High Schools for Equity

Policy Supports for Student Learning in Communities of Color

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This report, a policy brief, and related materials are all available at http://srnleads.org.

This study was conducted by the School Redesign Network at Stanford University in collaboration with Justice Matters.

The School Redesign Network (SRN) and its affiliate program, Leadership, Equity & Accountability in Districts & Schools (LEADS), are based at Stanford University. Its mission is to help create, support, and sustain equitable schools that are intellectually rigorous, high performing and provide all students access to the knowledge and skills needed for success in college, career, and citizenship.

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Justice Matters (JM) is a non-profit social-justice organization that strategically participates in statewide education-policy change efforts and supports community organizations in their campaigns for just and equitable school systems. Research from this project is informing the development of JM's policy agenda that aims to improve educational outcomes and experiences among students of color.

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Cover photo: Leadership High School graduation. Photo by Kandaphotography

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Foreword

"At other schools it is just a lot of busy work and a lot of book work. . . . The teachers here teach us how to learn, not just what is in the textbook."

— Student at June Jordan School for Equity

"I want to help students learn that they can learn and academically excel without distancing themselves, cutting themselves off from their home culture."

— Teacher at Leadership High School

"These teachers care, like, they really big *care."*

— Student at Animo Inglewood High School

On a hot afternoon in September 2005, Justice Matters approached Professor Linda Darling-Hammond, Co-Executive Director of the Stanford University School Redesign Network, about collaborating on a study. Our journey to the Stanford campus was the culmination of many years of reviewing the research literature, searching for answers that just were not there. We knew that a different kind of research was urgently needed: research that would fill the knowledge gap about the types of policies that would in turn bring about a racially just school system. We hoped that the School Redesign Network would be available to work with us to address this need.

Justice Matters' mission is to bring about racially just schools through developing and promoting policy that is grounded in a vision of schooling that comes out of communities of color. Central to our work — and to the story of this study — is the emphasis our mission places on having a vision of what racially just schools look like. We must have a picture of our destination, or we are not likely to ever get there.

Our vision of racially just schools, still a work in progress, is informed by an analysis of how racism operates in the world. Based on our work in communities and schools as well as our ongoing study, we have come to think about racism as a force that denies people of color the opportunity to access major aspects of human fulfillment: to have access to basic conditions for survival such as food, shelter, and medical care; to develop and use their talents and skills; to make meaningful contributions; to have the resources to care for family members; to live in a climate of respect, dignity, and safety; to use their voices for self-expression and for shaping a healthier and more just society; and to do all this in ways that are connected to their cultures and communities.

Racism was very much part of the history of the founding of the United States, and many contemporary policies, structures, and institutions have been shaped by this history. Public institutions today, including schools, are major sites for perpetuating racism because they determine access to many opportunities for human fulfillment. Too often, these institutions interact with people of color in demeaning ways and operate to exclude the cultural values and priorities of communities of color. Rather than doing whatever is necessary to ensure access to institutional resources, public

institutions often actively deny access to people of color or simply fail to prevent people of color from falling through the cracks. In the case of public schools, many schools attended by students of color have been structured as hostile and dehumanizing places that serve to track students into low-wage jobs and prison.

We conceptualize racially just schools as places committed to enabling the human fulfillment of all students, with an explicit commitment to students of color. This commitment entails doing whatever it takes to prepare low-income students of color for a full range of human actualization — to care for their families emotionally and financially, to pursue meaningful work, to participate in building a more just society, and to continue to grow. This commitment entails embracing what low-income students of color specifically bring to school — their cultures, languages, families, and distinct ways of being and knowing in the world — students' families are welcome and respected partners; their cultures are treated as sources for intellectual growth and guidance; and their approaches to communicating and learning are incorporated into classroom life. Finally, this commitment to students of color ultimately benefits white students as well, as previously silenced sources of knowledge and ways of being flourish and open up new possibilities for everyone in the school.

What is the policy agenda that will make this vision a reality? Currently, it does not exist. Many community organizing, advocacy, and policy groups are doing important work to advocate for policies for more equitable schools. But the policy agendas that drive this work focus more on correcting glaring inequities than on moving toward a picture of what truly racially just schools might look like. They focus on addressing the severe under-funding of education for students of color, the lack of access to teachers with credentials, and the unfair ways in which students of color bear the burdens of our accountability system. Removing these burdens does indeed bring schools closer to enabling the human fulfillment of students of color. But how much closer could we come to this vision if we had a policy agenda intentionally directed to this end?

We do not have a policy agenda based on a racial justice vision for schooling in part because we do not have a clear and coherent base of knowledge from which to develop such a policy agenda. Several years ago, Justice Matters began systematically reviewing bodies of educational research literature in an effort to harness existing knowledge in order to develop a policy agenda for racially just schools. We soon ran into difficulties.

We found that the research literature on district and state policy had little to do with our vision of racially just schools. Most often, research tracked the relationships between policies and improvements in standardized test scores. While test score improvements sometimes take place in conjunction with racially just education, test score improvements may also come about through practices which actually further impoverish the learning experience for students of color. This can happen either by focusing only on the kinds of learning represented by multiple-choice tests or by pushing low-achieving students out of school entirely so that the average scores appear to rise.

In general, we found that research on policies that lead to "success" did not define

success in ways that correspond to our vision of racial justice.

After hitting a number of dead-ends in our search through the research literature, we came to believe that there is a pressing need for new research that defines success in terms that correspond to a vision of racial justice: research that identifies schools that succeed according to this definition and that works outwards from these places to the policies that could enable racially just schooling to spread across the system.

This is the concept that we took to the Stanford University School Redesign Network. We proposed to collaborate in developing a set of case studies that would begin to fill the gap in knowledge about racially just schools and their policy implications. We were delighted when the School Redesign Network — which brings deep experience in working with exemplary, equity focused schools — agreed to work with us and put together a team of researchers led by Diane Friedlaender.

There are two features of *High Schools for Equity: Policy Supports for Student Learning in Communities of Color* that distinguish it from other case studies of schools and that make it such an important contribution to thinking on racial justice in education.

First, the factors we considered in selecting schools to include in the study set this research apart. Rather than follow the trend of selecting schools based on test scores and other factors not necessarily tied to racially just learning experiences, we developed a different mix of factors that we looked for.

We looked for schools where curriculum, pedagogy, and student learning experiences are shaped and informed by the culture, language, values, personal experiences, history, and social context of students and their communities. We sought places where all students, and particularly low-income students of color, are held to high expectations and have access to rigorous coursework in which teachers use adaptive and culturally relevant pedagogy to connect to students and create an authentic learning experience. We sought places in which students have multiple ways to demonstrate their learning through authentic assessments and which provide students personal and academic supports in a holistic and integrated way to ensure their success in their academically rigorous courses. We also looked for schools with trusting and personal relationships between and among students and staff and with a demonstrated commitment to social and racial justice. We did not insist that all of the schools we studied have every single one of these qualities, but they had to have a substantial number of them.

In addition to the factors noted above, we also looked at measures of academic outcomes. The factors described above focus on the learning experience the schools provide, but not on outcomes. One outcome that was very important to us was schools' ability to retain their students from year to year, and ultimately, through to graduation.

We also looked at standardized test scores. Although we believe that standardized test scores are a crude, biased, and limited proxy for learning, and that the current high-stakes testing climate is actually making the quality of education lower for many low-income students of color, these scores provide data across schools that shed light on one aspect of academic outcomes. Our other criteria served to eliminate the possi-

bility of selecting schools that had high test scores but provided a low-quality learning experience.

We studied only schools that do not restrict access to students based on their prior academic performance. We wanted to document the practices of schools that accept students who may have had few previous educational advantages, that work hard to keep these students in school through to graduation, and that make future life choices, including college, available to them.

Finally, since we wanted to study schools that provide racially just experiences for low-income students of color, we only considered public schools with a majority of low-income students of color.

These criteria for school selection mean that the study findings are relevant to a vision of racially just education. They contribute to an approach to education program and policy research that steps outside the confines of unexamined definitions of "what works" and "student success" in order to specify a broader set of rich and meaningful outcomes that education should aspire to.

The very identification and description of schools that meet this combination of criteria makes an important contribution beyond the findings that were generated. In a society where visions of racially just schools are marginalized and where high-quality and equitable education has been confused with meeting benchmarks for standardized test scores, we desperately need images and descriptions of all the joy, discovery, meaning, and passion that can be made available in the education of low-income students of color. We need images of how the families, cultures, and experiences of students of color can be integrated into the fabric of schooling. And we need depictions of how low-income students of color can flourish in such an environment. To break through the despair, stereotypes, and low expectations about what is possible for low-income students of color, we need portrayals of what it looks like when they are engaged in rigorous debate, carrying out sophisticated analysis, conducting original research and using it to further justice and health in their communities, and otherwise demonstrating their capacity and hunger for high-level learning. Descriptions of the schools in the study provide a source for these urgently needed images.

The second feature that sets this study apart from others is that it draws policy implications from the exemplary schools it studies. There are many studies of successful schools using definitions of success based on test scores and other traditional measures. While these studies are often limited in how they define success, they still generate useful information. Such studies tend to focus on practices these schools use and the qualities that they embody that contribute to their success. Such research debunks the notion that low-income students of color cannot do as well in schools as other students.

However, there are limitations to how actionable the findings of such studies are. Schools are deeply and pervasively constrained by conditions that are determined by forces beyond the individual school. Schools lack resources, they lack a pipeline that prepares staff to carry out good practices, they lack accountability policies that support racially just learning experiences, and on and on. Even exemplary schools fall far short of what they aspire to because of these conditions. As wonderful

as the schools in *High Schools for Equity* are, they still face huge challenges that result in losing some students, in not being able to retain some of their best teachers, in continuing to struggle to create culturally relevant pedagogy, in an inability to provide students with all the supports they need, etc.

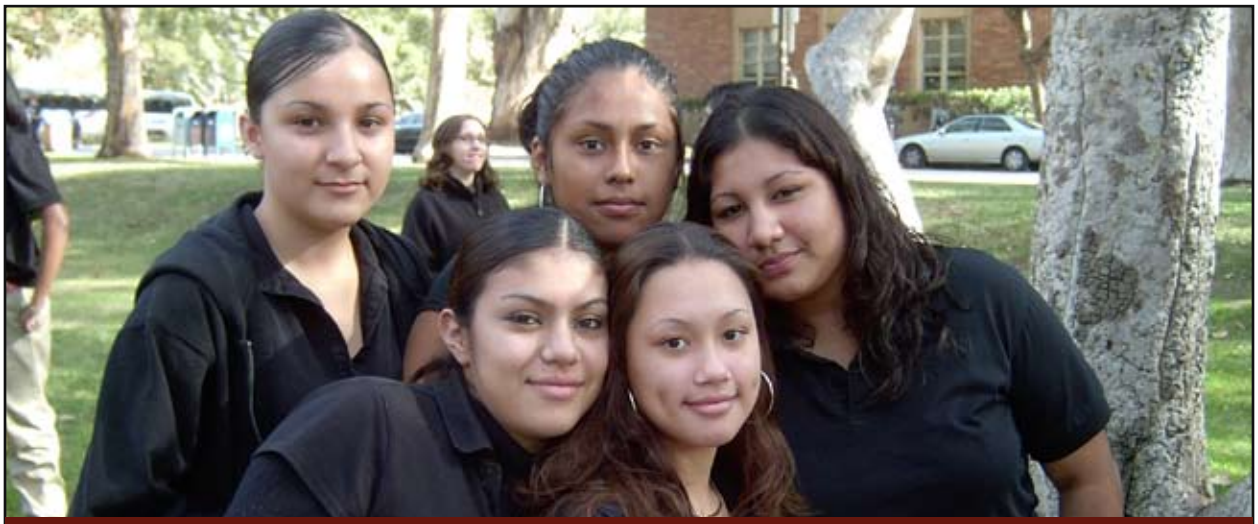
When those of us working to improve education ask people in schools to carry out the practices of exemplary schools and to embody their qualities, there is a way in which we are setting these schools up for failure. We point to isolated examples that, through superhuman efforts and quirks of fate, have managed to transcend the conditions that most schools face. And we use the existence of these outliers as proof that all schools could act similarly if they chose to.

High Schools for Equity turns such thinking on its head. Rather than assume that all schools can do what outliers do, the study assumes that there are reasons why they cannot. In the schools that are in the case studies, we want to understand what conditions they face that make it very difficult to do what they do. What must they overcome or get around? If they face conditions that are better than what most schools face, what are these better conditions and the set of supports that help them do what they do? And the ultimate question of our study is: What policies are needed to address the conditions that make it hard for the majority of schools to do what these exemplary schools are doing? What policies would make it easy to do what they do? In other words, what are the policies that would systematically bring about racially just education?

We hope that *High Schools for Equity* can be of aid to the many people who are working with dedication and determination to bring about racially just education for low-income students of color and for all students.

— *Susan Sandler, Olivia Araiza, Valentina Vélez-Rocha*
Justice Matters

Executive Summary



Animo Inglewood High School

High Schools for Equity documents the practices and outcomes of five urban high schools in California that do an extraordinary job of preparing their students for success in higher education, productive careers, and a fulfilling life. The schools, which are non-selective in their admissions and serve populations that are predominantly low-income students of color, include both district-run and charter-operated schools in California's largest cities. They are Animo Inglewood Charter High School in Los Angeles; June Jordan School for Equity and Leadership High School, both in San Francisco; New Tech High School in Sacramento; and Construction Tech Academy in San Diego.

These schools are, in many respects, anomalies in the current landscape of secondary education: In addition to graduating their students at higher rates than the state average, all of them send more than 80% of their students to higher education, exhibiting college-going rates more than twice the state averages for the students they serve. Equally important, these schools offer an educational *experience* that engages students in intellectually stimulating, socially and practically relevant, and personalized learning that empowers them to contribute to their communities and to learn throughout their lives. These students take ownership of their education and develop a stake in their own learning that enables them to negotiate obstacles and take charge of their lives.

This report, based on intensive case studies of the five schools, details the practices that support student success, the design features of the schools that enable these practices, and the policies that both support and, sometimes, obstruct their ability to accomplish their goals. It develops recommendations for the kinds of policy reinforcements and changes needed to develop and maintain schools like these on a much broader scale, so that they become the norm rather than the exception for students of color.

The California Context

While California has become a "majority minority" state, inequality in educational opportunities and outcomes has increased. The large achievement gap reflected in disparate test scores, graduation rates, and college-going rates for African American and Latino students in comparison to their white and Asian peers has not decreased significantly in more than a decade. Recent statistics suggest that, among those who enter the ninth grade, only 56% of African American students and 55% of Latino students now graduate with a high school diploma four years later, and only 12 to 14% graduate having met the requirements to attend a state university. These proportions are even lower in most urban districts. And an increasing share of young African American and Latino men are populating the state's growing prison system, rather than its higher education system. Because of these trends, projections indicate that by 2025, California's citizens are likely to be less well-educated on average than they are today, although the demand for highly skilled workers will continue to increase.

These outcomes are predicted by the post-Proposition 13 decline in educational spending in California for two decades after 1979, which also exacerbated resource inequality. By 2000, California ranked first in the nation in the number of pupils it served, but 38th in expenditures per student, 48th in K-12 expenditures as a share of personal income, and 50th in the ratio of students per teacher. By 2006, the spending ratio between the highest-spending and lowest-spending school districts was more than 3:1 (from just over $6,000 per pupil to as much as $20,000 per pupil), with schools serving the highest concentrations of students of color spending noticeably less than those serving predominantly white students. California also employs a greater number of under-qualified teachers than any other state in the country, and these teachers are primarily assigned to teach low-income students of color in segregated schools.

Changing the conditions for these students requires not only documenting the common practices of "break-the-mold" schools that succeed against the odds, but also envisioning a set of policies that can enable most schools to serve all of their students — including students of color — much more effectively.

Common Design Features

After reviewing an extensive body of data on more than 360 California high schools in a multi-stage selection process, we narrowed the sample to five urban, public high schools that have no selective admissions requirements, serve primarily students of color and low-income students, graduate students of color at higher rates than the state average, and send most of their students to college. The schools were selected because, as a group, they provide geographic diversity and illustrate very distinctive school models in terms of educational approach and governance. Two are district schools, two are independent charter schools, and one charter is part of a district and its teachers are part of the district teachers' union. Two of the schools — Construction Tech Academy and New Tech High — focus especially on preparing students for college and careers. Although we did not limit our search by school size, all the schools in the study are small, ranging from about 300 to 500 students, and all have been started within the last 10 years.

Although the schools in this study are distinctive and are located in varied ur-

ban communities, they have a number of design features in common. These design features, which are mutually reinforcing, aim to create personalized schools which offer rigorous and relevant instruction that is supported by professional collaboration and learning. These design features rely on multiple changes in school structures, belief systems, and pedagogical practices.

Personalization

Personalization is created in all five schools through small learning environments, continuous, long-term relationships between adults and students, and advisory systems that assign a single adult to work closely with a small group of students, usually for multiple years. Advisors facilitate and organize counseling, academic supports and family connections. In order to provide personalization, these schools devote more resources to teaching than non-teaching staff, thus enabling smaller class sizes and reduced pupil loads for teachers. They also reorganize time so that teachers have fewer groups of students for longer blocks of time. By knowing students well, teachers are more able to tailor instruction to students' needs and to build on their experiences. Teachers also work in teams that share the same students, and they share responsibility for their students' progress and well-being.

Rigorous and Relevant Instruction

Each of the five schools has designed a rigorous, coherent instructional program that provides access to college preparatory curriculum as well as career preparation through internships, coursework, and other connections to the world outside of school. The schools strive to create authentic learning experiences reinforced by performance assessments that ask students to exhibit their skills in major projects and investigations. Each school fills gaps in students' academic skills by providing previously underserved students with additional supports and teaching them in ways that are well-scaffolded, culturally relevant, and adapted to their learning needs. The schools also provide students with connections to their communities and futures through strong outreach to parents, curriculum about students' communities and cultures, and partnerships with local community groups, industries, and higher education.

Professional Learning and Collaboration

All schools in this study demonstrate an unwavering commitment to student learning by making it the consistent focus of their professional learning time. Part of this commitment includes allocating considerable time for teachers to work collaboratively on their practice through summer retreats, regular professional development time built into the school year, and joint planning time each week. Without the time for ongoing inquiry and refinement of practice, these schools would be unable to meet the needs of their students. The schools involve faculty in determining and enacting shared goals and engaging in democratic decision-making close to the classroom. They frequently involve parents and students as well.

