences with the Project Cornerstone program – i.e., those students who were recruited to participate more extensively in the “Expect Respect” program – would show even greater improvements than Trace students as a whole. In these analyses, data from Expect Respect participants were examined to determine how much they changed from pre- to post-intervention. These analyses focused on academic, attendance, and disciplinary records from de-identified San Jose Unified School District databases.²

² ASR thanks San Jose Unified School District staff for providing these data and data from the SJUSD Student Survey.

Summary of Key Findings

The figure below summarizes the answers to the study’s primary research questions. A more comprehensive discussion of each research question begins on page 5.³

Figure 2: Conclusions and Data Highlights by Primary Research Question

Research Question	Conclusion	Data Highlights
Do schools participating in Project Cornerstone’s School Partnerships Program demonstrate improvements in their school climate over time? (See p. 5)	Yes	Significant / marginal improvements over time (pre- to post-intervention) in Trace Elementary student perceptions that: <ul style="list-style-type: none"> • Their peers’ are friendly and treat each other with respect • Their teachers care about them • They know who to talk to at school about a problem Large increases in the percentage of Trace students who had visited a college campus
Do schools participating in Project Cornerstone’s School Partnerships Program demonstrate improvements in their students’ academic performance over time? (See p. 8 and Appendix 1)	Yes	Consistent upward trends in Trace’s school-level performance on California Standards Tests (CSTs) over time. From 2006-07 to 2009-2010, the percentage of students performing at “Proficient” or “Advanced” levels increased as follows: <ul style="list-style-type: none"> • For English-Language Arts (ELA): From 39% of students to 52% of students • For Math: From 50% of students to 58% of students • For Science (5th grade only): From 35% of students to 54% of students
Do students participating more intensively in Project Cornerstone programs at their schools show improvements in their academic, attendance, and disciplinary outcomes over time? (See p. 9)	Academics – Yes Attendance – Mixed pattern Discipline – Suggestive trends	Academics: Significant increases in participants’ scores on ELA and Math CST scores from pre- to post-intervention. Attendance: No increase in attendance rates, but some trends toward reduced tardiness. Few incidents at baseline, but some suggestion that fewer students require disciplinary action.

³ In addition to the data presented here, Mary Martinez, principal of the current middle school attended by many of the former Project Cornerstone-exposed students (also the former principal of Trace Elementary) has reported dramatic enhancements to the student climate at the middle school as well. She believes that this is in part due to the continuing impact of the Project Cornerstone interventions.

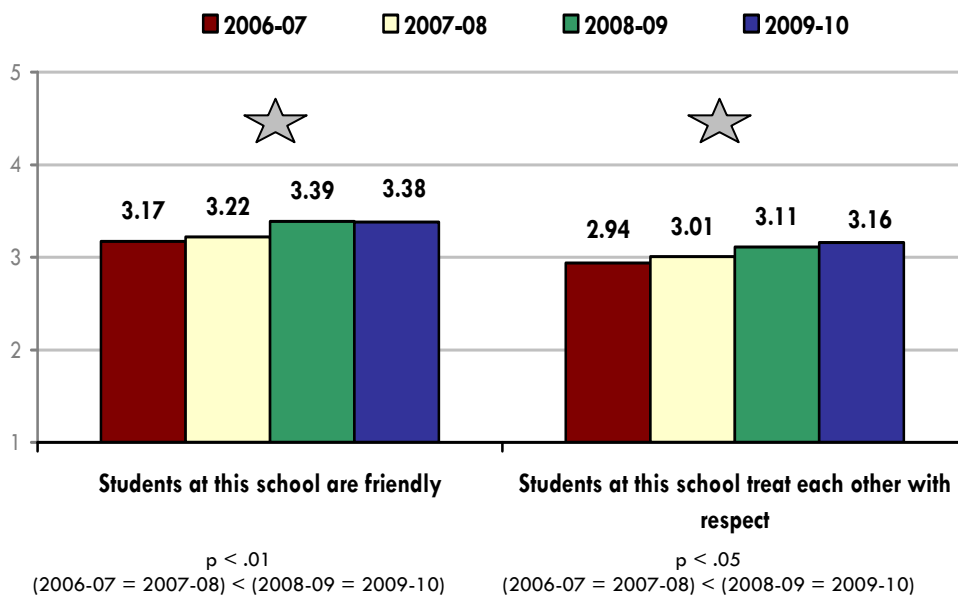
Did Trace Students Report More Positive Perceptions of Their School After Project Cornerstone Began There?

Changes in Trace students' attitudes and beliefs about school

To investigate whether Project Cornerstone's presence at Trace Elementary was associated with improvements in students' attitudes and beliefs about school, ASR analyzed four years of Trace Elementary data from the student survey administered by San Jose Unified School District, spanning the 2006-07 school year (prior to implementation of Project Cornerstone's programs at Trace) to Project Cornerstone's second full year of intervention at Trace (2009-2010). During this four-year period, a number of the student survey questions were changed slightly or substantially, thus limiting our ability to look at changes in students' perceptions over time across many dimensions. However, several key questions were able to be analyzed to assess changes over time.