Policy Recommendations

These schools and those in other studies document that schools can be designed to serve low-income students of color well. However, to create such exemplary schools on a much wider scale, a policy environment must be constructed that is not hostile but instead provides them with support. In this research, we identified four policy areas that have major influences on the ability

of high schools to construct the practices that enable low-income students of color to succeed: human capital, curriculum and assessment, funding, and postsecondary education policies. Our recommendations suggest that, to systematically develop high schools that can succeed with all students, California should:

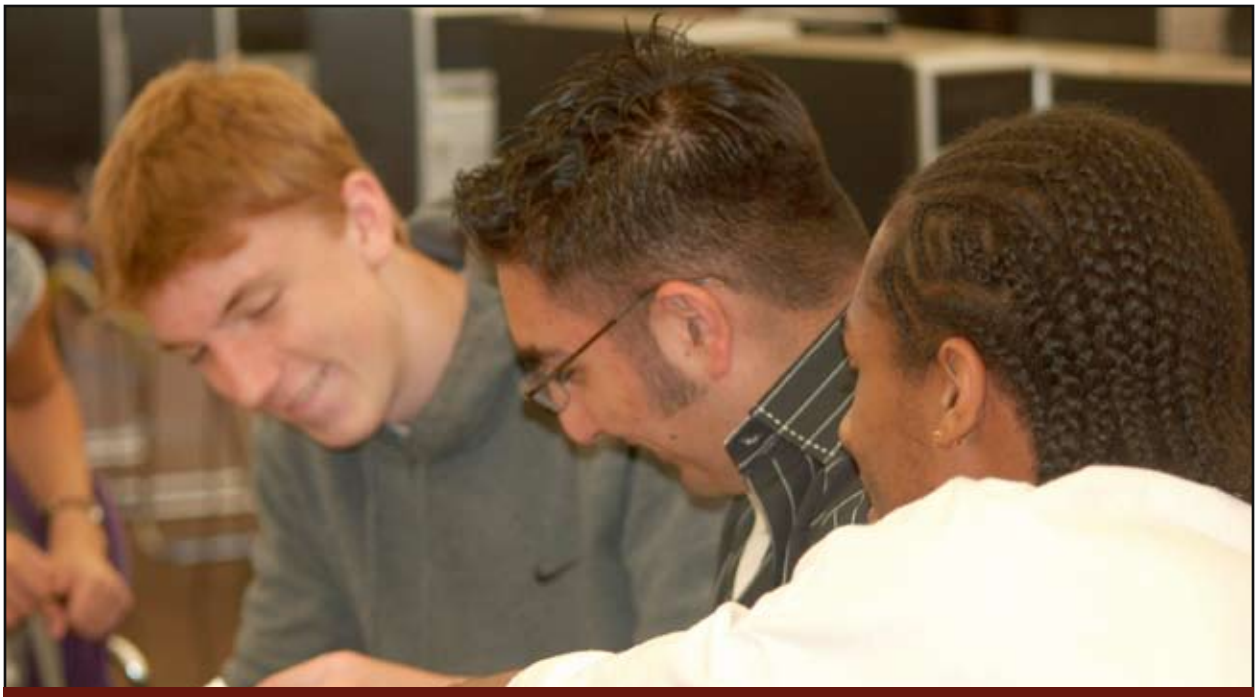
1. Support teacher recruitment and development that enables teachers to cultivate the skills needed for adaptive, culturally responsive teaching attentive to the needs of the whole adolescent — and enables schools to recruit teachers who have the expertise and commitments needed to succeed in distinctive schools serving students of color well;

2. Support professional learning opportunities for principals to develop the skills of instructional leadership and organizational change;

3. Support a more forward-looking curriculum for high school education by rethinking the content and nature of A-G requirements and creating a state and local assessment system focused on higher-order thinking and performance skills;

4. Design funding so that funds flow to schools on the basis of student needs, so that safe, well-designed facilities are readily available, and so that — beyond targeted resources for special needs students — schools have the flexibility to fund strategic innovations that support student success.

5. Invest in higher education quality and access so that students who have worked hard and earned a place in college have the opportunity to pursue their dreams and contribute to the welfare of all.



New Tech High School

Construction Tech Academy

Chapter 1: The Search for Schools that Support Low-Income Students of Color

Eduardo Rodriguez[1] had struggled in school all his life. As a special education student, he had managed to progress through the school system reading at only a fifth-grade level, and for a considerable time could not spell his last name. When he was in 10th grade, he attended a chaotic public high school that was unable to meet his needs: "He wasn't learning, he wasn't reading," his mother explains, adding that he was constantly teased and often drawn into the many fights that occurred. Because of conflicts between Latino and African American students that the school did not address, he had begun to develop negative ideas about African Americans. The last straw came when Eduardo was almost stabbed while trying to defend a student who was about to be attacked. His mother decided to pull him out of school that day. She felt at that time that "either they would have killed him in school, or he would have been in prison. They just did not expect anything of him."

Mrs. Rodriguez tried to enroll Eduardo in private school, but he could not pass the entrance requirements. When she found out about New Tech High School and went to visit in 2004, she was impressed with how courteous and articulate the students were. She enrolled her son at New Tech even though it was a 45-minute drive from her home. Mrs. Rodriguez warned the principal and the counselor that her son was unlikely to ask for help or talk to the teachers. However, Eduardo soon developed close relationships with his teachers and his counselor, whom he calls on a regular basis, including during holiday breaks. His mother reports that his reading level has risen six grade levels, now nearly on par with his current grade level, that he creates products and writes enthusiastically, and has developed close friendships with students of diverse ethnic backgrounds including African American peers. She explains:

"I'm so used to all the years since he was five years old, when nothing was expected of him. Here, he's a different person. . . . I never thought that would be possible. I would pay for my son to come here; it's amazing what he's learned. It is expected of him to perform. It's not, "We'll see if you can do it," but, "You can do it and you're going to do it." So he thinks like that now."

Eduardo's story reflects that of many students attending the five California high schools featured in this study: Animo Inglewood Charter High School in Los Angeles, Stanley E. Foster Construction Tech Academy in San Diego, June Jordan School for Equity and Leadership High School in San Francisco, and New Technology High School in Sacramento. With graduation rates and college-going rates significantly

[1]Student names are pseudonyms.

higher than the state average for African American and Latino students, these schools are beating the odds for low-income students of color by giving them real access to success in college, work, and life. Through case studies of these five diverse schools, located across the state, the *High Schools for Equity* study identifies key design features and policy conditions that appear to enable high schools to serve their students more effectively and equitably than is generally the case in California.

The California Context: Growing Inequality

In August 2007, the now familiar start-of-school headlines in the state's major newspapers once again trumpeted the large and unchanging achievement gap between under-served students of color and white students. As the *Sacramento Bee* announced, "Tests show racial achievement gap: Whether they are poor or rich, white students are scoring higher than their African American and Latino classmates on the state's standardized tests" (August 16, 2007).

The large disparities and lack of progress in California's schools are by now an old story. Following the passage of Proposition 13 in 1979, California's expenditures on public education declined markedly. By 1999-2000, California ranked first in the nation in the number of pupils it served, but 38th in expenditures per student, 48th in K-12 expenditures as a share of personal income, and 50th in the ratio of students per teacher, despite the influence of class size reductions during the late 1990s (Ed Source, 2001, p. 1). By the late 1990s, California employed a greater number and share of under-qualified teachers than any other state in the country, and California ranked in the bottom decile among states on class sizes, staff/pupil ratios, libraries, and most other school resources.

While some modest progress in getting resources to schools has been made in the last few years, large inequalities remain. California continues to spend well below the average for other states, and the ratio between the highest-spending and lowest-spending school districts is more than 3:1 (from just over $6,000 per pupil to as much as $20,000 per pupil). Districts in the top 25% of expenditures spend over $11,900 per pupil, while those in the bottom quartile spend just under $8,800 per pupil (Loeb, Grissom, & Strunk, 2006). Furthermore, spending on students of color in intensely segregated schools (those that are 90-100% "minority") is noticeably lower than that in majority white schools (Rogers, Terriquez, Valladares, & Oakes, 2006, p. 10).

The brunt of spending shortfalls has been borne by the growing concentrations of students of color in increasingly segregated schools. California is the first state to have a majority "minority" public school system, with a student population classified as 48% Latino, 8% African American, 50% low income, and 25% English language learners (ELLs). By 2004, it had also become one of the top five most segregated states for African American students and one of the top three most segregated states for Latino students (Orfield & Lee, 2006). Eighty-seven percent of African American students and 90% of Latino students attend schools that serve a majority of students of color. In addition, 47% of Latino students and 37% of African American students in California attend schools that are 90-100% students of color (Rogers et al., 2006).

Segregation matters because it is linked to concentrations of poverty and inequitable school conditions. *Williams v. California*, a recent lawsuit challenging the state's finance system, documented the crumbling buildings, lack of textbooks and materials, unqualified teachers, and truncated curriculum available to many of California's low-income students of color (Friedlaender & Frenkel, 2002; Oakes, 2003). Just as the achievement data suggest, the disparities in key resources like qualified teachers are even greater when schools are sorted by race than when they are examined by income (see for example, Shields et al., 2001). A number of studies have documented the achievement effects of the inadequate conditions listed above (Darling-Hammond, 2002; Oakes, 2003).

An analysis by the Public Policy Institute of California (PPIC) (Sonstelie, Brunner, & Ardon, 2000) noted that the declines in revenues were accompanied by achievement declines on national tests and that, after adjusting for language backgrounds, ethnicity, and parental education, the performance of low-income students was "especially hard hit by the decline in school quality in California" (p. 136). A RAND Corporation report (Carroll, Reichardt, & Guarino, 2000) also noted the generally low levels of achievement for California (among the bottom five states on most measures) and the even lower performance of low-income students: "When the states are ranked according to the reading performance of students eligible for free or reduced-cost school lunch, California ranks at the very bottom of the list both for fourth graders and for eighth graders" (p.1).

Noting that funding inequalities between high- and low-spending districts had nearly quadrupled during the 1990s, the California Postsecondary Education Commission (CPEC) warned:

> Perhaps the most disturbing part of this statewide picture is that many of the disparities noted above are consistently and pervasively related to the socioeconomic and racial-ethnic composition of the student bodies in school as well as the geographical location of schools. That is, schools in our low-socioeconomic communities as well as our neighborhoods with a predominance of Black and Latino families often have dilapidated facilities, few or inadequate science laboratories, teachers in secondary schools providing instruction in classes for which they have no credential, curriculum that is unimaginative and boring, and teachers who change schools yearly and lack the professional development to complement their teaching with new instructional strategies and materials (CPEC, 1998, p. 29).

The CPEC concerns about "unimaginative and boring" curriculum, coupled with a lack of qualified teachers are reinforced by recent data on high school students' access to college preparatory curriculum. One key roadblock to future options in California's unequal and highly segregated schools is inadequate access to the college courses required to apply to the University of California/California State University (UC/CSU) system, commonly called the A-to-G requirements (A-G) (Oakes et al., 2006). Many high schools, particularly those serving primarily students of color, do not offer a sufficient number and range of courses for their students to complete a course of study that could prepare them for college.

For example, only 30% of highly segregated schools serving African American and Latino students have a sufficient number of A-G courses to accommodate their students, compared to 55% of schools serving fewer than 50% African American and Latino students. Furthermore, more than half of these highly segregated schools (58%) have more than 20% of the A-G courses they do offer taught by under-qualified teachers (See Table 1). These percentages are even higher for college preparatory math classes. Nearly three-fourths of the most highly segregated schools have 20% or more of their mathematics classes taught by teachers without certification in the field, as compared to only 29% of math classes in schools with fewer than 49% African American and Latino students. This limits the effectiveness of these courses, as many studies have found that mathematics achievement is significantly lower for students taught by teachers who are not certified in the field (Betts et al., 2000; Darling-Hammond, 2000; Fetler, 1999; Goe, 2002; Goldhaber & Brewer, 2000; Hawk, Coble, & Swanson, 1985).

As a result of these conditions, only 24% of African American and 22% of Latino graduates completed the A-G requirements in 2004, compared to 56% of Asian and 39% of white high school graduates (Ed Trust-West, 2004). A study by the California Postsecondary Education Commission (2007) showed that in 2003, only 6% of African American and Latino high school graduates took both the courses and the tests required for UC eligibility. Thus, only a small minority of African American and Latino students were in a position to be accepted to a four-year public university in the state.

Perhaps not surprisingly, given the conditions we have described, African American and Latino students also graduate at significantly lower rates than their white and

Table 1: High School Offerings by Race/Ethnicity of Student Body, 2004-05

School Demographics	Percent of schools that offer a sufficient number* of A-G courses for all students	Percent of schools in which >20% of A-G classes lack appropriately credentialed teachers	Percent of schools in which >20% of math classes lack appropriately credentialed teachers
0-49% African American and Latino students	55%	20%	29%
50-89% African American and Latino students	33%	33%	49%
90-100% African American and Latino students	30%	58%	72%

Source: Oakes et al., Removing the Roadblocks, 2006

* "A sufficient number" of A-G courses is defined as enough of these courses for all students to take 15 A-G classes over 4 years in high school, operationalized in the study as at least 67% of a school's courses.

Asian counterparts in the state. While there are many formulas for compiling this data, and California does not have a student identifier to track students' movement from school to school, many organizations such as the Civil Rights Project and Education Trust use a Cumulative Promotion Index (CPI) which calculates the combined average completion rate of groups of students moving from 9th through 12th grade to graduation. A Harvard Civil Rights Project (HCRP) report (2005) computed an African American graduation rate of 57% and a Latino graduation rate of 60% compared to a white graduation rate of 78% in California in 2002 (HCRP, 2005), before the effects of the exit exam were felt.

The Harvard study further found that the odds for these students are even more dismal in large districts with high percentages of students of color. For example, in Los Angeles Unified School District, only 39% of Latinos and 46% of African Americans graduated within 4 years. In California, African American and Latino students are three times more likely than white students to attend a high school where graduation is not the norm (that is, the school has "promoting power" of less than 60%). About one-third of African American and Latino students in California attended one of these high schools, compared to only 8% of white students (Harvard Civil Rights Project, 2005).

Estimates of graduation rates since then have suggested that only about 66% of California high school students who entered ninth grade in 2006 graduated within 4 years, with only 56% of African American students and 55% of Latino students in this group (Rogers, 2007).

The Study

The data above offer a glimpse into the problems students of color experience in California, but they do not fully capture the quality and the impact of the educational experience on young people. Because unequal school resources are layered onto race- and class-linked disparities in employment, income, health care, and other social supports, schools in California not only support existing societal inequities, but exacerbate them. Clearly, California high schools that are able to support low-income African American and Latino students in completing high school and moving onto college are unusual. In this study, we have sought to identify the practices and policies that are the most strategic for improving the day-to-day learning experience for low-income students of color, as well as the aggregate outcomes of those experiences.

In selecting sites for in-depth case studies, we not only wanted to find high schools that graduate students and send them onto college and careers, but also that are healthy places for low-income students of color to develop their identities, envision and realize a broad range of future opportunities, and become vital members of their communities.

This study sought to learn:

1. How the practices of each of the schools support an engaging, relevant, and rigorous learning environment for all students, regardless of their race or socio-economic background.

2. What design features — school structures; instructional practices; and approaches to support staff, parents and students — are common to all five schools.

3. What school, district, and state policies enable the design features that are evident in all five schools, how the schools navigate around restrictive policies, and what policy changes are needed to enable more low-income students of color to have access to rigorous, relevant, and engaging schools.

The selection process included identifying schools, through the research literature and through expert recommendations, where all students, and especially low-income students of color, experience high expectations, rigorous coursework featuring authentic, culturally relevant learning experiences, and instruction that is responsive to their needs and approaches to learning. We sought evidence that students in the schools learn to demonstrate their knowledge in rigorous and authentic ways that ensure they are able to investigate and evaluate ideas, communicate and defend their thoughts orally and in writing, and develop intellectual and practical products that meet high standards of evidence and performance.

After reviewing an extensive body of data on more than 360 California high schools in a multi-stage selection process (described in Appendix A), we gradually narrowed our sample to five urban, public high schools that:

- Have no selective admissions requirements
- Serve primarily low-income students and students of color
- Graduate students of color at significantly higher rates than the state average
- Send most of their students to college
- Offer students of color an academically rigorous *and* relevant and responsive learning experience that enables them to chart their own futures and contribute to their communities with strong intellectual and personal skills.

The study was conducted over the 2006-2007 school year, with several intensive site visits to each school during which we collected pertinent documents and interviewed school administrators, teachers, support staff, students, parents and community members, as well as officials from the relevant district or charter management organization. (See Appendix A for more detail about the study methods.)

The high schools selected for the study are:

Animo Inglewood Charter High School, Inglewood (Green Dot Public Schools)

June Jordan School for Equity, San Francisco (San Francisco Unified School District)

Leadership High School, San Francisco (independent charter)

New Technology High School, Sacramento (Sacramento Unified School District/New Technology Foundation)

Stanley E. Foster Construction Tech Academy, San Diego (San Diego Unified School District)

Table 2 (on the following page) describes each school's size, type, and student population. Two of the schools are district schools,

and three are charter schools. Of the charter schools, New Tech High is a dependent charter operating as part of the Sacramento Unified School District and subject to many of the district's policies. Animo Inglewood is associated with Green Dot Public Schools — a charter management organizations (CMO). New Tech High School is associated with the school developer, New Technology Foundation. Leadership High, is an independent, stand-alone charter.

Although we did not limit our search to small schools, all the schools in the study are small, ranging in size from about 300 to 500 students and all have been started within recent years. We did not identify any large, comprehensive high schools that met our selection criteria. Furthermore, although we were interested in looking at schools serving large concentrations of English language learners (ELLs), we found that no such schools reported strong

Table 2: Study School Characteristics, 2006-07

School Name	Animo Inglewood	Construction Tech Academy	June Jordan School for Equity	Leadership High School	New Tech High School
Type of School	Statewide charter	District school	District school	District-approved independent charter	District-approved dependent charter
District or CMO affiliation	Chartered by Los Angeles Unified S.D. and operated by Green Dot CMO	San Diego Unified Public Schools	San Francisco Unified Public Schools	Chartered by San Francisco Unified S.D. Not affiliated with a CMO	Chartered by Sacramento Unified S.D.; supported by New Tech. Foundation
Student Enrollment	518	430	371	320	355
% Free and Reduced Lunch	74%	68%	48% (75%)*	52%	62%
% Students of Color	100%	81%	95%	96%	70%
% African American	37%	17%	37%	18%	27%
% Latino	63%	51%	32%	39%	26%
% English Language Learners	7%	24%	13%	12%	25%

Source: California Basic Education Data System. Free- and Reduced-Lunch information is from 2005-06; all other data are from 2006-07.
*Although more than 75% of the students in the school are from families with incomes below the eligibility threshold for free and reduced-price lunch, only 48% of students have enrolled in the lunch program.

achievement on the state test measures. This was not necessarily because none are producing strong gains for their students, but because the state policies regarding ELL assessment (testing in English after less than a year without means to report individual student gains) make it very difficult for these schools to demonstrate their success in the state accountability system.

At these schools, we found places that care deeply about supporting young people who are too often invisible in high school and who frequently drop out or are pushed out. The schools are *structured for caring*, in that they have adopted organizational approaches that allow educators to know their students well enough to provide them the types of instruction and supports they need. Educators in these schools have an empowering vision of education, aiming to develop students into deep thinkers who have the range of skills and commitments they need to be successful in college, work, and life, as well as to care for others and their communities.

As a result of the strong structures and practices of the five schools, they are all moving toward narrowing racial, socio-economic, and language achievement gaps. They are outperforming most other schools in their respective communities serving similar populations, especially in supporting the success of African American, Latino, and low-income students. Table 3 below highlights academic indicators for the five schools. The top row indicates

Table 3: Graduation and College-Going Rates, 2006-07

School	Four-Year Graduation Rate, 2006*	Percent of Graduates Going to 2- or 4-year Colleges**	Percent of Graduates Admitted to 4-year Colleges**
State	85%	56% **	26%**
Animo Inglewood	99.1%	94%	69%
Construction Tech	98.6%	81% (19% go into apprentice programs or military)	36%
June Jordan	95.0%	95%	73%
Leadership	86.8%	100%	68%
New Tech	95.9%	100%	42%

Sources: *California Department of Education, DataQuest. Graduation rates calculated by CDE using NCES definition (number of graduates minus dropouts over four years). For details see http://dq.cde.ca.gov/dataquest/gls_gradrates.asp. June Jordan rate was not yet posted by CDE and is calculated from school data.
** California Postsecondary Education Commission (2007). Data are for 2004.

the state average for each category for all students.

The schools' state-published graduation rates, ranging between 87% and 99%, exceed the state overall average, and, by even larger margins, state statistics for African American and Latino students. Based on its definition, the state publishes an overall statewide graduation rate of 85%. However, other estimates (Rogers, 2007), place the statewide 4-year graduation rate at 66% overall, and over ten points less for African American and Latino students. Differentials in college-going rates for the five schools are even more dramatic. Nearly all students (between 80% and 100%) go on to post-secondary education, compared to about 56% of high school graduates in the state.

Furthermore, the schools send their students to 4-year colleges at much higher rates than most other schools, even those serving much more advantaged students. Four-year college admissions rates are approximately 70% for Animo, June Jordan, and Leadership High, as compared to about one quarter of California students overall. Even the two schools that have a career-preparation focus (Construction Tech Academy and New Tech High) have students admitted to four-year colleges at rates noticeably higher than the rates for all students in the state as a whole (36% and 42% respectively, compared to the state average of 26%).

Student achievement on standardized measures is also higher than is the norm for underserved students of color in California. (See Table 4.) On the California Standards Test (CST) in English language arts (the only CST that provides comparables information for students across schools, given different course-taking patterns), students in the five schools catch up to the state average by the 10th grade in the percentage of students scoring at the proficient level, and outstrip state averages for economically disadvantaged, African American, and Latino subgroups at every grade level.

The five schools also focus on authentic assessments of student learning, which require extensive writing, oral presentation and defense of ideas, conduct of research and inquiry, and applications of knowledge in concrete products as well as new situa-

Table 4: Average Percent of Students Proficient, English Language Arts CST, 2006

Grade	9th Grade		10th Grade		11th Grade	
Student Group	Five-School Average	State Average	Five-School Average	State Average	Five-School Average	State Average
Economically Disadvantaged	31	27	35	21	28	21
African American	29	28	26	22	30	21
Latino	35	28	32	21	28	21
All	37	44	37	37	34	36

tions. All would argue that the state tests reflect only a small slice of what they would define as academic achievement and what they organize themselves to teach.

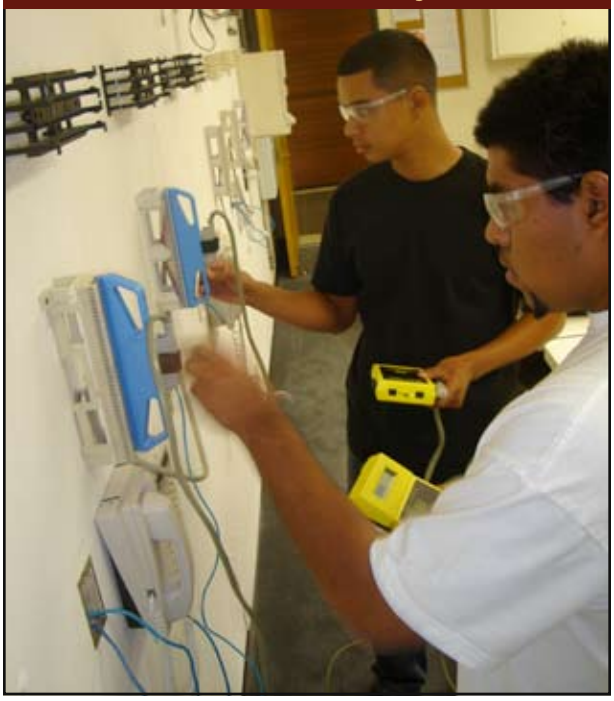
While these schools stand out in all of the ways described above, they are the first to suggest they have not reached all the goals they set for themselves and for their students. These schools were selected because each fit many of the study criteria, and together they represent a range of practices that have proven successful with the students they serve. The study not only documents the schools' outcomes, but also paints a vivid picture of the practices that offer students of color an engaging, nurturing and culturally relevant academic experience that provides access to college and careers. From the detailed case studies of each school, we have identified design features that enable the practices and outcomes we observed. These include the schools' organizational structures; hiring, evaluation, and professional development strategies; features of curriculum and instruction, and collective norms and activities. We looked for cross-cutting patterns in these design elements across schools.

Finally, we examined the policy supports and impediments for these practices and design elements, and we evaluated the policy implications of the schools' approaches.

Some of the schools' practices were enabled by a supportive policy context different from that of many other schools. For example, because three of the five schools we studied are charter schools, and the other two are newly created small public high schools, they have some flexibility that many other schools in the state do not have.

In identifying the policy conditions that enable the schools in the study to be effective, we hope to identify key policy areas that can support other California high schools. Of course, the schools we studied also experience district, state, and federal policies that can act as barriers to their development and that of their students. Despite an often unsupportive policy climate, they have found creative ways to get around or buffer the effects of problematic policies. In many ways, the schools in the study are like sparse, hardy flowers growing through cracks in the sidewalk. With respect to the many barriers that these schools face, we have tried to understand what policy changes would remove these barriers. In the sections that follow, we outline each school's practices and design features, followed by an analysis of the policy implications.

Construction Tech Academy



Chapter 2: What Do the Schools Do?

June Jordan School

As a young African American male, James Williams faced the kind of challenges that leave many young people in similar circumstances dropping out of school with few skills to support themselves and their families. During his childhood, James moved in and out of impoverished neighborhoods in San Francisco and South San Francisco. When he was in 8th through 10th grade, his mother was out of work and struggling with the challenges of raising a family on her own. As a result, James was often left to care for his younger sister. James notes that, although he was raised "around drug use and alcoholism, I never got into gang violence or street life. I always knew that I wanted to go to college." Although James had clear goals, he needed support and guidance to identify the steps he would need to take to achieve them.

Although James's mother wanted him to attend a "nice high school and go to college," he did not get into any of the college prep high schools in San Francisco because he lived outside the city boundaries at the time. James' mother heard about June Jordan School for Equity when it was founded; the school was then near her South San Francisco home. Although it was important to James' mother for him to go to college,

she did not feel she needed to spend time at the school, since he was not in trouble. With two other young children to care for, his mother felt it was more important to be home with them than to attend a parent conference at which she believed the teachers would just tell her that her son was doing well.

While other high schools might write a parent like her off as not caring, June Jordan teachers did not. They went to her home to hold parent conferences. As James recalls, "It was nice, the teacher said good things about me." He also noticed that it positively changed his mother's perspective. She began to understand what made June Jordan a good school: things like close family-school relationships, a strong advisory relationship, and the requirement that all seniors apply to five colleges. Now that one of James' younger sisters is an eighth-grader, his mother is insisting that she attend June Jordan as well. James was also supported by a godmother who attended parent conferences, met with teachers, and made sure James enrolled in the right classes.

James notes that all of these supports were important to his success: "All throughout June Jordan I had close relationships with all my advisors. It made me give my trust to people more, there were so many people there to help me and make sure that I do well." In particular, his 9th- and 10th-grade advisor provided emotional, academic and financial support to help him get through a rough patch when his family was facing a number of hardships.

While at June Jordan, James was able to cultivate his interests and set specific goals. His aspirations for college rose; at first, he hoped to attend San Francisco State University. After another year or two, he set his sights on the University of California. He developed his interests in design during an internship the school arranged at Levi Strauss's headquarters in downtown San Francisco. He also developed a passion for writing as a result of the school's constant emphasis on writing. Currently, James is an entering freshman at the University of California, Santa Cruz, where he is considering a major in literature or writing. He is struck by the beauty of his new campus in the forest and he reflects on how well June Jordan prepared him for this next chapter in his life:

"Today we had orientation about our core classes; they were telling us that we have just 10 weeks to do all these essays. I feel like I am very confident in writing. I enjoy it. June Jordan got me ready for a four-year college. They helped us be independent; we had a lot of help, and people had our backs at June Jordan, but they also made sure that we were able to take care of ourselves when we needed to. . . . My life is just beginning, and it was a great thing to have June Jordan to start."

The kind of education that not only helps students achieve academically, but also dramatically transforms their life prospects, is not attained merely by teachers "trying harder" within traditional bureaucratic constraints. A business world maxim holds that "every organization is perfectly structured to achieve the results it achieves." The same could be said of educational institutions: substantially different results typically require new organizational structures. The schools in this study have developed innovative, dynamic settings that offer distinctive opportunities for learning that are designed to meet their own goals and the needs of their student populations. At the same time, we found strong similarities in the principles around which the schools are organized. This chapter describes each school briefly, and Chapter 3 looks across the cases to describe common aspects of their design features and educational strategies.

Animo Inglewood Charter High School, Los Angeles

Animo Inglewood Charter High School, the second public charter school opened by the charter management organization, Green Dot Public Schools, is working to make the achievement gap obsolete. Located in the heart of a predominantly low-income Latino and African American community in Los Angeles, Animo serves 518 students of color, nearly all of them low-income. The school is housed in a newly converted hospital building secured only after Animo mobilized its parents to march on the district office to protest a lack of space. With a primary goal of sending students to college, Animo aims to give low-income students of color living in Inglewood the same quality education as students in more affluent neighborhoods receive. After six years in operation, featuring high scores on state measures of achievement, the school illustrates what is possible when strong instruction is matched with high expectations.

An Academic Culture

Animo's focus is on nurturing students' academic achievement and providing the supports necessary for success in high school and beyond. The school's high expectations are modeled by the instructional leadership provided by Principal Annette Gonzalez and former and founding principal, Cristina de Jesus. Both women are National Board Certified teachers, having received recognition of accomplishment based on a rigorous performance assessment of teaching. Gonzalez, who came from the more affluent Santa Monica/Malibu school district, is determined to hold the same expectations and provide the same resources for her Animo students in Inglewood as she did for her former students in Santa Monica. She explains to them:

> We have these really high expectations for you; we believe you're going to go to college; we know that you can do it. We're going to push you hard, hard, hard to get there, but we're going to support you every step of the way.

This coupling of expectations with support is reflected in the way that Animo addresses algebra, among other gateway courses. All ninth-grade students are enrolled in an algebra course, regardless of placement scores or previous coursework. The bar is set high, but students are given numerous supports to reach the goal of excelling in a college preparatory math course. To ensure that all students can succeed at this level, incoming ninth graders are required to participate in a 5-week summer bridge program designed

to build basic math skills and introduce higher order math concepts. Animo has prioritized students' success in math by assigning the lead math teacher in the Green Dot Network, Jennifer Simmons, to teach ninth-grade algebra. Simmons, who serves as Animo's math department chair, also leads Green Dot's systemwide professional development in math. In this role, she supports the other math teachers at Animo Inglewood. If students struggle when they are enrolled in algebra, they also take a curriculum skills math class, which meets three times a week and is taught by Simmons as well. Algebra, like other classes, is taught on a block schedule with 95-minute periods that students take on a rotating A/B schedule for the full year, allowing teachers to teach concepts deeply and providing opportunities for student exploration of ideas.

As a consequence of these strategies, the proportion of Animo students scoring proficient on the state standards test in Algebra I far outstrips that for the state as a whole, and by even larger margins, state average scores for economically disadvantaged, African American, and Latino students in California (see table, below).

Animo enables high academic expectations by creating an academic culture and maintaining accountability for all students. In this school where everyone wears uniforms, honor roll students are given special honors shirts, which they proudly wear. In addition, the school creates a culture of achievement by making class results on Green Dot assessments public. This creates a friendly competition among class sections and among Green Dot schools.

Struggling students are required to attend an after-school support class taught by their teachers, and their parents are called to determine effective strategies for supporting each student. In ninth grade, students with skill gaps take the math curriculum studies class and/or Read 180. Other supports for student learning include office hours held by teachers; Homework Café, a free after-school tutoring program staffed by local college students; and curriculum skills courses in SAT preparation and skill building.

The focus on college preparation is made apparent by the school's decision to offer only coursework that satisfies the UC/CSU A-G requirements and to provide as many as seven Advanced Placement (AP) courses each year. Aside from the AP classes at the upper grades and support classes in ninth grade, all classes are heterogeneously grouped and are college preparatory. One senior said of the emphasis on college, "It's like they advertise it here. Everywhere you look, there's the word — college." After seeing her sister graduate from Animo and go on to attend California State University-Northridge, one ninth grader confidently stated, "I know that this is a school that really focuses on academics and really cares about the education."

Table 5: Percent of Students Scoring "Proficient" in Algebra I, 2007

	All Students	Economically Disadvantaged	African American	Latino
Animo Inglewood	37%	42%	29%	42%
State	24%	15%	11%	13%

A Focus on Coherent Curriculum and Authentic Instruction

In contrast to many schools, where teachers focus solely on their own classroom and practice varies widely, Animo strives to provide strong, consistent instruction in every class. For example, every teacher posts a clear agenda on the board and begins each class with a warm-up activity to kindle students' thinking as soon as they enter the room. Students know they are expected to be prepared and engaged no matter which classroom they are in, and they know they will get the support needed to succeed. One struggling student described the expectations and support he receives from Animo teachers in comparison to his previous school, "They tell you right away, 'you're not graduating from this point.' Then they help you so you get a better grade, instead of just sending you to summer school to make up those credits."

Mastering standards is important at Animo, and teachers take responsibility for ensuring that the curriculum is carefully designed to enable student success. Through ongoing meetings, professional development, and revisions of their plans, teachers have created "curriculum pathways" for students from the time they enter the school to the time they graduate. As 10th grade social studies teacher Tim Hack explained:

> Our department comes together and tries to figure out, number one, where we want these kids to be when they leave our school. Then, we have a detailed pathway for what we want them to do in 9th grade, and then the 10th grade, to feed them on to 11th grade, so by 12th grade they have a skill set that we consider important for social science.

Teachers also strive to craft a curriculum that includes their students' experiences. For example, although the state standards, textbook, and assessments for 10th-grade World Studies have a Eurocentric focus, Hack provides a parallel focus on the colonized continents of Asia, Africa, and Latin America while students study the rise of industrial Europe in the 19th and 20th centuries.

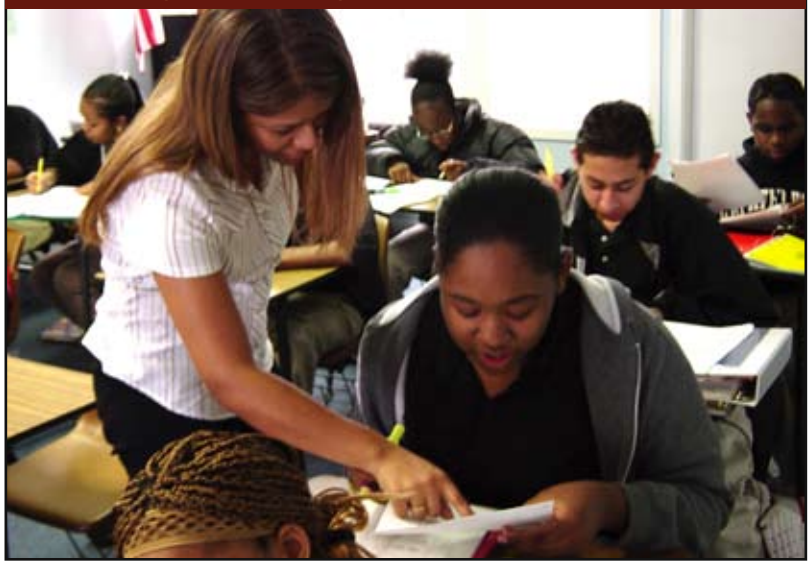
In many classes, students are asked to demonstrate their knowledge through performance assessments as well as pencil and paper tests. For example, in U.S. History, we observed juniors exhibit their understanding of 1920s America during an in-class "history fair." In groups of two, students interpreted a minimum of six primary sources in order to present research on one aspect of 1920s history, ranging from Sacco and Vanzetti to the flappers' lifestyle and women's rights.

In the Advanced Placement Spanish class, students are not only prepared for the AP exam, but they also demonstrate learning through various performance assessments. In addition, the students' understanding of a broad array of cultures in Spanish-speaking countries is emphasized. As part of a unit on figurative language, two students recited poems by noted Spanish-language writers, Jose Martin and Pablo Neruda, at the end of class. After the presenter offered an interpretation of the poem, the audience, actively practicing listening skills, asked three questions of each presenter to gain a fuller understanding of the poet and the poem. Using the rubric provided, the students and their teacher, Blain Watson, provided feedback to the student as well as a warm round of applause.

Preparing Students for College

Animo prepares students for college, not only by requiring A-G course completion, but also through advising, college trips, and one-on-one support for students to help them find scholarships and complete financial aid forms. All 11th graders enroll in a year-long college readiness course developed by the school's counselor and taught by an 11th-grade teacher. The class meets twice a week, offering SAT preparation and assisting students in compiling a portfolio demonstrating their readiness for post-secondary education. By June, students have assembled an autobiographical essay; UC, CSU, and common applications; a financial aid application; and records of SAT scores. The school also provides PSAT and SAT testing on site and requires all students to take the exam at least once in order to graduate. This expectation, coupled with the preparation in the course and required college prep curriculum, paves the way to college entrance for many of Animo's graduates.

Animo Inglewood High School



Structures for Caring

Animo's success can also be attributed to the genuine care and concern shared among the students, families, and staff. Principal Annette Gonzalez explains, "We wanted to build a really close family relationship between students, their families, and the staff in the school." Several students described their teachers and peers as a family; one parent said he felt he is entering a second home when he brings his daughter to school. Block scheduling and an advisory system allow students and teachers to get to know each other well. Teachers are also expected to conduct home visits and call home frequently. Students and parents report that if a child is struggling in school, the school exhausts all avenues to communicate with parents by calling home and work as well as e-mailing. The counselor makes it a point to know every student by rotating through every advisory class and conducting group counseling for students who need extra support.

Animo also creates community by creating cross-grade level buddy partnerships between 9th and 11th graders and 10th and 12th graders. Once a month, the buddies complete an activity together, like wrapping holiday presents for families living in poverty. Students feel a sense of belonging and a responsibility to their school community and in turn work hard, as Gonzalez stated, "not to let the family down." Parents are also brought into the Animo family through a required 35-hour per year parent service requirement. This can be met through a variety of tasks, including carpooling sports teams, answering phones, or attending parent education workshops. At Animo, the principal, the assistant principal, the coun-

selor, and front office staff know every child by name, as do the student's advisor and teachers.

The staff credits its ability to push students so hard to the small size of the school and the structures in place designed to create trusting relationships. Every student is in the same small advisory group of 25 students for 4 years, each grade level has no more than 145 students, and the average class size is 28. Advisory at Animo meets once a week for 65 minutes, focusing on addressing students' social needs and connecting to students' lives. Advisory provides a chance for students to talk about current events and life issues. The school's counselor also develops topics for teachers to address in advisory and comes into advisory to model for the teachers how to provide students with social as well as instructional support. Because of these structures, there are no cracks for students to fall through.

Commitment to Professional Learning

Most notably, Animo is committed to providing students with a highly dedicated and skilled teaching staff. The staff works to strengthen instruction through ongoing, quality professional development and regular teacher collaboration. Animo teachers meet each week for in-school professional development that is driven by school data. At one meeting, the entire staff examined course pass rates disaggregated by subject area, student race/ethnicity, gender, and grade level. After analyzing the numbers for patterns and trends and reading a brief article on approaches to decreasing failing grades, each department strategized ways to better serve struggling students and reflected on how their own practices might be contributing to the problem. Grade-level teams then planned to meet to address specific action items for improvement. Collaboration time is also built into the weekly schedule. Departments have common preparation periods, allowing for formal and informal collaboration to occur during the two 95-minute blocks. Grade-level teams also meet once a month to discuss student progress and plan advisory.

Professional development at Animo involves many levels of observation, reflection, and revision based on the National Board for Professional Teaching Standards (NBPTS) model. As part of the Animo Professional Achievement Plan (APAP), each teacher, regardless of years of experience, creates a portfolio focused on documenting and revising one unit of his or her curriculum and the instruction surrounding it; submits weekly lesson plans for the first quarter and receives substantial feedback from his or her supervising administrator; and analyzes at least one videotaped lesson with his or her supervisor. In addition, each teacher is paired with a "buddy" for monthly observations focused on the years' instructional emphasis. In 2006-07, the theme was developing rigor. The previous year, the theme was clear expectations. Finally, professional development is differentiated: Teachers new to Animo participate in monthly new teachers meetings and, in their second year, "not-so-new" teacher meetings. Opportunities for off-site professional development in coordination with other Animo campuses are also offered.