The figure that follows shows how Trace students felt about their peers, including: (1) the extent to which they felt other students were friendly; and (2) the extent to which they felt students treated each other with respect. Results showed that there were statistically significant improvements over time on both perceptions. Specifically, students rated their peers as being more friendly and more respectful in the two intervention years (2008-09 and 2009-2010), as compared with the two previous years (2006-07 and 2007-08) before Project Cornerstone had been fully implemented at Trace.

Figure 3: Trace Students 'Beliefs About Their Fellow Students



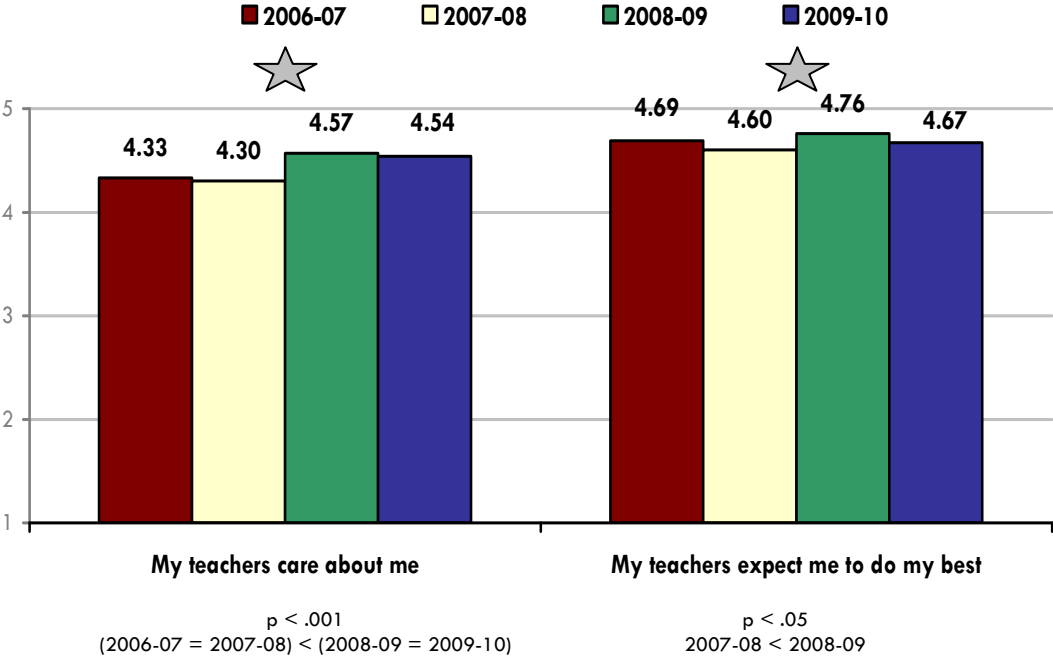
Source: SJUSD Student Survey data.

Note: Differences in means scores across years were statistically significant according to oneway ANOVAs. Post hoc tests revealed that for both items, means for 06-07 and 07-08 were similar, as were means for 08-09 and 09-10, and that 06-07 and 08-09 means were significantly lower than 08-09 and 09-10 means. Scale points are as follows: 1 "Strongly disagree," 2 "Disagree," 3 "Neutral," 4 "Agree," 5 "Strongly agree."

There were similar trends for students’ perceptions of their teachers. During the years when Project Cornerstone fully implemented its School Partnerships Program at Trace (2008-09 and 2009-2010), students’ perceptions of how much their teachers cared about them significantly increased compared to the years prior to Project Cornerstone’s full involvement at Trace.

There was a less clear pattern for students’ perceptions regarding their teachers expecting them to do their best. This is likely due in part to the fact that, even prior to the intervention, students strongly believed their teachers expected the best from them. The figure below shows that means on this item were very high across all four years examined (including even before Project Cornerstone started at the school). Even so, beliefs that teachers expect students to do their best were significantly stronger in 2008-2009 than in any other school year.