Achievement Indicators

The cumulative effect of Animo's practices and beliefs is an achievement level among low-income African American and Latino students rarely seen in California. The staff set out to prove that given the same quality of education, lower income students of color can and will achieve as well as their more affluent counterparts, and the data

show considerable movement toward that goal. Animo's 2006 Academic Performance Index (API) score was an impressive 720, compared to 564 and 549 at neighboring district high schools. When compared to similar schools, Animo Inglewood is ranked a "10," the top ranking.

In addition, Animo students far exceed the level of proficiency set in other Inglewood high schools. In 2006-07, 42% of Latino students at Animo were at or above a proficient level on the Algebra CST, compared to only 2% in district high schools, 8% in Los Angles County, and 11% in the state. At all grade levels, Animo students outperformed other economically disadvantaged, African American, and Latino students in the state. By the 11th grade, the 42% proficiency rate for Animo students on the state English language arts test is nearly double the 22% proficiency rates for these groups elsewhere in the state.

These numbers do not meet Animo's own goals; the staff is working toward higher levels of proficiency. However the gains made during the short time the school has been opened are remarkable. For example, in 2004, only 2% of Animo students were at or above proficient in algebra, a number that increased to more than 30% by 2005 as a result of the strategies we described above.

The preparation and support students receive at Animo have led to a state-recorded 99% graduation rate (adjusted for transfers) and 94% of graduating students pursuing post-secondary education. Of the college-going seniors, 61% are attending 4-year colleges. These include many University of California and California State colleges, as well as historically black colleges such as Clark Atlanta and Spelman and elite private colleges such as Brown University.

June Jordan School for Equity, San Francisco Unified School District

Located in San Francisco, June Jordan School for Equity (JJSE) was launched when a group of teachers and parents engaged in a large-scale community organizing campaign to convince the school district to open a small school for low-income students of color. The four founding teachers gathered support for the project by citing research on the effectiveness of small, redesigned high schools elsewhere in the country. They also gained support from the San Francisco Organizing Project (SFOP), a community organizing non-profit group, which helped them to rally local parents and other stakeholders. After a considerable number of community-based actions to support the creation of the school, the district eventually supported the movement for small schools and the creation of June Jordan with the financial backing of the Bill and Melinda Gates Foundation. Unlike Animo, June Jordan is a district school, rather than a charter, so it worked within, and sometimes worked to change, district policies as it started a new school model. All the efforts for change have been in partnership with organized parents and community members.

Led by co-principals Matt Alexander and Shane Safir, both graduates of the Stanford Teacher Education Program who had long wanted to create a new model of high school education, JJSE opened on the San Francisco State University campus in 2003 with 90 9th and 10th graders and a college preparatory focus. The following year, the school relocated to the Excelsior district on

the southeast side of San Francisco, one of very few remaining low-income communities not facing gentrification. The school's students come from the surrounding neighborhood and the low-income communities of Bayview-Hunter's Point and the Mission District. Prior to June Jordan's presence in this part of the city, neighborhood high school students rarely had college preparatory opportunities, as the city's college prep-oriented high schools are on the other side of the city or are highly selective.

Currently, June Jordan serves 371 students, of whom 37% are African American, 32% are Latino, 8% are Asian, 5% are Filipino, and 5% are white. (The remainder is identified as mixed race or unknown.) Approximately three quarters of June Jordan students come from families in poverty. Many are from San Francisco neighborhoods that are grappling with extraordinarily high levels of homicide. Living in poverty creates numerous challenges for students, and most schools offer few strategies for identifying and addressing these challenges and do little to recognize and validate the many resources and strengths that students' communities offer. For example, many students, due to poverty, serve as caretakers for younger children. This creates both obstacles that schools should help them overcome in terms of finding enough time for studying and strengths that schools can build on, such as greater maturity and sense of responsibility than other young people their age.

Building a Culture of Hope

Because schools are often places where low-income students of color cannot acknowledge, let alone incorporate or challenge, perspectives on their culture and daily realities, students often must make hard choices between embracing an academic identity and giving up important parts of themselves and rejecting an academic identity in order to hold on to these other aspects of their self-concept. June Jordan teachers try to understand the "pull on students that counters the development of their academic identity." The students must weigh how much they have to give up in order to stay in school. With students facing these obstacles, one teacher stressed that June Jordan's challenge and goal is to "build a culture of hope and positivity."

A culture of hope has also been necessary for the mere survival of the school. District support for JJSE waxed and waned with shifts in district leadership and foundation funding. Funding uncertainties and cutbacks have been a regular feature of the school's annual budgeting. With district support for only a limited view of curriculum, including district-adopted textbooks (not the curriculum and wide range of books adopted by the school) and no recognition of its performance assessment system, JJSE has consistently been required to defend its right to make educational decisions.

Despite the difficulties of starting a new school and then moving it across the city, which caused the loss of a number of students who could no longer get to the school, and the challenge of serving a historically neglected population of students, June Jordan's estimated graduation rate for its first graduating class in 2007 was 95%, using the state's formula for calculation, which adjusts for transfers. Of the students who did not graduate in 2007, 2% were still in school, aiming to finish in 2008. Even more remarkable is that 95% of this first class of graduates was admitted to college, and 73% of the students were admitted to 4-year colleges, including 63%

of African American students and 77% of Latino students. College admissions included University of California campuses at Berkeley, Davis, and Santa Cruz; Clark Atlanta University; Dartmouth College; Rochester Institute of Technology; Smith College; Virginia State University; and Yale University; as well as many of the California State campuses.

How did this tiny maverick school achieve these results with a group of students who typically drop out of school and are rarely placed on a path to college? The strategies include instruction focused on strong intellectual development, efforts to enable students to see how knowledge can be used for social justice goals, and rigorous, authentic assessment of student performance.

An Intellectually Rigorous Curriculum Focused on Social Justice

While JJSE expects students to take A-G course requirements, the school's college preparatory courses are not packaged in traditional ways. For example, 11th and 12th graders choose from English courses such as:

- *Banned Books and Seditious Short Stories*: An Honors seminar that examines classic texts that challenge social norms of the community. Students use literary lenses and historical information to understand the place of "worrisome writing."

- *Immigration and Assimilation*: A course focusing on literature surrounding immigrants to the United States. The course includes Eastern European, Dominican, and Chinese immigrants and addresses questions like, "When do immigrants choose to assimilate?" "When do they reject conforming to American Standards?" "How is language tied to culture?"

These courses combine college-prep level thinking and skills with content that is designed to be especially engaging to this group of students. High school students are at a phase of development where themes of protest and breaking rules to preserve one's integrity are important, and learning about banned books has special appeal. In addition, students must make many decisions in their own lives about whether and how to assimilate or to reject the dominant middle-class culture, something that characters in the immigrant literature course must also do. These classes are examples of how June Jordan exposes students to literary study that is deeply connected to their own personal explorations and life choices, while providing grist for analytical thinking and writing.

The faculty supports students in becoming college-ready by organizing a rigorous, inquiry-based curriculum and developing highly scaffolded instruction that is adapted to student needs. Teachers organize instruction in ways that give students many different avenues for accessing the content. Teachers also use social justice themes to help students develop critical thinking skills as they focus on issues of equity and fairness often experienced first-hand by the students. Students understand that they are being taught how to think and how to learn independently. One African American 12th grader compared his experience to that of students attending a highly acclaimed selective school in the district:

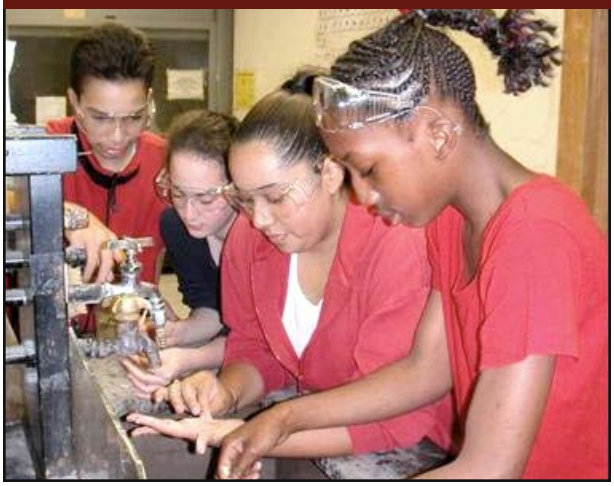
> It seems like they have a lot of busy work, more book work and read-

> ings. The students from [other school] tend to be kind of robotic; they'll turn it in and get their "A's." The teachers here teach us how to learn. Also, each class is custom-made by the teacher; it is not [shaped] by a text book.

Intellectually challenging authentic assessment plays a major role in the school's work as well. Students must pass two milestones to graduate: they must complete a portfolio of their 9th- and 10th-grade work to move from the Junior Institute to the Senior Institute. The portfolio includes a cover letter about themselves, their resume, an essay about their service learning experience and four papers in the content areas of math, English, science, and history, which they revise during the last week of each semester, called portfolio week. Junior Institute 10th graders defend their portfolio in front of a panel consisting of their advisor, teacher, and a community member.

Senior Institute students must complete a defense of their 11th- and 12th-grade work in four core subjects and either community service or art, dubbed "five masterpieces," in order to graduate. Each masterpiece is presented to a panel of two teachers, a parent, one community member, and other students. The five masterpieces include: an original research paper (social studies), a piece of scientific research (science), a literary analysis (English), a mathematical application (math), and a work sample from Creative Arts or Community Service. The students are required to demonstrate their knowledge through research, a paper, or problem-solving activity. They are evaluated using a rubric created around the six Habits of Mind that June Jordan cultivates in students throughout all their coursework: precision of expression, relevance, originality, perspective, evidence, and logical reasoning.

June Jordan School



Personalization

Because many students come to high school with low skill levels, prior school experiences that were alienating, and numerous challenges from living in poverty, teachers work hard to personalize both their teaching and their advising support for students. The teachers expend enormous effort getting to know their students and developing trusting relationships with students, parents, and the community. As one Latina senior put it, echoing the views of her peers:

> Our advisors are really cool; they make sure you do the work. If they see that I am trying to get it done, they help me prioritize. They don't let people fail. They keep the students in.

Advisors play a key role in not letting students fail, as they serve as the front line for discipline and as the primary parent contact. A daily advisory class is the primary vehicle for conveying school culture and information, creating a sense of community, and providing students with academic sup-

port. In the 11th and 12th grades, advisory provides support to students applying to and preparing for college. It is also the place where students reflect on their experiences in their internships: Students participate in an internship program for several hours every week in which they may specialize in an interest area. Work can range from a dentist's assistant, to environmental activism, to working at the mayor's office. Internships help students see themselves as agents of change in their communities and foster the development of their interests and passions.

Advisors get to know their students well, and class members get to know each other well, as advisors stay with a small class of 15 to 17 students for 2 years. Parents and students have their advisors' and other teachers' cell phone numbers, and teachers often talk to parents on a weekly, if not daily, basis. One lead teacher describes the teacher's relationship with families saying, "We are not saving kids *from* their families. . . . We are allies with parents in raising their children."

JJSE also personalizes students' learning experiences by finding ways to connect students' learning and experiences at school to their backgrounds and cultures through the curriculum, clubs, and school celebrations. As one teacher observed, "We try to root our curriculum in the social and cultural realities of our students as much as possible." In a humanities class, for example, students study issues of immigration and are asked to define and defend their own beliefs about the United States/Mexico Border Policy.

A Collaborative Culture Focused on Shared Learning

JJSE's deep commitment to hiring staff of color, combined with having some hiring autonomy, has enabled it to hire a racially diverse staff that represents its students. JJSE's staff is over 80% teachers of color, compared to a minority of teachers districtwide. The school creates ongoing learning opportunities for teachers by providing an annual 2-week retreat for teachers at the beginning of the year, bi-monthly professional development sessions, and a committee devoted completely to teacher support and development.

Multiple levels of collaboration bolster professional learning at JJSE, while democratic decision-making incorporates all stakeholders in the development of the school. The school uses layers of committees with teachers, parents, students, and community members to disseminate and collect information about implementing school policies, supporting students, developing curriculum, and advocating for the school with the district. San Francisco State University teams with June Jordan to provide college courses, college counseling, and academic support. In addition, all of the school's graduates in good standing are guaranteed admission to San Francisco State.

JJSE has maintained its connection to its founding partnership with a parent organizing group and meets regularly with them to ensure that the school represents parents' interests. This is a substantial change from traditional school practice and a profound move to develop equity, as most schools relate to parents by way of a middle-class model that solicits parents' financial support and superficial assistance to support a school-determined agenda. This traditional model is often alienating and intimidating to low-income parents of color who may not have the middle-class cultural knowledge or financial resources to engage this model and who are given no voice in their

children's education. At June Jordan, parents and staff set the school agenda together. June Jordan's approach puts parents on a more equitable footing with school staff.

In addition, JJSE solicited foundation support to pay for two parent liaison positions. Staff also hold regular parent conferences, include parents in student exhibitions, and speak regularly with parents. As Principal Matt Alexander explains, "One of our founding parents said we want a school where it's like parents and teachers are raising the same child. So that's been our philosophy."

Because of its roots in parent organizing and its ongoing support of an organized parent body, JJSE benefits from 75% participation rates in student parent-teacher conferences. This parental participation and the development of increasingly well-designed supports has allowed June Jordan to begin to raise the very low test scores historically recorded for students of color in the community it serves. In 2006, the school had significantly higher API scores for its Latino and African American students than neighboring comprehensive high schools in San Francisco.

A Small Schools for Equity non-profit was formed as a result of the efforts to create JJSE and now houses the grants supporting JJSE and other small schools. As one of the first small schools in the San Francisco Unified School District, JJSE had to work to persuade the district to get a small schools policy to protect autonomy over key decisions, including: hiring, budget, graduation requirements, curriculum and instructional content, professional development content, instructional time (which is longer and differently organized at JJSE), and the school's governance model. The staff has also had to do substantial work to ensure that the school ultimately received appropriate facilities.

The energy invested in developing these policies will benefit June Jordan and other district small schools in the long run, but in the short run it took staff attention away from focusing on their own school environment. However, these activities to develop supportive district policies validated June Jordan's mission to serve as a lever of change within the system for more equitable outcomes for underserved students in San Francisco. With a small schools policy recently passed in the district, faculty hope they can focus on building their own programs, and can anticipate being joined by other small, redesigned high schools that will form the basis for other partnerships and networking.

Leadership High School, San Francisco

Leadership High School (LHS) was founded in 1997 to create a student-centered school that cultivated community leaders. The oldest charter high school in San Francisco, LHS serves about 320 students, most of whom are low-income students of color. The school's goal is to ensure access to rigorous instruction and the opportunity to develop community leadership skills in a safe and supportive learning environment. Its success has led to the development of a network of Leadership High Schools in California, run by a new charter management organization. However, the original Leadership High, which we studied, remains independent.

The school's success is reflected in the fact that all students graduate from high school having met the A-G courses required for

entrance to the UC/CSU system, and virtually all go to college, most to a 4-year university. Equally important to LHS staff is that students develop the lifelong learning and leadership skills of critical thinking, effective communication, and personal and social responsibility. These School-wide Outcomes are so infused throughout the school's instruction that they are used to assess student learning in every class and in the annual portfolios and exhibitions, which provide authentic opportunities for students to demonstrate their learning.

Academic Rigor and Reflection Coupled with Leadership Development

At each grade level, Leadership High students must select some of the academic work they have produced that they feel best exemplifies their learning in each of the School-wide Outcomes and write a reflective essay about each piece and their growth for each outcome. They then present this work in increasing depth over their high school years to their peers and advisor. Each grade level also has a leadership focus that frames projects and the portfolio exhibition. For example, 11th graders address the question, "What do I need to know in order to be a community leader?" by completing a group community service project in an area in which they have identified a community need. This work is also the subject of a written report in each student's cumulative portfolio. LHS's commitment to graduating students who care about being good community members and who work to improve their communities is reinforced through yearly community service requirements and two required leadership courses. According to principal Elizabeth Rood, "There is a real intentionality that as you head out into the world, your job is to lead, and to take responsibility for things, and to make a difference in the world."

In addition to offering all students college preparatory classes, Leadership High attempts to make Advanced Placement courses widely accessible as well. Rather than restricting access to a small number of teacher-nominated students, any student who has an A or B (and occasionally a C if accompanied by a teacher recommendation) in the preceding course can enroll in an AP course. Approximately half of all 12th graders take one or more AP classes. Offering AP Spanish is a high priority, as it is a means for native Spanish speakers to develop their skills further and have access to an AP class, regardless of their English proficiency. LHS also offers AP classes in biology, calculus, and English.

Co-principals Elizabeth Rood and Gregory Peters understand that more equitable outcomes for students are possible only if students receive the necessary supports to access the college preparatory curriculum. Since the vast majority of LHS students enter the school with academic skills below grade level, the staff makes extensive efforts to provide students with the types of supports they need to excel. This includes explicitly deconstructing the skills and strategies students need to master rigorous coursework. For example, teachers help students learn what it means to study for a test, including finding a quiet place to work, setting aside sufficient time to study, developing strategies for reviewing the material, and soliciting help from peers and teachers.

Leadership High also provides in-class support by maintaining consistent pedagogical practices in all its classes. This enables students to focus on learning the content without having to master different pedagogical strategies and manage

varying expectations in each class. For example, the agenda and homework are posted in the same place every day in every class, and every class begins with a warm up. All the humanities, English, and social studies classes use Socratic seminars to support reading comprehension and critical thinking, and they employ peer editing of writing as a key instructional strategy. Group work is used to support differentiation for different skill levels in math classes. Other classroom supports include careful scaffolding of instruction, so that students have step-by-step supports for their learning, and frequent opportunities for revision of work.

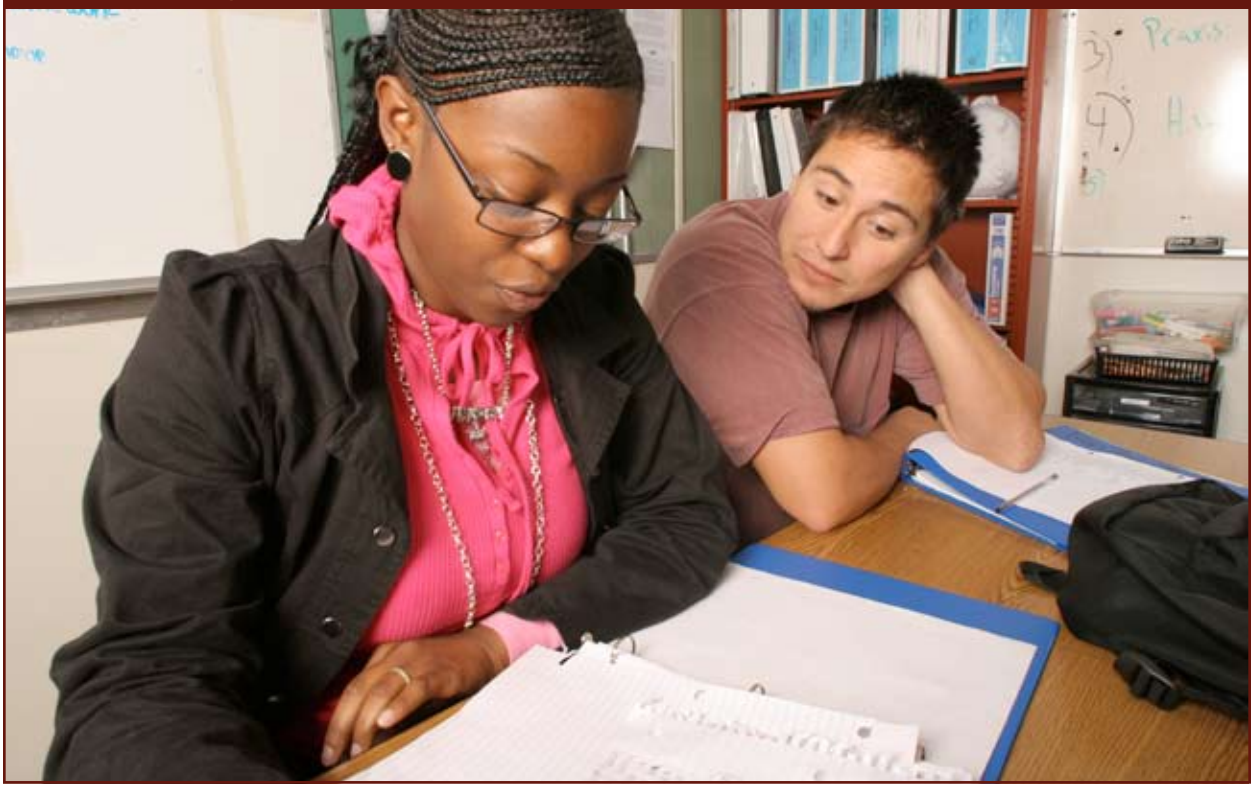
Beyond the classroom, LHS's two counselors provide essential support to students. These counselors loop with their students so they can serve the same students for all 4 years of high school and thereby know them and their families well. The advising that the counselors provide their students is heavily data-driven. Students begin their ninth-grade year by making a 4-year plan with their counselor. Every semester, the counselors give each student an annotated transcript, highlighting areas of concern and providing positive feedback for areas of improvement and high achievement. The counselors identify and meet with each struggling student, helping these students explore all their options for making up their work, thus sustaining the culture of revision that is implemented in the classroom. The counselors also visit each advisory once or twice a year to review graduation and college requirements with the students. Once a week, the counselors meet with each grade-level team of advisors to review critical information regarding that grade level of students and concerns about specific students.

Personalization

LHS staff also believes that students experience greater success when they are well known by teachers and fellow students in a personalized learning environment. Advisory is the cornerstone of the school's personalization efforts, and students remain in the same small advisory class of 15 students for 4 years. Each year, school begins with a 3-day advisory retreat. The goal of the retreat, first and foremost, is to build community, but it also addresses each grade level's essential leadership question described earlier. For example, the 10th graders, who are focusing on their role in their families, travel to the immigration station at Angel Island in San Francisco Bay to study the immigration history of many LHS families. The relationships between an advisor and his or her charges that are developed during the retreat are nourished throughout the year. Advisors oversee the annual portfolio and exhibition process, coach students in meeting their graduation requirements, support students in connecting to meaningful community service activities, and serve as their primary advocates and liaisons to their parents. Teachers also personalize students' experiences by making learning relevant to students by connecting it to their communities, lives, and cultural identities.

LHS also personalizes instruction through the *Week-Without-Walls* program, a week of focused study that serves multiple purposes: It fulfills elective and Physical Education credits, but also gives students an opportunity to learn in small, multi-age, intensified learning groups with teachers who have designed a course around their own passions. Each teacher has 12 to 14 students all day for a week; the intense interaction creates relationships between adults and students around a shared interest.

Leadership High School



Fundamentally, LHS staff believe that they need to know their students well enough to know when they need support and what types of support are likely to be most effective. They recognize that these supports are essential to realizing their equity agenda.

Focused Professional Learning

Finally, teachers and leaders at LHS recognize that to best serve their students they constantly need to examine student data with a focus on equity, so as to not lose sight of their goals to serve all students well, rather than reproducing achievement gaps. An Advisory Board Member adds:

> [The school administration] has done a very good job of creating a cohesive belief about students. . . . They have a lot of conversation and do a lot of professional development on who we are we, what do we believe about kids, what do we want them to be able to do, what does it look like, and are we really doing it?

To this end, LHS creates a yearly focus around which most professional learning is centered. This yearly focus is determined through extensive data analysis. For example, in 2006-07, staff worked on how the school could support the students in developing personal responsibility. In the past, many teachers had viewed this set of abilities as a character trait that students either had or did not have and which could not be taught. With professional development support and inquiry, teachers recognized that personal responsibility was a teachable skill. Teachers saw that they could make explicit to students their expectations with respect to the set of skills that lead students

to take responsibility for themselves and their education in effective ways.

One of the ways the staff examined this was to ask themselves, "What does it look like to teach students how to use an academic planner?" The staff looked at how they could scaffold students' use of the planner. At the beginning of the year, teachers were asking students to pull out the planner every time they needed to write an assignment or homework down; as the year progressed, teachers gradually pulled back and watched for students to take the initiative to do it themselves.

LHS has established professional learning opportunities that allow teachers to convene frequently and intensely both as a whole staff and in smaller groups. Teachers meet in grade-level advisory groups, department groups, and heterogeneous inquiry groups focused on teacher-directed action research three to five times a week. Through a model of distributive leadership, teacher coaches also provide ongoing support and evaluation to their peers so they can examine and improve their practice.

Strong and Improving Outcomes

Leadership High's practices and commitments enable the school's African American, Latino, and low-income students to perform significantly better than their peers do at other high schools they would have attended on the south side of San Francisco. For example 41% of LHS's low-income students scored proficient on the 10th-grade English Language Arts CST in 2006, compared with 7 to 27% of low-income students from nearby schools. The differentials were equally large for African American students (32% scored proficient, compared with 6 to 9% of their peers at nearby high schools) and Latino students (28% scored proficient, compared to 9 to 17% of their peers at nearby high schools).

In 2007, the state-reported graduation rate was 87%, substantially higher than that of most urban high schools. Perhaps even more impressive, in 2006, all graduates completed the A-G courses required for admissions to the UC/CSU system, a rate almost three times greater than the statewide average and from three to ten times higher than that achieved by African American and Latino students in neighboring city schools.

Finally, Leadership High sends nearly all of its students to colleges nationwide, many of them quite prestigious. For example in 2006, 97% of graduating seniors went to college, and more than two-thirds enrolled in 4-year colleges, including UC Berkeley, UCLA, UC Santa Cruz, UC San Diego, Barnard College, Wheaton College and Stanford University. Of the two students who did not enroll in college immediately, one is playing pre-professional soccer and the other joined the Air Force; both have plans to return to college when the time is right for them.

New Technology High School, Sacramento

In 2001-2002, with the financial backing of the Bill and Melinda Gates Foundation and the Carnegie Corporation of New York, the Sacramento City Unified School District engaged in a major redesign of all its high schools. This included the development of new small, dependent charter high schools. The dependent charter school model enabled the district to hold the charters and the teachers to remain part of the teachers union. The schools, however, have autono-

my over their budgets, curriculum, and hiring. In 2003, the district opened four small, in-district charter schools, one of which was New Technology High School. The district invited the New Technology Foundation, which grew out of a new school model launched by a business group in Napa Valley, to start a charter school using the New Tech model. The model focuses on the use of technology in project-based learning settings, with the aim of better preparing students for the 21st century economy. The New Technology Foundation works to replicate the model, providing support in cities across the nation.

New Tech High in Sacramento serves a population that is mostly low-income students of color: 62% qualify for free or reduced lunch, 27% are African American, 26% are Latino, 30% are white, and 15% are Asian or Pacific Islander. Most of the students attending New Tech had a high probability of being disengaged by their school or were on the brink of dropping out if they attended the nearby large, comprehensive high schools with traditional unresponsive, factory model approaches. Instead, New Tech "rekindles that love of learning," as one teacher put it.

Project-Based Learning

Instruction looks very different at New Tech than it does at other schools. Project-based learning organized around 3- to 4-week units of study creates a student-directed curriculum in every classroom, leaving the teacher free to facilitate learning with small groups and individual students. Most classes at New Tech are taught by a team of teachers in a double class. Typically, about 44 students work in an oversized classroom with two teachers. When students begin each unit, they log into the computer (every classroom has a computer for every student) and read an entry document that describes their next project. For example, in a combined math and physics class, small groups of students were designated as lawyers and received an entry document describing a car crash. Students from other groups represented each driver and received different information on the car accident. They then had to figure out what happened to cause the cars to crash, which driver was at fault, and how to prepare a defense of their client (driver).

Such "real life" projects are typical at New Tech. In addition to focusing on developing students' proficiency with technological software including Photoshop, DreamWeaver, Flash, and CAD, New Tech places considerable attention on developing students' "applied workplace" skills. The project-based learning approach also emphasizes trans-disciplinary skills not evaluated on standardized tests, but used extensively in the work place. These include skills in oral presentation, personal presentation, collaboration, planning, and the development of a strong work ethic. As a result of regular engagement with these kinds of projects, New Tech students stand out in their self-confidence and their ability to articulate the purpose of their work and its relevance. Strong students serve as impressive ambassadors to the many visitors and tours that the school hosts.

Graduated Responsibility for Students

In addition to completing projects, New Tech teachers work to scaffold students' independence and personal responsibility by giving students increasing autonomy for their education as they progress through each grade level. For example, in 9th grade, students must attend seminars and classes that convey new information through direct instruction. However, by 12th grade, stu-

dents can choose whether or not to attend specific sessions depending upon their knowledge of and comfort with the instructional material. All students also complete 12 college units at the local community college and 40 community service hours, which build their independence and their sense of responsibility.

With many students who enter with low skills, New Tech teachers work hard to get them prepared for project-based learning, meeting the A-G curricular requirements, and developing independent learning skills. New Tech provides additional supports for struggling students through classes like Powerskills, a literacy development class for those ninth graders with lower test scores; an academic support class for all grade levels; and Saturday classes for students who need extra help on their work. Although the Saturday class is designed to provide support to students who may be struggling, many other students also attend, as it helps them stay on track.

Personalization: An Ethic of Caring

New Tech gives students many opportunities to feel a personal connection to the school through daily advisory meetings; projects oriented toward students' strengths and interests; opportunities to work in groups; and a personalized web portal that keeps track of students' grades, projects, class rubrics, and more. An "ethic of caring" is emphasized in the school, with a particular focus on trust, respect, and responsibility. According to Angelica, a 12th-grade Latina student, the connections students make with New Tech teachers are important: "[The teachers] treat us like people with emotions. You have real relationships with your teachers. We want to do our work because we care about our teachers."

The principal knows each student by name and has current information about his or her achievement, as it is all posted and updated regularly online. It is not unusual for Principal Paula Hanzel to stop a student in the halls to ask her what her plans are for catching up in her math class. The project-based learning used in every class as the primary mode of instruction creates both student engagement and a climate where students feel they learn to get along with each other and cross socio-economic, racial, and gender barriers — something we observed in the classrooms we visited.

Professional Collaboration

Collaboration and professional learning are integrated fully into the design of New Tech. As most teachers teach with a partner, collaboration is built into daily practice. In addition, partner teachers have 90 minutes each day for collaborative planning, and the whole staff meets weekly for 80 minutes of professional learning. Before each new project is launched, partner teachers are required to share their project with the staff and engage in a critical-friend inquiry process to vet and improve the project. Furthermore, New Tech benefits from a strong principal who takes her role as instructional leader seriously. As an experienced teacher and a veteran of the district office, she can offer strong instructional guidance and help navigate the school through the maze of district regulations.

The New Technology Foundation provides professional development, including a week-long summer institute for all New Tech High School staff at which administrators and teacher leaders from New Tech schools around the country provide workshops for each other on topics such as advisory, project management, managing the change process, project-based learning

and literature, scaffolding, group process, and use of technology tools. The Foundation trains teachers on campus to be mentor teachers and provides a coach who handles teachers' instructional questions and acts as a liaison with the Foundation.

New Tech keeps close connections with parents through phone, e-mail, and a school web portal where they may view their children's assignments, projects, and grades. Parents are grateful for the program and log in over 3,000 hours of volunteer hours each year. The principal collaborates with the other small school principals and the administrator assigned to support small schools in the district by meeting once a month with them over breakfast. While New Tech benefits from collaboration with other district schools, it has autonomy from the district over its budget, scheduling, classes (including college prep courses), and some aspects of hiring.

Preparation for College and Work

Rather than preparing students only for specific technology careers, New Tech seeks to prepare well-rounded students who have personal and workplace skills that will benefit them in life. As Hanzel explains:

> We want well-rounded students who understand that technology is a tool and not an end. . . . [We want] students who can problem solve, students who are confident and feel like they can and will be successful in college and beyond. I want students who can 'bob and weave' with life. . .who can be in control of their economic, social, emotional, and academic lives.

African American and Latino students at New Tech have higher API scores than do students at the comprehensive high schools they would have otherwise attended. For example, the New Tech African American students' average API score of 688 compares with 522 to 606 at nearby high schools serving similar populations of students. Similarly, New Tech's API score of 629 for Latino students compares favorably to the 531 to 610 recorded for other schools. Furthermore, before they graduate, New Tech graduates take the A-G requirements and community college courses, as well as participating in community service.

The school had a rocky start, with enrollment losses in the first year, because it could originally offer only a 60-credit year, which required students to pass every class to graduate and made it difficult to fit community college courses into the schedule. However, after negotiating with the district and teachers' union, the school was able to offer an 80-credit year in its second year. This gave students more cushion to complete their courses, as well as to take the required community college courses. All the school's graduates in the class of 2007 were admitted to post-secondary education, with 42% admitted to four-year colleges. Students are attending University of California campuses at Berkeley, Santa Cruz, San Diego, Davis, and Merced; California State College campuses at Chico, Humboldt, and Sacramento; and private colleges like Howard University, an historically black college in Washington, DC, and Neumont College, a project-based learning college in Utah.

Stanley E. Foster Construction Tech Academy, San Diego

Stanley E. Foster Construction Tech Academy (CTA) is a small school of 430 students that began as a magnet on the campus of Kearny High School, a comprehensive high

school in the San Diego Unified School District. It was founded by a consortium of the school district, the construction industry, and local universities, and is now one of four autonomous small schools on the Kearny campus and is part of the small schools reform undertaken by the district. The school was designed to integrate academic and vocational education, and to infuse academic rigor into Career Technical Education. CTA now serves students from throughout the district. Its population is primarily low-income students of color, most of whom are Latino and African American and more than two-thirds of whom are eligible for free or reduced-price lunch.

A Real World Curriculum

The guiding vision behind the school is the desire to create authentic curriculum through "real world immersion." CTA stakeholders believe that a focus on how knowledge is used in the world of work adds relevance to the curriculum, which in turn leads to increased student attendance, engagement, and retention, especially for those who often disconnect from school. In the case of CTA, this focus centers on the construction trades, including architecture, construction, and engineering. The school strives to emulate authentic work settings by having students work in heterogeneous teams on complex projects that require diverse skills and abilities. Professionals from the engineering, architecture, and construction fields collaborate with students on projects and review student work.

CTA's instructional focus is bolstered by the perspectives and past experiences of Principal Glenn Hillegas, who worked as a teacher in the San Diego Unified School District for many years, with a focus on special needs students, prior to leading CTA. At the same time, he built houses in the summer and in his spare time for extra money. In the 1980s he started doing woodworking with some of his special needs students. He felt strongly that adding a hands-on dimension to his classroom would help him to keep his students engaged and make them excited about learning. The approach worked so well that in the late 1980s, he expanded it into a "Bungalow Building" program in which students would do construction work as a part of their program. Through this program and his other work with students, Hillegas won a district Teacher of the Year award in the late 1990s.

In his years as a teacher, Hillegas developed a deep personal commitment to the pedagogical strategies being promoted by CTA and an understanding of what they look like in practice. His central insight is that education should provide adolescents with opportunities to grapple with real-world problems and to understand how academic knowledge is applied within the work world. His years in construction and as a teacher of construction also provided him with a strong network of connections in the construction and engineering industry that have formed the basis for local fundraising and the participation of industry in the school. In this way, Hillegas, like the leaders of the other schools in the study, has been able to use his teaching experience and knowledge of his students' needs to inform his instructional program and leadership approach.

CTA is unusual in that all students take both a college-preparatory sequence and a full complement of vocational courses. Teachers act as coaches to support student-based inquiry, projects, and collaborative group work, as well as provide one-on-one

assistance. Vocational classes at CTA use a project-based curriculum called *Project Lead the Way*. Teachers get support in using this curriculum by attending a 2-week camp every summer.

The concept of "real world" at CTA is a complex one, grounded in two central assumptions. The first is that "expertise" is something that comes from a combination of study and "hands-on" application, rather than from books alone. As Glenn Hillegas explains:

> Advanced Placement has a really high rigor to it, but a really low application. To me, the best education is when you take something of real high rigor and you apply it. When kids apply knowledge, they gain a deeper understanding. My main thing is to get them excited.

The second assumption is that students need to learn how to direct their own learning and to work in heterogeneous teams, because that is how work in the "real world" happens. The best teachers at CTA act as coaches and guides, helping to support student-based inquiry. Instruction at CTA is also characterized by a high degree of individualized instruction, including a priority on one-on-one assistance, the creation of individual learning plans for each student, and bi-monthly reports tracking student's academic progress that are sent home. As an English teacher explains:

> I feel that in this environment I can teach the students who are there. They're all working on different things that are right for them, and it just works. I'm not doing direct instruction where I stand at the overhead anymore. I give chunks of instructions that are going to be used. I do a lot of conferencing one-on-one and small group instruction…. It's just more fluid.

Combined, these components help to make the educational experience at CTA relevant, interesting, and tailored to the individual academic needs of students.

"Real world" application is brought into the classroom at CTA in several ways, most of which are facilitated and monitored by CTA's full-time Employment Outreach Specialist. Industry professionals are invited to come into the classroom to provide support to students and teachers as they work on projects and to help review and evaluate project work once it is complete. For example, in ninth grade, all the students go to nearby Legoland when it is closed so they can see the "inner workings" of an amusement park and take an engineering tour. They then form small groups led by student foremen to design their own amusement parks, including two-dimensional plot plans and scale models of their parks. Students present their plans to industry professionals and receive a critique on their work.

Real-world application also occurs through the job shadows and internships that occur in the 11th and 12th grades. In their senior portfolios, seniors are required to prepare a resume, fill out an application for college, prepare a budget for college expenses, and interview a professional in a field of their interest. CTA also supports a range of field trips to help students think about the kinds of practical trade-offs that professionals make when designing or constructing buildings. For example, when students from the Architecture, Construction, and Engineering (ACE) after-school club expressed interest in designing an airport for their spring

project, a field trip was arranged so that they could go "behind the scenes" at San Diego airport to understand how airports really work. In the words of the principal, "rigor and relevance are driven into the school from the outside. It's a difference of application and a different level of work for the kids."

One of the greatest strengths of the CTA program is its collaboration with industry leaders who serve on the advisory board for the school, raise significant supplemental funds, provide access to construction sites for field trips, help assess students' grade-level projects, provide one-on-one and group mentoring to students, and organize well-paid internships. These programs provide CTA students with authentic learning experiences.

CTA also has several well-established linkages with post-secondary programs that create clear pathways for youth as they leave high school. For example, CTA has links to numerous apprenticeship programs in fields such as sheet-metal, construction, and electrical. The school also has a relationship with the San Diego State Construction Management Program. This program, in the engineering department, serves as a natural pipeline for CTA graduates. In 2007, any senior in good standing at CTA who applied to the program received a full scholarship paid by CTA stakeholders. Thus, students know that their work at school will translate into future opportunities of several kinds, in college or in careers.