Figure 4: Trace Students’ Beliefs About Their Teachers



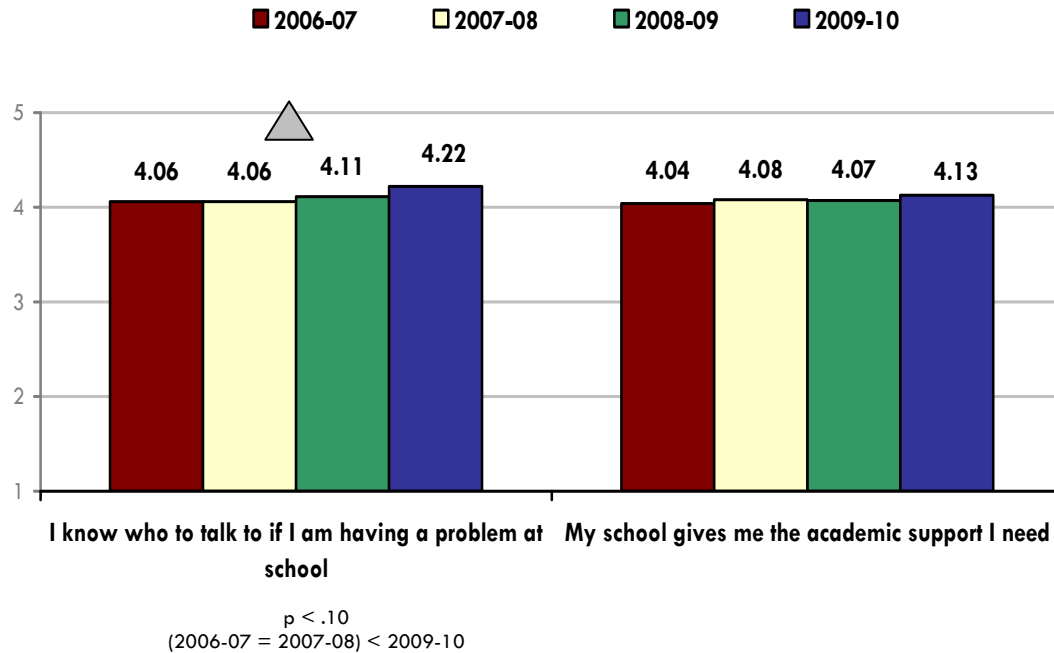
Source: SJUSD Student Survey data.

Note: Differences in means scores across years were statistically significant according to oneway ANOVAs. Post hoc tests revealed that for the item “Teachers care about me,” means for 06-07 and 07-08 were similar, as were means for 08-09 and 09-10, and that 06-07 and 08-09 means were significantly lower than 08-09 and 09-10 means. For the item “My teachers expect me to do my best,” 2007-08 and 1008-09 means were statistically different. Scale points are as follows: 1 “Strongly disagree,” 2 “Disagree,” 3 “Neutral,” 4 “Agree,” 5 “Strongly agree.”

In all four years of the survey, Trace students also reported on two types of perceived support at the school in general: (1) the extent to which they knew who to talk to if they were having a problem at school; and (2) the extent to which they felt their school gives them the academic support they need. There was a marginally significant increase over time in students feeling that they know who to talk to for problems. The means scores on this item were similar in 2006-07 and 2007-08, they rose slightly in 2008-09, and by 2009-10, students were marginally more likely than students in the first two years to feel they knew who to talk to about problems.

On academic support, although there was a small trend for increases in students’ perceptions that their school gave them the academic support they need, the increases over time were not statistically significant.

Figure 5: Trace Students' Perceptions of Feeling Supported at School

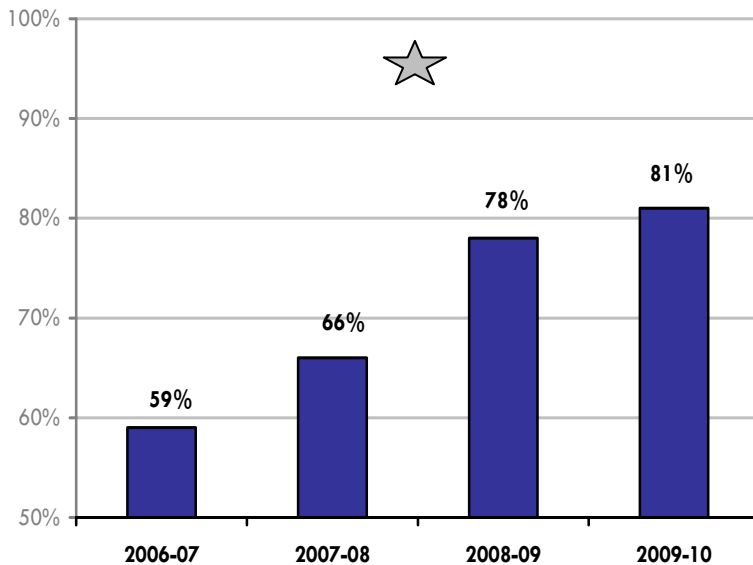


Source: SJUSD Student Survey data.

Note: Differences in means scores across years were marginally significantly different according to oneway ANOVAs for the item "I know who to talk to if I am having a problem at school." Post hoc tests revealed that means for 06-07 and 07-08 were significantly lower than 09-10 means. Scale points are as follows: 1 "Strongly disagree," 2 "Disagree," 3 "Neutral," 4 "Agree," 5 "Strongly agree."

Students may have begun to think more about the future as well; they were clearly getting significantly more exposure to college campuses with the passage of time ($p < .001$). In 2006-07, only 59% of students had visited a college campus, but by 2009-2010, more than eight in ten students (81%) had been to a college campus.

Figure 6: Percentage of Trace Students Who Have Visited a College Campus



Source: SJUSD Student Survey data.