Supports for Success

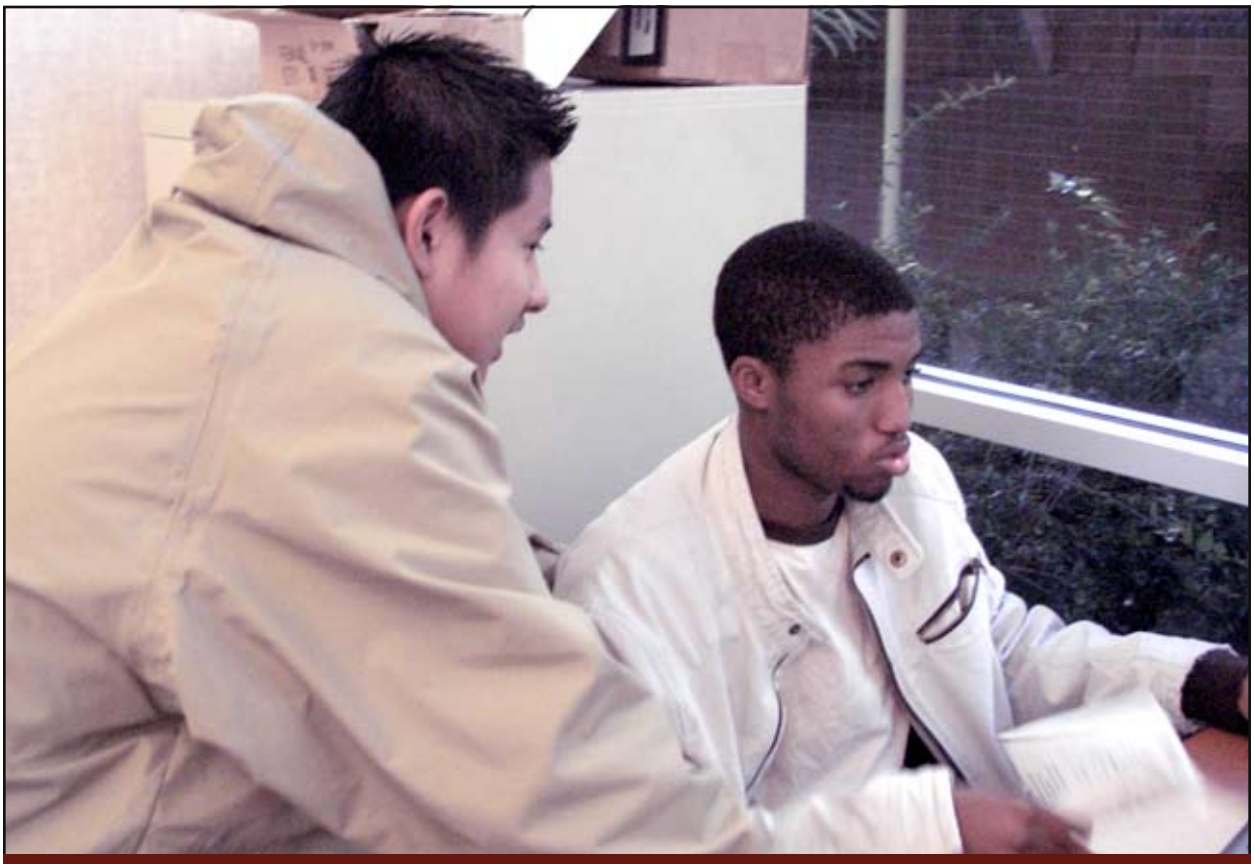
Student success is supported through an emphasis on group work during project-based learning and through small class sizes, frequent communication between teachers and parents, and an advisory class that meets three times a week. Teachers also meet weekly in grade-level teams to discuss how best to support students. Students meet with their advisor several times a year to develop an individual learning plan and track their progress toward completing the A-G requirements. CTA also provides a "payday" every two weeks. The Payday includes a "micro-grade" in all of the courses and must be signed by the student's parent and returned within one week. Teachers, parents, and students alike view Payday as a tremendous support in keeping students on track.

Strong Pathways to College and Careers

CTA's instructional model is narrowing the achievement gap and building a more promising future for CTA students than they would have experienced otherwise. For example, on the 10th-grade English language arts CST in 2006, 35% of CTA's African American students scored "proficient," compared to 25% and 22% of their peers in the district and the state, respectively. Similarly, 37% of Latino students at CTA demonstrated proficiency on the same test, compared to 21% in the district and state. Furthermore, 35% of socio-economically disadvantaged CTA students scored proficient, compared to 24% and 20% in the district and state, respectively.

More important is that the school prepares its students well for careers and college. Of the 2007 graduates (who represented 99% of students enrolled 4 years earlier, adjusted for transfers), 100% went on to college, apprenticeships, or the military. Fully 81% were accepted to college, including 36% to 4-year colleges, primarily in the University of California and California State University systems.

Chapter 3: New Designs for New Outcomes



New Tech High School

Each of the schools we studied has developed a distinctive mission and set of practices that provide greater opportunities for African American, Latino, and low-income students than is typical of schools in the same communities. Part of the schools' success can be attributed to design features they have adopted that fundamentally transform the organization of the school, the relationships between adults and students, and the types of learning experiences offered. Design features include school structures that promote meaningful, sustained relationships among teachers and students, curriculum and instructional practices that help all students achieve at high levels, approaches that ensure teachers are experts at their craft, and strategies for involving families in schools (Darling-Hammond, Alexander & Prince, 2002.)

The design features we observed in the five schools studied are sometimes made possible by supportive federal, state, or local policies. The schools are also creative in navigating less helpful policies to create more effective learning communities for their students. This chapter discusses the schools' design features and surfaces related policy issues that are taken up more fully in the next chapter.

Although the schools in this study are located in varied urban communities across the state, serve different student populations, and function in different policy contexts, they have a number of features in common. These features serve as organizational building blocks that create conditions for serving traditionally marginalized students well. In particular, we found strong similarities with respect to design features supporting personalization, rigorous and relevant instruction, and professional learning and collaboration. Although these features overlap and are mutually supportive, we discuss them in these three categories.

These features differ dramatically from what most low-income students of color experience in the factory-model comprehensive high schools common in urban communities. The secondary schools created at the turn of the 20th century were designed when the goal of education was not to educate all students well, but to process a great many efficiently, selecting and supporting only a few for "thinking work." Strategies for sorting and tracking students were developed to ration the scarce resources of expert teachers and rich curriculum, while most students received training for the rote skills needed for the routinized manufacturing jobs of the time. This sorting process, implemented with the help of new "intelligence" tests, was also a response to the waves of immigration at the turn of the century and a means for allocating future opportunities, with tight ties to the eugenics movement of the times. Thus, just as Goddard "proved" with his testing experiments in 1912 that 83% of Jews, 80% of Hungarians, 79% of Italians, and 87% of Russians were feebleminded (Kamin 1974), so did Terman "prove" that "[Indians, Mexicans, and Negroes] should be segregated in special classes. . . . They cannot master abstractions, but they can often be made efficient workers." (Terman, in Oakes 1985, 36.)

The school structure created to implement the factory-model conception of teaching and learning was also explicitly impersonal. Students move along a conveyer belt from one teacher to the next, grade to grade, and class period to class period, with little opportunity to become well known to any adult who can consider them as whole people over a sustained period of time. Secondary school teachers generally see 150 students a day (currently more than 200 in cities like Los Angeles and San Diego), precluded by this structure from coming to know any individual student or family well. Teachers work in isolation from one another, stamping students with lessons with little time to work with others or share their knowledge. Students, too, tend to work alone and passively, listening to lectures, memorizing facts and algorithms, and engaging in independent seatwork at their separate desks.

In urban areas, these school structures are likely to be huge warehouses, housing 2,000 or more students in an organization focused more on controlling behavior than developing community. With a locker as their only stable point of contact, a schedule that cycles them through a series of seven or more overloaded teachers, and a counselor struggling to serve the "personal" needs of hundreds of students, teenagers struggling to find their bearings often have little to connect to. Many students experience such high schools as non-caring or even adversarial environments where "getting over" becomes important when "getting known" is impossible. For adults, the capacity to be accountable for the learning of students is substantially constrained by the factory model structure that gives them

little control over most of what happens to the students they see only briefly.

The high dropout rates and under-preparation for work and college for low-income students of color resulting from these overloaded urban schools contributes significantly to the school-to-prison pipeline (Wald & Losen, 2003). The design of the schools we studied stands in contrast to the way these dysfunctional organizations operate. The features that allow them to personalize instruction, offer rigorous and relevant learning opportunities, and support teacher collaboration that leads to a coherent, ever improving program create a more successful experience for students.

Personalization

A key feature of all five schools — perhaps the most striking in contrast to the traditional urban high school — is what we call personalization, an aspect of students' school experience that is constructed through multiple design features. These include small learning environments; continuous, long-term relationships between adults and students; and advisory systems that organize counseling, academic supports, and family connections in more effective ways. When students attend a school where they know others well and feel well known by others, both teachers and their fellow students, they experience school more as a family than as a factory where teachers cannot know all of their students well or adapt instruction to their needs. When teachers work in isolation and do not share students or work in teams, as is the case in most large high schools, they cannot take responsibility for the progress and welfare of the whole child.

The features noted above are particularly beneficial to low-income students of color, as they often live in families and communities suffering under the substantial stresses of poverty; racism, and inadequate access to quality health care, housing, and employment. The young people attending schools like those we studied benefit from ongoing, substantive relationships with adults that create a foundation of trust, responsiveness to student needs, and access to academic and personal supports when they are needed. This, in turn, enables students to overcome barriers related to the historical and contemporary discrimination they and their families have often experienced, helping them to envision and realize more ambitious goals for themselves in school and in life.

In order to provide personalization, these schools needed to rethink staffing to devote more resources to teaching than non-teaching staff and to place more staff in the classroom, permitting smaller class sizes and reduced pupil loads for teachers. The schools also reorganized time during the school day, so that teachers could work with fewer groups of students for longer blocks of time. The schools use several kinds of block schedules to accomplish this, including year-long blocks that meet daily; year-long blocks that meet alternate days in an A/B schedule, and semester-long ("4 by 4") blocks that meet daily for half a year and then switch to another group of courses at the second semester mark. The following chart provides an overview of the design features supporting personalization in the five schools.

Smaller Schools and Pupil Loads

Each of these schools decided to remain small and to allocate much of their staffing to support smaller class sizes. They range in size from 320 to 518 students, and class

Table 6: School Features Supporting Personalization

	Animo Inglewood	Construction Tech	June Jordan	Leadership High	New Tech High
School size	518	430	371	320	355
Average class size	28	26	25	24	22
Pupil load/ teacher	140	100-150	75-100	80-100	145
Length of block periods	95 minutes A/B schedule	75-90 minutes A/B schedule 4x4 block	55-90 minutes	90 minutes A/B schedule	90 minutes A/B schedule
Advisory	Meets once a week for 65 minutes. 25 students stay with the same advisor for 4 years.	Meets 3 times a week for 45 minutes. 26 students stay with the same advisor for 1 year.	Meets daily for 30 minutes. 15-17 students stay with same advisor for 2 years.	Meets 3 days a week for 90 minutes. 15 students stay with same advisor for 4 years.	Meets daily for 30 minutes. 15 students stay with same advisor for 4 years.

sizes range from 22 to 28, with smaller classes for ninth graders in several of the schools. This compares to a 42 student per class assignment ratio in Los Angeles and San Diego, and a norm in California urban high school classes of more than 30. Not surprisingly, most adults in these schools know every student.

Furthermore, by organizing the time into block periods of 75 to 90 minutes and offering some interdisciplinary classes, such as Humanities (which combines English and Social Studies in a double-block class), some of the schools have been able to reduce the per pupil load for each teacher. For example, teachers at Construction Tech, June Jordan, and Leadership High typically have pupil loads of about 100 students, with Humanities teachers teaching fewer students. This is substantially less than most high schools and strikingly smaller than the more than 200 pupils assigned to high school teachers in some urban districts in California.

The co-director of June Jordan, Matt Alexander, explains how teachers' interest in students helps students to be open to learning:

> Their engagement starts with just getting to know the students. That's so important. And they validate where the students are coming from. So this is all about the relationship piece, which is big.

A Construction Tech 12th grader explains how knowing and being know by his teachers helps him learn:

> The whole small schools thing really helps because of the teacher/student relationship. It's not just like you just go to class and you're a half an

> hour sitting in front of this person listening to them talk. [Here] you're with them for much longer, and you get to interact with your teachers a whole lot more and get to know them. When you're learning from a friend, not just from some random person, it makes it a lot better. It's a lot easier to learn.

Advisory Systems

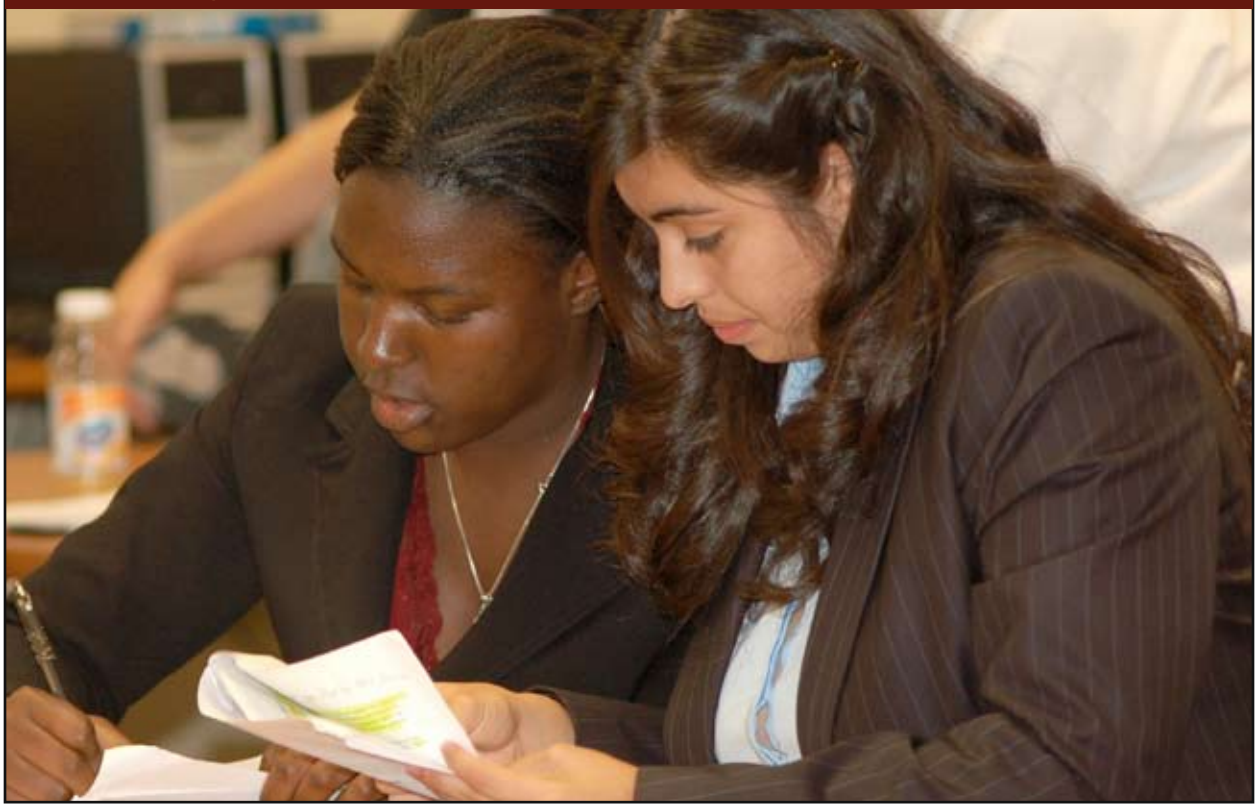
All the schools have implemented an advisory program in which each teacher takes responsibility for a small group of students over an extended period of time, serving as the students' advocate and, in many cases, a sort of academic coach, as well as the point of contact for parents and for other teachers working with the student in the school. As part of their teaching load, teacher-advisors lead an advisory class, which has a variety of functions and serves as a way for advisors and students to see one another frequently.

The schools' approaches to advisory differ in terms of size, meeting frequency, content, and duration of the advisor-advisee relationship. Some advisory classes, such as those at Construction Tech and Animo Inglewood, are about the same size as other classes, with about 25 to 26 students. At June Jordan, Leadership, and New Tech they are considerably smaller, consisting of 15 to 17 students. The duration and purpose of the advisory class vary across the schools. Animo's advisory meets once a week for 65 minutes; the time is used to discuss current events and the social and emotional needs of the students. At others schools, such as June Jordan and New Tech, these groups meet more frequently for shorter periods — 30 minutes daily — in which advisors focus on academic and social support and provide a home base for students to get help with homework, touch base on academic progress, and receive some college counseling. Two schools, Construction Tech and Leadership High, use advisory not only to build relationships with students and keep track of students' academic progress, but also as a vehicle to unify the curriculum through annual projects and portfolio exhibitions. Construction Tech's advisory meets three times a week for 45 minutes, while Leadership allocates almost twice as much time for advisory as the other schools, meeting three times a week for 90 minutes at a time.

The schools also vary in the longevity of the relationships students have with their advisors, or at least their formal assignment to one another, since the relationships often extend past graduation from high school. While Construction Tech has a 1-year advisor relationship and June Jordan has a 2-year assignment associated with its Junior and Senior Institutes, the other three schools keep the same students and advisor together for all 4 years. This develops an especially deep relationship as advisors guide students along the high school trajectory and keep them from slipping through the cracks.

At one of these schools, a particularly strong advisor who invested considerable energy supporting his students and connecting with their parents proudly explained to us that none of his advisees had left the school in the 3 years he had worked with his current cohort. This kind of commitment to students by teachers is a prime benefit of personalization. It is often said that many students learn as much *for* a teacher as *from* one. For students, as these relationships deepen, the motivation to surmount academic fears and challenges, to learn productive behaviors, and to stay in school is often a function of the commitment they develop to their advi-

New Tech High School



sor and, through him or her, to school. This student motivation repays the commitment the advisor has demonstrated to the student by reaching out to help solve personal, family, and academic problems.

Students told us over and over again that these various strategies for personalization support their investment in themselves, in school, and in each other. Being known and cared for supported their moral development and civic conscience as contributing members of their community, both at school and beyond.

Rigorous and Relevant Instruction

Each of the five schools has designed a rigorous, coherent instructional program that enables students to overcome barriers to access related to race, poverty, language, or initially low academic skill that exist in most schools. The daunting challenge of filling large gaps in the academic skills of students who have been previously underserved requires substantial innovation in instruction to meet students where they are and enable them to make large strides. Each school has addressed this challenge through both curriculum enhancements and help for teachers in honing their pedagogical skills by allocating considerable time for collaboration and professional learning (discussed in the following section). As a group, the schools have sought to establish rigorous academic expectations and to provide students — including those who enter high school below grade level, are special education students, or are English Language learners (ELLs) — with the in-class and beyond class supports necessary for success.

Table 7 (page 41) provides a summary of the instructional design features that create high expectations with strong supports.

The integrated instructional approach found in the study's schools, with strong links to higher education, careers, and the community, contrasts with the fragmentation typical of factory-model schools, where there is rarely common planning among teachers to develop a coherent educational experience. In these schools, lectures and textbooks dominate, and there is often little connection to the world outside of school. Student success in such schools generally depends upon students entering school with the prerequisite background knowledge, often middle-class cultural knowledge, as well as study skills and home support systems that are well-adapted to accessing the instruction that is offered. Rather than having teachers and advisors who know them well and can tailor instruction to meet their needs, students who struggle are often faced with disjointed add-on programs intended to address one element of their challenges.

The unique approaches taken by these schools are made possible in part by the fact that they all have authority to determine their curriculum, pedagogy, and instructional materials. None is required to implement a district-mandated curriculum, use specific materials, or follow a pacing guide. This enables each of the schools to more fully implement a distinct and coherent instructional focus that meets the needs of their students.

Project-Based Learning

Providing students with instruction that is relevant and engaging is an essential support for success. The schools do this in many ways. One is through project-based learning, where students apply the knowledge they are acquiring to new and concrete situations through real-life projects. All the schools require inquiry-based projects within classes; some have major cross-classroom projects as well.

At Animo, for example, a ninth-grade ecology class conducted a project in which students "greened" their neighborhoods, thinking about what the students would like to change. This unit was related to the State curriculum standard related to understanding living systems and cycles. Students used the computer lab to find environmentally related resources, including information related to water use, population density, transportation alternatives, air quality, and park space. Students learned how these characteristics mapped onto their own communities and what they would propose to change. Student made informational posters about their vision for their communities to hang in the classroom. In-class projects are a regular feature of instruction at June Jordan and Leadership as well; they are frequently tied to research papers that are ultimately exhibited and/or assembled in portfolios.