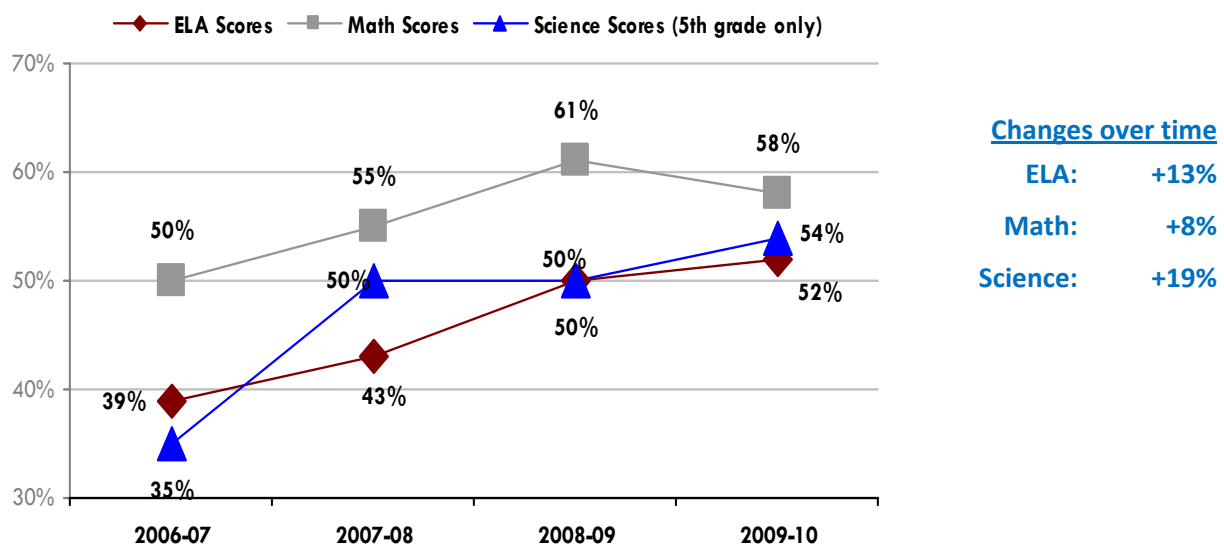
Note: Differences in percentages across years were statistically significant according to chi square tests. All percentages were significantly different from each other except 08-09 and 09-10 percentages.

Changes in academic outcomes of Trace students

To determine whether trends in academic outcomes could be observed among Trace students as a function of Project Cornerstone’s involvement at the school, ASR used data from the California Department of Education to examine California Standards Test (CST) scores spanning the period before Project Cornerstone had any involvement at the school (2006-07) through the most recently completed school year (2009-10 – the second intervention year for Project Cornerstone at Trace).

The figure below shows the percentage of students school-wide who scored at the “Proficient” or “Advanced” levels on three CSTs: English-Language Arts (2nd through 5th graders), Mathematics (2nd through 5th graders), and Science (5th graders only). As the figure shows, trends across the three tests showed increasing numbers of students who were performing at these desired levels on their CSTs. From 2006-07 to 2009-10, an additional 13 percent of students were “Proficient” or “Advanced” in the ELA scores, an additional eight percent were “Proficient” or “Advanced” on their Math scores, and an additional 19 percent were “Proficient” or “Advanced” on their fifth grade Science tests.

Figure 7: Percentage of Trace Students “Proficient” or “Advanced” in ELA, Math, and Science CSTs Over Time



Source: California Department of Education, Data and Statistics Division: <http://dq.cde.ca.gov/dataquest>.

Note: Statistical tests not conducted on these data, as only aggregated, school-level data were used for this set of analyses.

For a more detailed, grade-by grade look at changes over time in Trace students’ CST scores, please see Appendix 1.

Changes in Students Participating in Targeted Interventions: Do Students Receiving More Intensive Intervention in the Expect Respect Program Show Improvements?

Although all fourth and fifth grade Trace students attended the Project Cornerstone Expect Respect workshop, a small number of students participated in a more intensive version of the program in which they developed action plans to promote a positive school climate where all students can feel safe and free from bullying. Did these students show changes in their academic and social/behavioral outcomes?

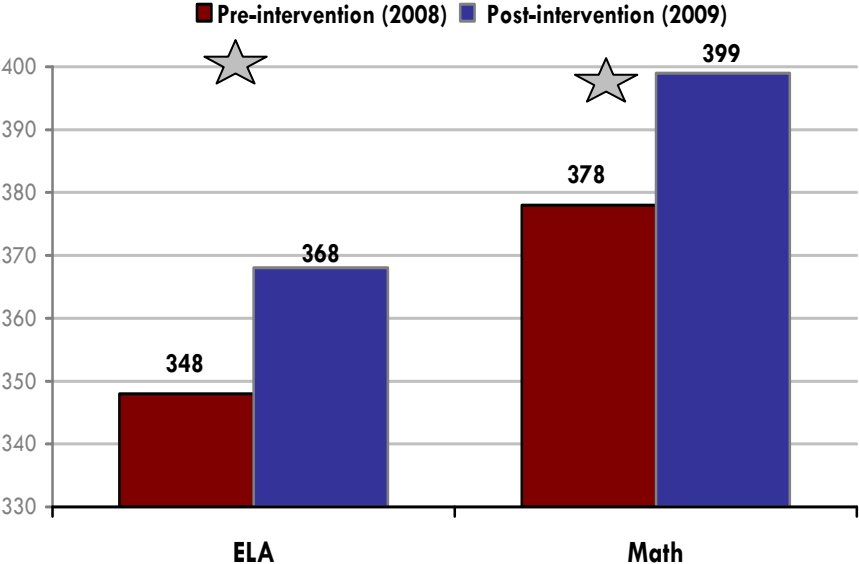
To answer this question, Project Cornerstone provided ASR with the initials, date of birth, sex, and grade level of the 27 Expect Respect participants for the 2008-2009 school year. (No names were included in the data provided.) These data were used to identify the Expect Respect participants within the Trace Elementary student database, which included variables such as attendance, behavioral, and academic scores. Of these 27 students, matches were found for 23 of them.

Changes in academic outcomes of Expect Respect participants

To determine whether participation in Expect Respect was associated with improvements in academic outcomes, test scores for students in Expect Respect were examined for the spring California Standards Tests (CSTs) prior to their Expect Respect participation (2008) and the spring CSTs during the school year in which the students had been heavily involved in Expect Respect (2009).

As the figure that follows shows, the Expect Respect participants made statistically significant gains in both their ELA and Math CST scores from pre- to post-intervention.⁴

Figure 8: Average CST Scores of “Expect Respect” Students Over Time



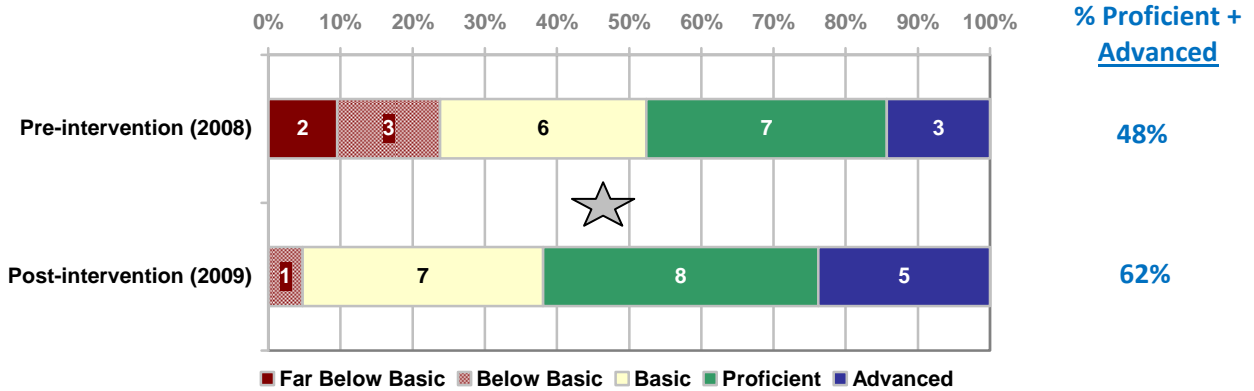
Source: SJUSD database records.

Note: Sample size = 21 students for whom CST scores at both years were available. The change in CST levels was statistically significant, according to t-tests, $p < .001$ and $p < .05$ for ELA and Math, respectively.

⁴ It should be noted that the CA Department of Education does not recommend comparing students’ scaled scores across different school years, as the test scores are scaled within each grade level and school year and thus are not perfectly comparable across different years. However, in the absence of other objective means of measuring changes in student academics, these data do provide useful guidance for understanding whether improvements are occurring.

Looking at these data in another way, there was also a significant increase in the number of Expect Respect students performing at the “Proficient” or “Advanced” levels in English-Language CSTs. Although there was also a similar increase in Math CSTs, this difference did not reach statistical significance ($p = .16$).

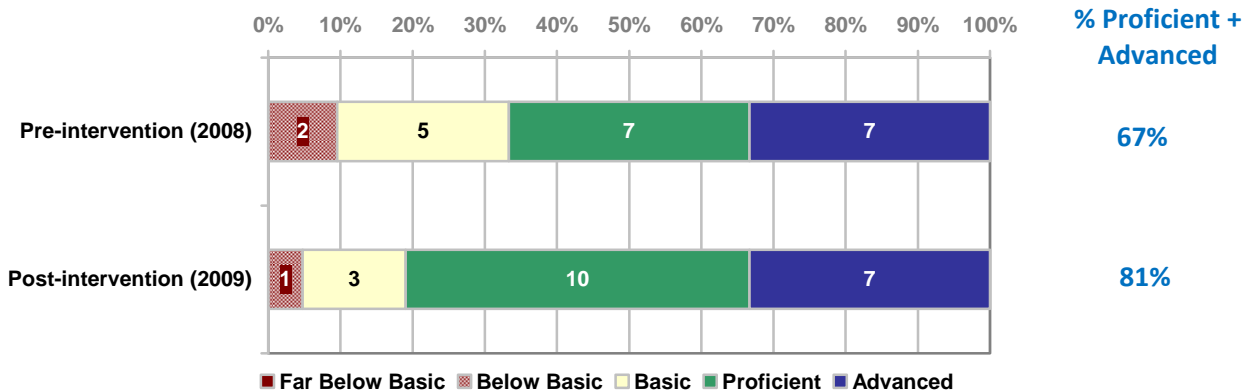
Figure 9: Number of “Expect Respect” Students Performing at Each English-Language Arts CST Level Over Time



Source: SJUSD database records.