At Construction Tech Academy and New Tech, project-based learning is the primary mode of instruction. These two schools have projects that integrate a career and technical theme. CTA's strong emphasis on project-based and applied learning opportunities provides a forum for students to learn from one another, to actively co-construct knowledge, and to discover how academic concepts are applied in the "real world." All teachers connect their instruction to the career technical focus. For example, in Biology class, students design and build a scale model of an ecologically appropriate zoo for varied species.

Table 7: Instructional Design Features

	Animo Inglewood	Construction Tech	June Jordan	Leadership	New Tech
A-G courses available or required for graduation	Required for all students	Available to and taken by all students	Available to and taken by all students	Required for all students except transfer students	Available to and taken by all students
Project-based learning	Classes offer within-class projects around a unit of study	All instruction is organized around major projects; interdisciplinary projects occur in advisory each year	Classes offer within-class projects around a unit of study	Classes offer within-class projects around a unit of study	All instruction is organized around major projects using technology
Inter-disciplinary courses	NA	Technical and academic content are integrated	Humanities classes	9th- and 10th-grade humanities courses	Humanities and some combined math/science classes
Performance-based assessment	In class, students demonstrate their knowledge through oral presentations & research papers	Annual large scale interdisciplinary grade-level projects completed through advisory	Semester portfolios, portfolio defense at end of 10th grade, 5 in-depth demonstrations of mastery for 11th and 12th graders	Annual portfolio exhibitions and projects	Exhibitions in class at the end of every project
Internships/ service learning	Community service project within advisory	Regular internships and job shadowing throughout high school	Internships for 2 hours weekly for 9th and 10th graders and 3 to 7 hours weekly for 11th and 12th graders	35 hours annual community service completed outside of school which advisors help students find	Annual 10-hour community service project; seniors conduct a 50-hour community service project
Career and technical education	Career readiness class for 12th graders	Instruction in architecture, engineering, and construction integrated with core academic classes	CTE opportunities through internships and community service	CTE opportunities through community service	Technology and workplace skills taught in all classes
Partnerships with higher education	Students can take 2 elective courses a year offered by Santa Monica City College on the Animo campus 2-3 days a week after school	Students can take community college courses for AP credit Students in good standing receive admission and full scholarship to San Diego State Construction Management Program	All students take classes at San Francisco State (SFSU). All students in good academic standing are guaranteed admission to SFSU	Some students opt to take some college courses at San Francisco City College through their College for Teens program	Students are required to complete at least 12 units of college credit at Sacramento City College, American River College, or Consumnes River College

In addition to projects in almost every classroom, CTA students complete a major, interdisciplinary project in each grade. This is organized through their advisory class and supported by extensive teacher collaboration. For example, 10th graders complete a port-city project in which they research and write a paper on one of five famous port cities to discover the types of trade in that city and the impact it had on the city and its country. Students draw maps of the city, country, and world, highlighting areas of trade. They then draft and build scale models of three famous buildings in the city, design and build models to be used in forming architecturally accurate buildings and structures, and finally build a sand replica of the port city at the beach. It must follow the design they drafted and hold water for 30 minutes. The students are assessed in their project by representatives of companies that partner with the school.

New Tech High School also uses its curricular autonomy to provide students "real-world" based instruction. A spring 2006 Conference Board survey found that 70% of human resource officials found graduates to be deficient in skills such as the ability to work with others, to manage time, and to behave professionally (Olsen, 2007). As a result, New Tech's instructional goals look different than those of traditional high schools. The New Tech model embeds eight learning outcomes in all projects, assessments, and grade reports: content standards, collaboration, critical thinking, oral communication, written communication, career preparation, citizenship and ethics, and technology literacy.

To develop these skills, for example, Algebra 2 students, working collaboratively in small groups, were given the assignment of determining the economies of gas-powered and hybrid vehicles. Each group of students selected a model of car available in both gas and hybrid engine type. They were given the cost of gasoline, the car's cost, and its gas mileage. Using that information, they had to create and graph algebraic equations to determine which car was most economical and what the benefits and drawbacks of each model were. The students presented their findings to a panel of parents who were posing as undecided consumers. Students were then evaluated on each of the eight learning outcomes. For example, teachers used the students' calculations to evaluate them on mathematical content, their presentations to assess their oral and written communication, their use of computers to assess their technological literacy, their discussion with panelists to assess their critical thinking skills, and how well they worked as a member of their team to assess their citizenship and ethics.

Connections to Careers, Community, and College

The projects at New Tech and Construction Tech also foster connections to career and technical education, which can help students see the interrelated nature of academic and work skills, as well as provide multiple pathways to access college and career. This can be highly motivating as well as educative. The more explicitly college-oriented schools do not neglect this connection, either. Internships and community service, offered by all the schools, help build students' connection both to the work world and their communities. This fosters a sense of responsibility and maturity among young people, supporting their path toward adulthood with a sense of self-esteem that often strengthens their in-school effort. Rather than feeling like passive recipients of schooling who are being "managed" by adults, students begin to see themselves as

contributors and as change agents in their communities.

Furthermore, connections to students' communities overcome the ways in which schools are often perceived as part of a governmental system that is at odds with their communities. By connecting academic learning to activities that support students' communities, the schools provide students with pathways for bringing their worlds together and understanding the relevance of formal education to the daily concerns that surround them.

Leadership High and New Tech require students to complete a specific number of community service hours outside of the school day. Through the advisory, students identify their interests and are supported in finding community service opportunities. At Leadership, for example, younger students typically work as tutors or aides at their former elementary schools, their churches, and the Boys' and Girls' Club, while the older 11th and 12th graders can pursue their interests, such as social justice organizations focused on domestic violence, community organizing, and environmental issues.

While these two schools would like to support better matching of students with community service opportunities, lack of funds prevents them from hiring a staff member to oversee this process, leaving it to rest on the shoulders of advisors. In contrast, at June Jordan, grants support several staff members to coordinate and facilitate the extensive community service/internship requirements into the school day. For example, all students complete community service hours once a week: 9th and 10th graders for 2 hours, and 11th and 12th graders for 3 hours. Some 11th and 12th graders enroll in an elective course, Mentoring Youth in Community Activism (MICA) in which they spend 7 hours a week in an internship that has a social activism focus. These can include such things as working in the mayor's office or for the Rainforest Action Network. By structuring the internships during the day, June Jordan also secures time for teacher collaboration and planning.

Animo helps 12th graders transition out of high school through a career readiness course. In this course students develop a resume and cover letter and develop their interview skills and networking ability while they learn about career paths they may not have previously considered. Guest speakers offer first-hand accounts of their transition from high school to their chosen field, detailing the educational requirements and tenacity necessary to succeed.

Another way that the schools connect students to their future is through exposure to college through college visits and enrollment in college courses. This provides a motivation for doing well in high school and helps give students pathways to college. For example, Animo's two yearly college trips to campuses make going to college more than a phrase for its students. It becomes a concrete reality as whole classes take tours of local campuses such as UCLA and California State University, Northridge in 9th and 10th grades; 11th graders fundraise to finance East Coast tours in Boston, New York, and Washington D.C., visiting campuses ranging from Harvard to Howard Universities. The counselor ensures that the tours include not only high achievers who are already focused, but those who may need to see the possibility of college to become motivated.

One parent explained how important these tours are to confront the stereotypes students of color face as they consider college, "As minorities, our children get this image of what they are or aren't. They rarely get, 'You can go to school here. You belong here.'" Through college tours that bring students into direct contact with matriculating African American and Latino students, and the school's own preparatory classes, Animo shows students that they belong on university campuses.

In addition to taking students on visits to college campuses, all five schools offer students the opportunity to take college courses. Two of the schools, June Jordan and New Tech, require students to take several college courses at San Francisco State and various Sacramento community colleges, respectively. This has multiple benefits. First, it demystifies college for many students who had never considered going to college before, while providing them with the opportunity to try college courses while they have the support of their advisor and other high school teachers to be successful. Second, it provides students with essential college credits which help them get accepted to college. Third, having college credits can help students progress through college more quickly, which is a great support to low-income students.

Interdisciplinary and Culturally Relevant Curriculum

Another way in which the schools help foster connections to academic work is through interdisciplinary curriculum and curriculum that connects to students' lives, cultures, and communities. Interdisciplinary instruction, most often in humanities courses that merge language arts and social studies, helps students see the relationships among subject areas and develop a fuller understanding of the material by taking a multi-faceted view of the content. For example, students gain a richer understanding of the human experience when they study an era in history while reading literature and biographies about or from that era and writing about the issues that characterize the times. Students can deepen their understanding of mathematics concepts when they apply what they are learning in concrete projects, in science investigations, or in social science research.

Four of the five schools (Construction Tech, June Jordan, Leadership, and New Tech) have interdisciplinary courses. Construction Tech integrates the construction trades into most course work, while the other three offer humanities courses, and interdisciplinary applications in a wide range of projects. In two of the schools, humanities courses enable teachers to reduce their pupil load and increase the time they spend with students by teaching the equivalent of two courses to each group of students. For example, at June Jordan the teachers who teach humanities have just 50 students, plus 25 students in an additional elective course. At New Tech, teachers teach in teams, so humanities and some math and science courses are taught to combined classes of 44 students, with two teachers sharing the instruction responsibilities.

In all these courses, students are able to see how the subject matter is interrelated. Teachers also help students draw connections and see the world through multiple perspectives by developing curriculum and instruction that is relevant to the range of backgrounds represented in the

classroom. For example, at Leadership High School, 11th-grade English students in Tony Johnston's class write an epic poem about their family histories. They begin the unit by reading *Yo Soy Joaquin*, an epic poem about the complexity and power of Chicano identity by a Chicano author, Rodolfo Gonzales. The teacher scaffolds the instruction by having students focus on different components of the writing process: first, how to craft poetry; second, how to do research, as they conduct extensive research on their culture, history, and families; and third, how to take the data and turn it into a poem.

The poems are broken into different sections, with guiding questions to help students write them. Section topics include:

- Ancient history
- The interactions of cultures through imperialism, wars, slavery, or other factors that caused cultures to intermingle
- Coming to America or America coming to you
- The last 50 years for your people in America and in your native country
- The future

Students share their poems in a beat poet ambiance, with chairs arranged theater style and a stool next to a cloth-covered table with small green upturned light set up in the front. Jazz plays in the background as excited and nervous students enter the room. They sit down and start snapping to the music as Mr. Johnston calls them "cool cats" and "crazy kids" as he starts class. Students are wiggling in their seats with anticipation of this chance to share beautifully crafted writing about themselves and their history. One Chinese student's poem includes the passage:

> And they pushed us
> The people with guns, bayonets in their hearts, tongues that breathe fire deported us to the mountains
> I figured if I worked hard
> Then they would release us from the winter grave
> We roamed the mountains and blasted the Earth in black to shroud our sorrow
> We clashed against railroad tracks
> But taxes was the rock around our neck
> Leeching our blood sweat money
> Blood and sweat that's all they see
> Is this what we came for?
> We retreat, and resolute….
> They see refusal to adapt to their society
> We seek communities to unify our destiny….

These examples illustrate how culturally responsive curriculum and pedagogy can teach students about their histories and communities, help connect the academic curriculum to students' lives, and validate students' experiences in ways that enable them to attach to school.

Performance Assessment

Schools with strong instruction determine what it is they want students to know and be able to do, both at the school level and at the level of each course, and then they map backward from those goals to create concrete instructional plans for helping students get there. A critical element of this process is the development of performance assessments that assess the depth of students' knowledge and skills as they progress through school. Unlike traditional tests, performance assessments measure students' knowledge and skills as they are applied to real problems. These can consist of tasks

such as science or math projects, research papers, presentations, or the development of products ranging from technology products to architectural designs or electronics tools. These may be presented as individual performances or exhibitions or assembled into cumulative portfolios of work within or across subject areas.

All the schools we studied integrate these types of assessments into their regular course work. Three schools — Construction Tech, Leadership High, and June Jordan — also ask students to present additional exhibitions of their competencies to broader audiences. For example at June Jordan, in the Junior Institute (9th and 10th graders), students compile a portfolio of their best work at the end of each quarter. The portfolio includes a cover letter about themselves, their resume, an essay about their service learning experience, and four papers in the content areas of math, English, science, and history. During portfolio week, which takes place twice a year, students take their best papers from the four content areas and revise them.

To move onto the Senior Institute, June Jordan requires that students defend their portfolio of best work in front of a panel comprised of their advisor, their teacher, and a community member. Teachers at June Jordan see this as an important part of support for students. As one noted:

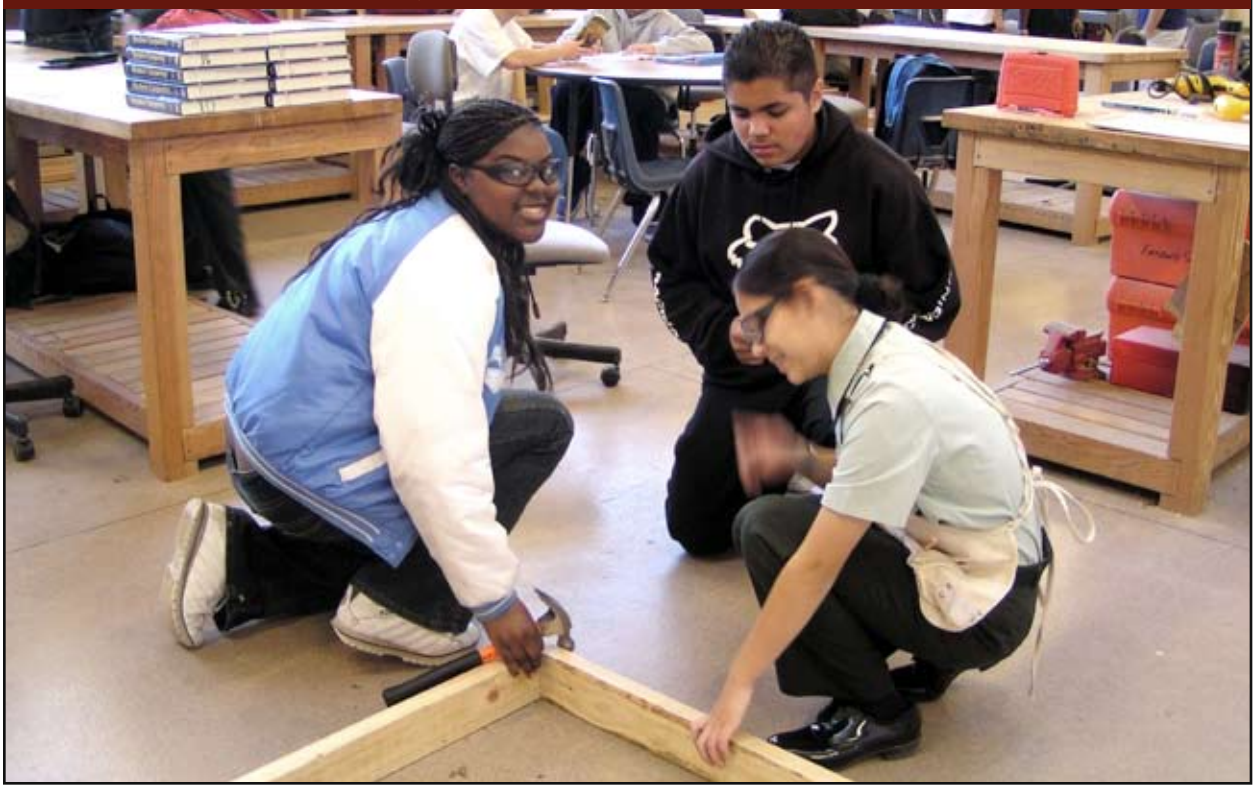
> We have our portfolio system. . . . It is really effective in making sure that all kids get pushed and there are certain kinds of requirements in order for them to graduate from the school. . . . If they don't get a passing score, they have to re-present. So I feel like that's a really good way to make sure that students aren't kind of getting by.

The Junior Institute portfolio include a literary analysis, an example of original research, an example of scientific research, a mathematical application, creative writing pieces, and a reflection on their community service internships. These elements are assigned in students' junior institute classes and are closely linked to instruction in those classes, so they assess what students were expected to know and do.

Senior Institute assessments are made up of a set of "Masterpieces" designed to measure the essential components of what students should be able to know and do in order to graduate. June Jordan developed the requirements for these masterpieces through a backwards mapping process in which they began with what they wanted students to be able to know and do and then planned backwards to figure out what and how they would need to teach to prepare students to be successful. The six Masterpieces include:

> *Original Research Paper*: Choose a subject of interest, synthesize a thesis, apply background research (on a social studies topic).
>
> *Original Scientific Research*: Write an expository lab report using the scientific model, synthesize a hypothesis, testing, data, and the implication of data.
>
> *Literary Analysis*: Write an essay that analyzes literature and includes a central thesis, supporting evidence, and real world application.
>
> *Mathematical Application*: Take mathematic formulas and processes, apply them to a project, and write up the process.

Construction Tech Academy



World Language: This assignment is still under development and may ask students to teach a lesson to the evaluating panel related to the language they studied.

Creative Arts or Community Action/Social Justice: This assignment is also still being defined.

Like the portfolios, the Masterpieces are presented to a panel of two teachers, a parent, one community member, and other students. Having a community member connects the performance assessment to the outside community, provides outside validation for the process and gives a sense of public accountability for the whole process. Each Masterpiece requires students both to demonstrate their learning through research, a paper or problem solving and to apply that knowledge in a novel setting. For example, when defending their mathematical application, students must complete some mathematical problems on parabolas and then solve a new problem "on the spot," explaining how and why they solved it the way that they did. For example, in a mathematical applications Masterpiece, a small group of students was asked to give a PowerPoint presentation about their work on parabolas. Each student presented a real-world problem that they could only solve by using what they learned about parabolas. For example, an African American student used a parabola to find out the arch the Blue Angels take when flying over the Golden Gate Bridge. Then the two evaluating teachers, community members and students asked the group of students clarifying questions about the mathematical formulas and their solution, as well as questions like, "Why are parabolas important?"

The students were then asked to solve an "on the spot" problem given to them by their math teacher. The problem described a player punting a ball, gave the height above the ground when it was punted and the height it reached 8 seconds later. Students needed to find out how high the ball was after 10 seconds. The students worked for 10 minutes on the problem, quietly talking amongst themselves while consulting their calculators and rulers. They drew their answer on the white board and explained each part of it to the group. The teacher then asked them a number of probing questions to get them to apply their thinking to other aspects of the problem, for example: "How could you figure out how many seconds it will be when the football lands?" The students computed the answers. In the end, the audience gave feedback to the students that ranged from, "When explaining you need to remember the audience is learning this for the first time," to, "There is another conceptual side to math that could have come out a little bit more."

Students portfolios and Masterpieces are evaluated on the content of the project as well as the student's presentation using a rubric created around the six Habits of Mind that June Jordan aims to cultivate in all students. These include:

- *Precision of Expression:* Students learn syntax, grammar, and formatting of various texts.

- *Relevance:* Students apply thesis, points, and lessons learned to themselves and the world.

- *Originality:* Students demonstrate creative approaches towards all work.

- *Perspectives:* Students demonstrate awareness and analysis of various perspectives.

- *Evidence:* Students provide evidence that supports their thesis, theory, and/or hypothesis.

- *Logical Reasoning:* Students create pieces that follow a logical flow of reasoning.