Note: Sample size = 21 students for whom CST scores at both years were available. The change in CST levels was statistically significant, according to t-tests, $p < .01$.

Figure 10: Number of “Expect Respect” Students Performing at Each Math CST Level Over Time



Source: SJUSD database records.

Note: Sample size = 21 students for whom CST scores at both years were available. The change in CST levels was not statistically significant, according to t-tests.

Changes in attendance and student discipline outcomes of Expect Respect participants

Was participation in Expect Respect associated with better school attendance and better behavior? As the figure that follows shows, students in Expect Respect tended to have fewer tardy days in the year they were involved in the program than in the previous year, although this difference was not statistically significant. Although attendance remained very high, they had slightly lower attendance rates during the intervention year than in the previous, however ($p < .01$). Follow-up analyses looking deeper into this effect found that it was confined to the group of Expect Respect students who were in fifth grade in 2009 and not the fourth graders. This is

important because it appears to be part of larger trend school-wide, in which all Trace Elementary fifth graders had a significantly lower attendance rate in 2008-09 than students in second, third, and fourth grade students.

Figure 11: “Expect Respect” Student Attendance Over Time

Variables	Pre-intervention year (2007-08)	Intervention year (2008-09)
Attendance rate (Percentage of days present)**	98%	95%
Average number of days present**	175.68	170.86
Percent of students with zero tardy days*	36%	59%
Average number of days tardy	4.23	2.68

Source: SJUSD database records.

Note: Sample size = 22 students for whom records at both years were available. Statistically significant changes, according to t-tests, are labeled as follows: * p < .05; ** p < .01.

Data regarding student behavior is somewhat difficult to track over time due to the low incidence of events that reach the level of suspensions. However, there was some suggestion of improvement in the number of suspensions among the Expect Respect students; although three students in this group were suspended one or more times in the year prior to the intervention, only one student had a recorded suspension in the year during which they participated in Expect Respect.

Summary

Findings across a number of measures show consistent support for a positive impact of Project Cornerstone’s programs in elementary schools that partner with them. After Project Cornerstone’s introduction at Trace Elementary, significant improvements were observed for school climate and academic outcomes. Additionally, those students who were more intensively involved in the Project Cornerstone Expect Respect program demonstrated substantial improvements in their academic performance, and there were trends suggesting positive changes in their behavioral outcomes as well.

Appendix 1: Comparing Students Within Each Grade Level: Pre-Intervention to Post-Intervention

Figure 12: Average ELA Scores Over Time, By Each Grade Level

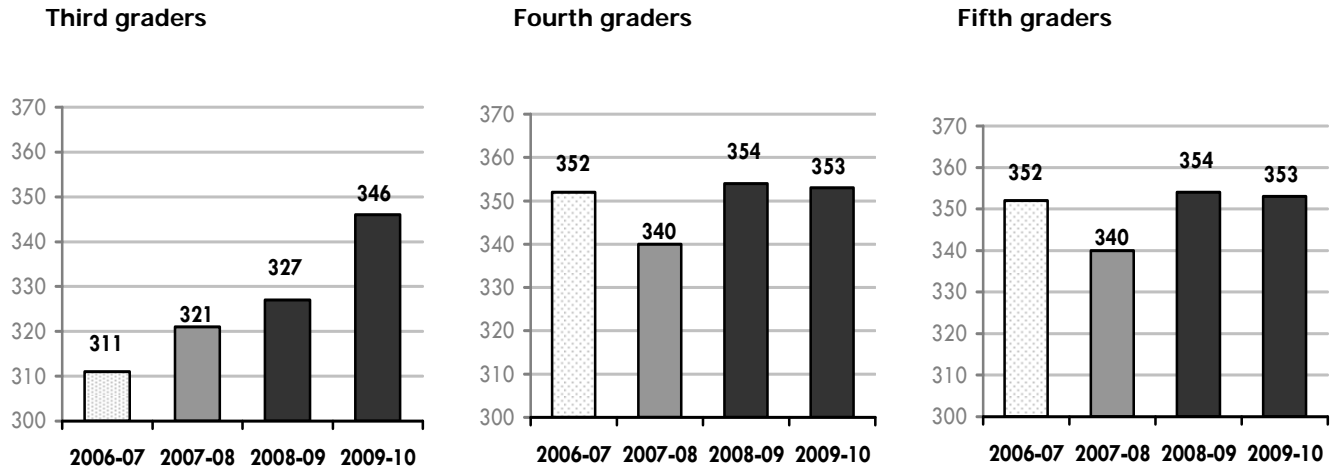


Figure 13: Percentage of Students Proficient or Advanced in ELA, By Grade Level

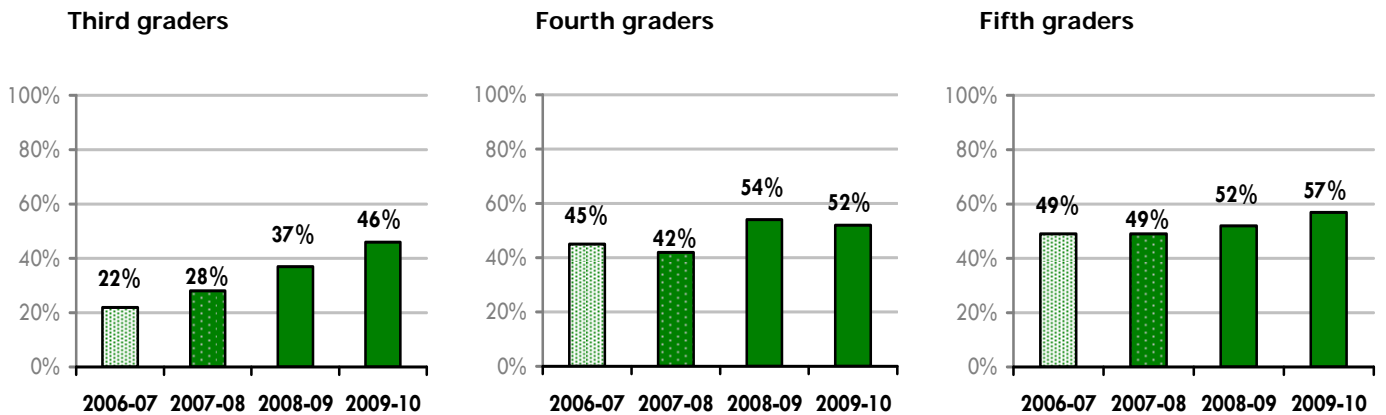
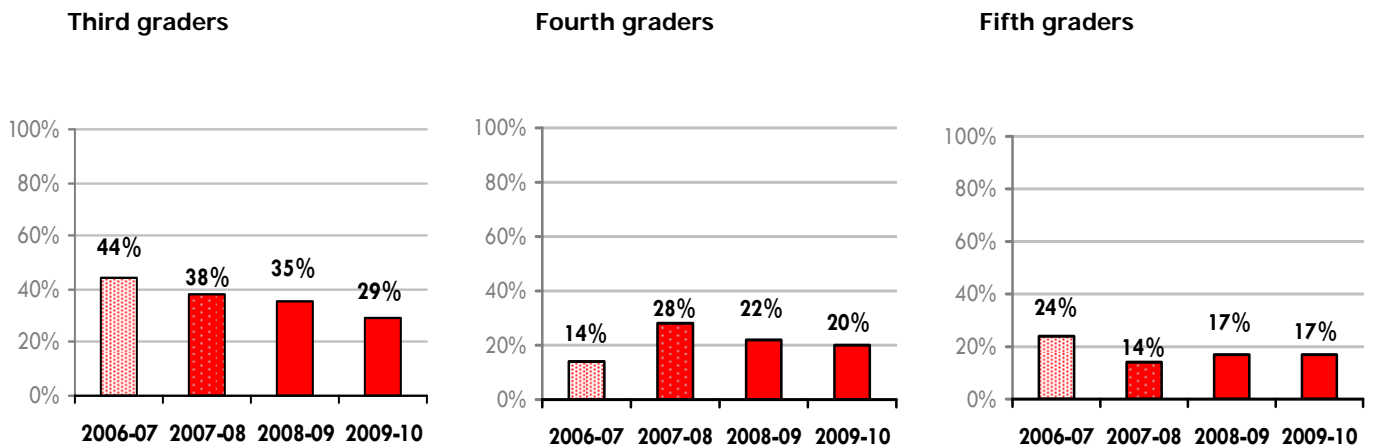


Figure 14: Percentage of Students Below Basic or Far Below Basic in ELA, By Grade Level



Source: California Department of Education, Data and Statistics Division: <http://dq.cde.ca.gov/dataquest>.

Figure 15: Average Math Scores Over Time, By Each Grade Level

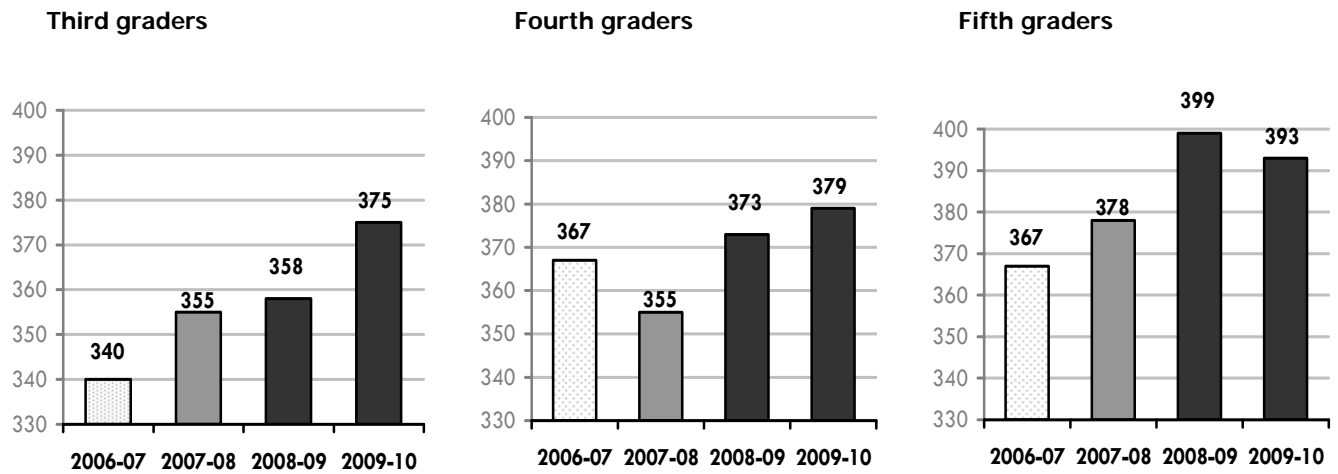


Figure 16: Percentage of Students Proficient or Advanced in Math, By Grade Level

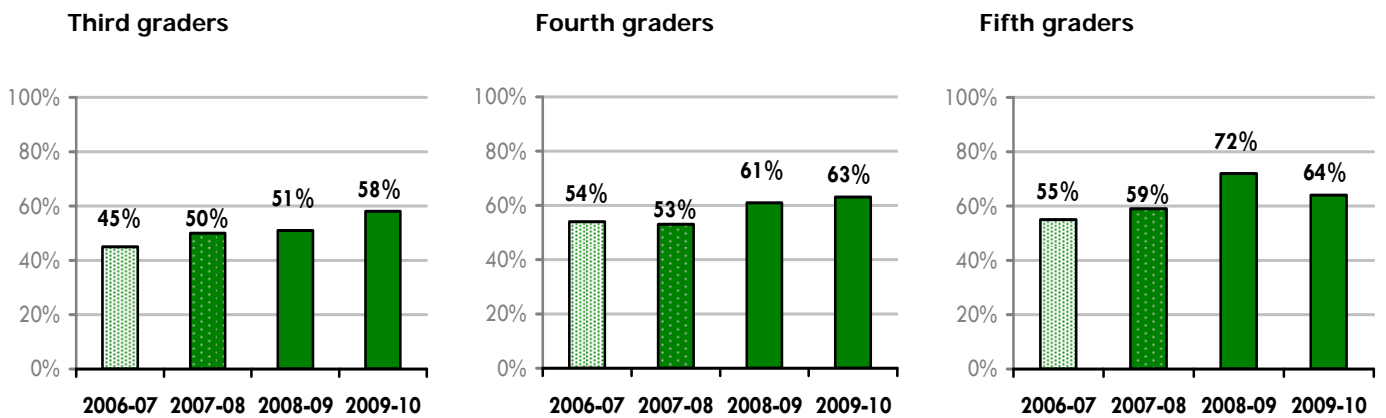
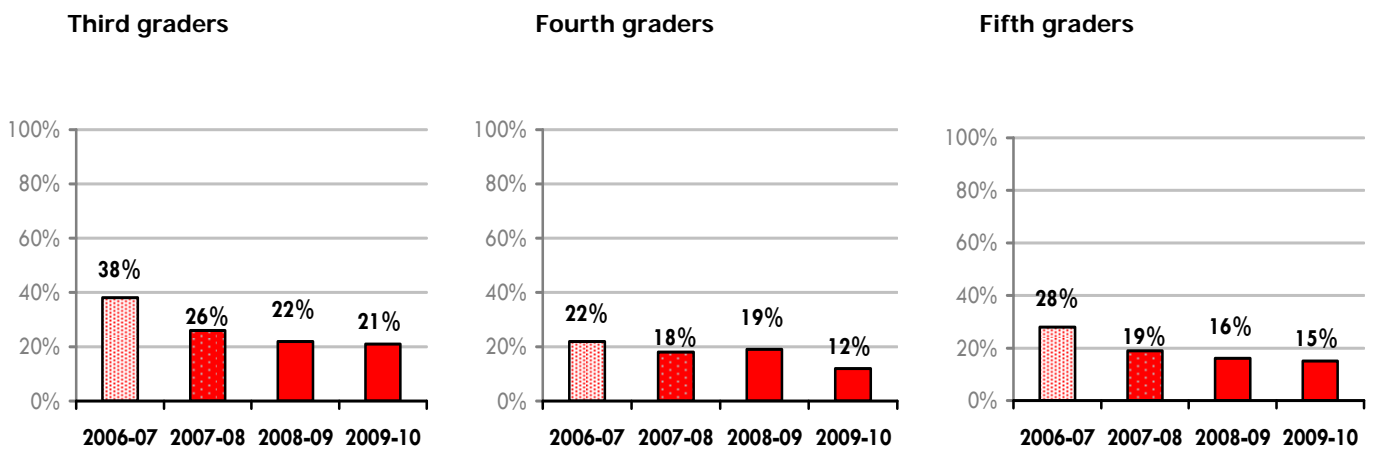


Figure 17: Percentage of Students Below Basic or Far Below Basic in Math, By Grade Level



Source: California Department of Education, Data and Statistics Division: <http://dq.cde.ca.gov/dataquest>.