These "habits" permeate all of the work students do throughout their classes each year until they become internalized and part of the way students routinely think. Goals like "precision of expression," "perspectives," "evidence," and "logical reasoning" aim at instilling trans-disciplinary skills that will produce college-ready work from students who have traditionally experienced lower expectations. The characteristics of "originality" and "relevance" challenge students to make connections beyond the classroom walls and promote higher levels of thinking that go beyond most test-oriented curricula. The rubric ranges from a level "1," which is below standard, to a "5,"which means college-worthy work. Junior Institute students need to score a 3 or above to pass, while Senior Institute students are required to score a 4 or above. At both levels, students have the opportunity to complete the Masterpieces multiple times.

At Leadership High, students prepare and defend portfolios that show evidence of their proficiency in each of the school-wide learning outcomes, which include:

- *Communication:* To understand and clearly and confidently express ideas, opinions, information, attitudes and feelings to a diverse audience, through a variety of media.

- *Critical Thinking:* To draw conclusions, solve problems, or create thorough analysis, reflection, interpretation, reasoning and evaluation.

- *Personal Responsibility:* To be self-aware; to identify, access, and utilize skills, knowledge, and resources toward development as a life-long learner; and to be accountable to one's self.

- *Social Responsibility:* To effectively work and lead in groups, families and communities by actively demonstrating respect and accountability to others and their differences.

As Principal Rood notes, "These are things that you need to know to be an engaged member of a community who is thoughtful and caring, no matter what field you are going into, what age you are, or where you live. These are the things that help people lead fulfilled lives."

At each grade level, students are required to compile and share a portfolio that illustrates their proficiency in each of the school-wide outcomes (SWO). The portfolios and corresponding exhibitions become increasingly in-depth and high stakes as the students progress through the grade levels. At each grade level students include examples of work illustrating their proficiency in each SWO along with reflections about their accomplishments and progress. This work is presented within their advisory class. By 12th grade, students present their work in an hour-long defense to an advisory class other than their own, defending one SWO of their choosing and another SWO chosen by their advisor. The students to whom the 12th graders present spend a class period reviewing these portfolios and preparing questions to ask during their defense. Although students are evaluated by their peers, their advisor makes the final evaluation.

The portfolio process helps focus students on achieving standards of both content mastery and communication. Students are not permitted to present until their written portfolio has passed muster, which occurs after they have created multiple drafts of individual pieces over the several months prior to its due date. Furthermore, if students do not pass their oral defense, they are allowed to try again, the second time in front of a panel of teachers rather than their peers. This more serious second defense provides the students with a strong incentive to do well on their first try. In addition, during the defense process, the students in the audience are encouraged to ask questions that will help their peers address additional issues and improve the presentation. For example, if the defending student neglects to discuss a particular issue, then the audience is encouraged to ask the defending student to address the weak area. In this way, students are encouraged to support each other's success.

The SWOs, portfolios, and exhibitions connect Leadership's academic goals and its goal of cultivating student leaders. According to the principal, "the school-wide outcomes are indicators of leadership." Leaders need to be able to *think critically*, *communicate* effectively, take *personal responsibility* for their actions while taking *social responsibility* for the good of their community." Reflecting on the value of the added requirement of these annual assessments, a Latina student at Leadership observed: "At other high schools, it's just 'you passed.' Kids can't tell what they got

out of high school." She insisted that students know what they've learned when they must exhibit it.

New Tech's assessment model is somewhat different: Rather than major annual assessments of student learning, the New Tech Learning System provides a technology platform on the web (accessible from school and home) to integrate teacher planning tools, project curriculum, and assessments. The learning system provides a forum for teachers to share ideas and have online professional discussions with links to their curriculum. The system also provides the majority of the instructional material for each project and organizes the assessment process. Students are given access to the project briefcase, which contains an entry document that introduces students to the project and all relevant materials, including resources, homework, tests, quizzes, and assessment rubrics. As students work on the project, the teacher can help scaffold the project and offer formative assessment opportunities by entering journal prompts into each project briefcase for students to respond to as they move through the project. Teachers have access to all their students' journal entries and can respond electronically to them.

The assessment aspect of the learning system enables teachers to evaluate students on each of New Tech's eight learning outcomes and record their evaluation on the web so that students and their parents can determine their areas of strengths and areas of needed focus. This assessment tool also provides a space for teacher's comments and links to all the curricular content related to that project. There is also a database for students to evaluate their project teammates, which forms a part of each student's assessment. Finally, the learning system provides a platform for students to compile their digital portfolio, including each section of their portfolio such as their personal statement, resume, letters of recommendation, and work sample summary and reflection.

Finally, CTA students develop major grade-level design and construction projects that are evaluated by experts in the field. For example, in ninth grade they get a guided engineering tour of Legoland amusement park by its founder and study the costs and design issues associated with building an amusement park. With an industry advisor serving as a consultant, groups of students respond to prescribed design constraints in creating a 2-D amusement park plot plan. Students then build a scale model and present it to industry partners, who grade the project using a common rubric.

All of these assessment models require careful alignment with curriculum and calibration of the assessments of students to create a coherent and comparable set of standards, all of which takes collaboration and professional development time. They also require time for students to work on their exhibitions/projects, provided through longer block classes and advisory periods.

Instructional Supports

Supporting students' success in the college preparatory classes that all the schools require is a challenging task, as many of the students enter performing far below grade level academically. Staff must figure out how to prepare these students for success in rigorous classes in a short period of time. At Leadership High School, one veteran teacher describes the school's vision as making college

possible for students who are the first in their families "no matter where they start [from]" in terms of their skills. In all the schools, teachers describe how they will do "whatever it takes" to help students realize this vision.

Teachers and leaders in these schools also recognize that doing "whatever it takes" requires careful thought and training to provide students with true and equitable access to higher level skills. The way these schools support students' academic success is key to producing more equitable outcomes for students while maintaining standards of academic rigor. In factory-model schools, instructional supports are typically offered through fragmented programs that are not related to the content of instruction in core academic classes, for example after-school tutoring or remedial classes. By contrast, in the schools we studied, the personalization features described earlier, smaller classes and pupil loads, advisory systems, and integrated instructional supports create a framework that provides substantive assistance to students in ways that are more effective.

Teacher Collaboration

Weekly time for teacher collaboration on grade-level and department-level teams allows teachers to discuss individual student's needs and share and co-construct strategies for supporting individual students. Teachers at all five schools met regularly for this purpose. For example, at Construction Tech, teachers in each grade level meet before school twice a week, and also during lunch and after school as needed. Teachers spend at least one morning a week discussing students and their achievement. If students are falling behind in a given subject, teachers collaborate to get the student back on track, making a special effort to check-in with the student about his or her performance. Here, a teacher and a student talk about the benefits of this type of collaboration and support:

> If a student is falling behind, the teachers meet with all the other teachers. Teachers have meetings every week, and they'll say, "Well, this kid's not doing good in my class," and it helps because then the other teachers get on that kid to do better in that one class. They actually did that to me, two weeks ago, so I had to catch up.
>
> *— Student, junior/senior focus group*

> I've never been at a school where I've gotten to know my kids better, and I think it's just because [teachers] can sit and talk about them very openly. . . be frank, and just say, "Look, I'm having trouble with this student, how about you?" I worked at a school in east San Diego, very low-income. . . and that same support wasn't there. You felt like you were in a lifeboat, trying to teach, and the person next to you was another teacher in another lifeboat, and if their lifeboat was sinking, they didn't care much about your lifeboat sinking. Here, you might be sinking, but there are four other people who have the same kids as you, so you can easily discuss [the student's needs] with them. . . . I just think that ability is amazing, and it really has given us, as teachers, support, as well as the students.
>
> *— Biology teacher*

Table 8: Instructional Supports Design Features

	Animo Inglewood	Construction Tech	June Jordan	Leadership	New Tech
Teacher collaboration	Grade-level teachers meet weekly, and departments meet monthly to address individual student's needs.	Grade-level teachers meet twice a week to address individual student's needs.	Grade- and department-level teachers meet weekly to address individual student's needs.	All-school professional development day dedicated to 15 high-need students, weekly grade- and department-level meetings to address student's needs.	Team teachers meet daily to address individual student's needs.
In class instructional supports	Warm-up activity and agenda posted in every class, scaffolding, teaching to multiple learning modalities.	Hands-on, small-group instruction, flexible scheduling, scaffolding of instruction, heterogeneous grouping of students in working groups.	Scaffolding of instruction, teaching to multiple learning modalities, heterogeneous grouping, active learning.	Warm-up activity and agenda posted in every classroom, scaffolding of instruction, teaching to multiple learning modalities, group instruction.	Hands-on, small-group instruction, flexible scheduling, scaffolding of instruction, upperclassmen as student aides in classes.
Culture of revision and redemption	In class	In class	In class and in performance assessments	In class and in performance assessments	In class
Inclusion of special education and English language learner students	Students included in all academic classes.	Students included in all academic classes; special education aides in the classroom; additional program for moderately disabled students.	Students included in all academic classes and receive specially tailored instruction; aides in the classroom.	Students included in all academic classes; special education aides in classroom.	Students included in all academic classes; special education teacher meets individually with each special needs student.

Table 8 (cont'd)

	Animo Inglewood	Construction Tech	June Jordan	Leadership	New Tech
Advisory as instructional support	Primary point of contact with parents, tracking of students' academic progress and progress towards graduation, connection with college and career preparation.	Primary point of contact with parents, Payday program provides micro-grade updates on student academic progress and attendance, tracking of progress toward graduation.	Primary point of contact with parents, tracking of student academic progress and progress towards graduation.	Primary point of contact with parents, tracking of student academic progress, 20 minutes daily Silent Sustained Reading, quarterly on-track-to-graduation reports from counselor.	Primary point of contact with parents, tracking of student academic progress and progress towards graduation, development of personalized learning plans for each student.
Additional academic support classes	Summer Bridge Algebra for all 9th graders, extra math course for struggling 9th graders, college readiness course for all 11th graders.	Extra English or CAHSEE prep course for 9th and 10th graders below grade level.	Math and humanities support classes for 9th and 10th graders below grade level.	Academic literacy class for students far below grade level.	Powerskills literacy class for students below grade level.
Out of classroom supports	After school tutoring.	Principal makes home visits to struggling students; after school tutoring with late bus.	Informal office hours with teachers on an as-needed basis.	Extensive counseling support, after-school tutoring program, academic intervention plan for struggling students.	Saturday school for struggling students and others who want extra support.
Teacher contact with parents	Frequent communication with parents.	Frequent communication with parents.	Frequent communication with parents.	Frequent communication with parents.	Frequent communication with parents.

Animo Inglewood High School

Skillful Instruction

In all the schools, staff pay attention to what is taught, how it is taught, and what safety nets are in place to catch struggling students. Teachers' instructional skill is a key contributor to students' success. Teachers use multiple instructional strategies to give students many entry points that support the ways in which they learn and to help them build on what they know. These varied instructional strategies include providing small-group and hands-on learning, as well as carefully scaffolding instruction; that is, designing instruction so that students can move step-by-step through each skill they need to master in a fashion that eliminates learning gaps and enables success.

Teachers scaffold instruction by evaluating what students already know and developing building blocks for learning, with modeling, demonstration, and opportunities for practice to help students move forward toward more ambitious curriculum goals. For example, at Leadership High School, a 10th-grade teacher who wants to expose students to scholars that they may encounter in college breaks down difficult reading into manageable chunks. He begins by previewing the content of the text, defining key terms and ideas, and sharing quotes. Then he divides up the reading material by giving groups of students different, small sections in which to become experts. He then has each group teach its section to the rest of the class and concludes by reviewing the assignment again as a whole class. He also believes that the key to supporting students' understanding is to ground what they are learning about in their own experiences. "I don't think the concepts are something the students can't grasp; it's just finding a point where they can own it or see how it connects to their own experience," he explains.

At these five schools, teachers break ambitious tasks into sequential segments, providing frequent feedback and support to students at each juncture. Teachers explicitly teach academic skills — such as critical reading and writing skills, research skills, and communication skills — that many high schools take for granted or assume students will learn by osmosis. These skills that students need to manage in an academic setting are often an implicit curriculum which, untaught, results in the sorting of students who have not mastered them before entering high school into lower track classes that do not enable them to access postsecondary education or productive careers.

Small school size, teacher collaboration, and flexible scheduling also help schools focus on students' needs. For example, at Construction Tech, as in other schools, there is flexibility to get students extra help in a particular subject. A student explained, "You might be failing English, but you might be acing construction. They might take you out of your construction class and put you in an English class just for that day, so you can catch up."

Opportunities for Feedback and Revision

Many of the schools also create a culture of "revision and redemption" (Darling-Hammond, Alexander, & Prince, 2002), in which students are encouraged to redo their work until it demonstrates mastery, rather than get left behind if they do not understand something. For example, with an emphasis on student learning rather than mechanically following a pacing guide to cover the curriculum, Leadership gives students multiple opportunities to prove their mastery. One teacher explains that she asks her students to be responsible for their learning, to ask for an extension if they need it, to revise their work if necessary. When students turn their work in, she says, "If it is fine, then good, you keep that score. If not, I'll give it back to you, and you work on it a little more; it's not all done and over with, we're building here." A 10th-grade Latina student explained how she appreciates these norms, "In my old school [if] you get a bad grade, the teacher would say, 'There's nothing you can do about it.' Here, they'll help you to bring it up."

Schools that incorporate extensive exhibitions or annual projects into their curriculum give students multiple chances to demonstrate their mastery of the subject matter they study. This culture of revision and redemption is a major equity strategy, as it allows those students who initially have less prior knowledge, and who are not able to demonstrate proficiency on their first attempt, the opportunity both to master important skills and content and to raise their grades.

Additional Classroom Supports

Smaller class sizes and time for collaboration provide teachers with the skills and opportunities to provide supports for students within their classroom. All five schools use an inclusion model of providing in-class support to special education students and English language learners (ELLs) rather than pulling students out of regular classes to provide targeted services and thereby isolating them from their peers. Several of the schools have teachers' aides who work in the classroom with the content teacher to provide additional support to students. In addition, in the two schools implementing the most extensive forms of project-based learning, the teachers are freed up to circulate and work one-on-one with students, providing them differentiated support.

All the schools fully integrate ELLs into the classroom. As needed, these students and others who are below grade level receive extra support classes such as literacy and math intervention classes at Animo, June Jordan, Construction Tech, and New Tech. Teachers at several schools have received additional training to serve ELL students. For example, many of the teachers at June Jordan are trained in Specially Designed Academic Instruction in English (SDAIE), an instructional strategy that supports English learners by giving them contextual clues to content in a mainstreamed setting. The SDAIE strategy goes beyond the state and district requirement that teachers have a Cross-Cultural Language and Academic Development (CLAD) certificate. According to one teacher, "We have been lucky to have a lot of staff who really understand who the students are, and almost all of our work is well scaffolded most of the time," so that students who are not yet fluent English speakers can still access the content of the curriculum. Leadership High School provides opportunities for Spanish-speaking English learners' achievement by offering an AP Spanish class in which most native Spanish speakers enroll.

Advisory Supports

As noted earlier, the advisory system in each school is a key support for academic success. At Leadership High, for example, each year school begins with a 3-day advisory retreat. The goal of the retreat, first and foremost, is to build community as students complete a grade-level project related to the grade-level leadership focus. However, it is also used to review graduation requirements, set goals, create individual learning plans, and practice common Leadership High instructional strategies, including Socratic seminars and oral presentations so that students will be successful when they encounter these new practices.

According to the school handbook, advisors are expected to "know their advisees well enough to recognize when concerns arise, and when necessary, to call upon other adults to assist the advisor in helping advisees." As one 11th-grade Latina student explains, "What got us close is group check-in one time a week. It's personal, academic, or a crisis in life. Everyone focuses on that person. It's their check-in." In these ways, academic support is built into the fabric of the school day through strong relationships between students and staff.

At Construction Tech, advisors help students stay on top of their work through a "Payday" that they receive every two weeks. The Payday includes a "micro-grade" in all the student's courses and must be signed by the student's parent and returned within one week. If students do not return their Payday, the school calls their home. Many students indicate that the Payday is a tremendous academic support. An African American freshman said:

> Payday helps to keep our grades up. At regular schools, you get progress reports every 6 weeks or something, but here you get progress reports every 2 weeks. It helps, because then you know if you are falling behind. . . . If you aren't doing good, you can't blame the teachers. You can see everything that is factored into your work, and you can come in before school, during lunch, or after school to get the help you need.

The Payday is part of an early intervention strategy that is made more productive by

the grade-level teams that serve a common group of students and meet regularly to debrief about how individual students are doing. Advisory teachers, who collate and distribute the Payday reports, identify students who are struggling across their classes by the third week of school. Students then receive an Individual Action Plan focused on raising their skills and performance. Action plans vary, but they might include additional scaffolding for the student in the classroom, tutoring, a meeting with parents, additional "check-ins" by teachers, or shifting the student's schedule around so that he or she can get extra support in a given class. All grade-level teachers collaborate to increase the student's achievement. A biology teacher describes how the system operates:

> We've done some student study teams, where we'll have teachers mentor certain students. The student comes to them at the beginning of the day, and checks in with them, and sometimes they even get a little sheet, that's like a progress report, that they take to each teacher. Then the student meets with that teacher again at the end of the day to talk about how the day went. It just depends on what that student needs. . . . Other times, it's just learning how to scaffold in our classrooms and give [students] the little extra support that they need, the little extra graphic organizers, or the one-on-one 5-minute conference in our classroom.

Additional Supports

In addition to the strong supports offered in class, all schools provide additional supports to ensure that 9th and 10th graders, in particular, have the essential basic skills to engage successfully in the challenging curriculum and are on track to graduate. These literacy and math skills courses are targeted to 9th and 10th graders who are below grade level. Animo is pro-active in this regard and requires all incoming 9th graders to enroll in a summer bridge program designed to build basic math skills and introduce higher order math concepts. In these ways, all five schools attempt to provide a safety net to students so they can pass their classes, complete their credits, and progress toward graduation.

In addition to extra classes, most of the schools provide after-school tutoring and homework support. At Construction Tech, a late bus enables students who live far from school to take advantage of this support. At New Tech, support is offered through Saturday school. Although Saturday school is required for students who are having difficulty, many other students take advantage of it. A parent explains her son's attitude:

> [Saturday school] was not punitive; it's help. [For] kids who aren't turning in assignments or kids who need to improve on their assignments, it's like a second chance. [My son] had to come a couple of other times. The last time was because the semester was ending, and he knew that he had to do better on something. He didn't have to come, he said, "I need to go to Saturday school so I can do some assignment." It was the last Saturday before Christmas, and he chose to come because he knew he needed to improve on something.

At Construction Tech and New Tech, the highly engaged principals and teachers keep

Table 9: Professional Learning and Collaboration Opportunities

	Animo Inglewood	Construction Tech	June Jordan	Leadership	New Tech
Teacher mentoring	Monthly teacher meetings for first- and second-year teachers; review of weekly lesson plans; department chair mentoring; evaluation process modeled on the National Board for Professional Teaching Standards Certification.	Monthly "new teacher meetings."	Teacher release time to observe other teachers and for planning; department head mentoring and non-evaluative observations of new teachers two hours weekly.	Department coaches provide weekly mentoring.	Teachers are mentored by the principal as well as by New Technology Foundation-trained teacher leaders and coach. All teachers share projects with each other for feedback.
Teacher collaboration time	Subject-area teachers have a common prep period four times a week; grade-level teams meet once a month.	Grade-level teams meet twice a week and have 90-minute sessions on late start days 10 times a year.	Grade level and content area teams meet twice a week.	Grade level, department and mixed "inquiry" groups of teachers meet weekly.	Partner teachers in humanities and math/science meet 90 minutes daily.
School-led professional development	Weekly PD time; 1-week summer institute/retreat; 5 days of PD during the year; monthly buddy observations.	Two-week paid summer institute on project-based learning; release time for teachers for individual PD.	Twice a month PD; 10-day summer retreat; 1 day of PD in January; 3 days at the end of the year.	Weekly PD; 6-day summer retreat; 3 days PD each semester; and 3 days at the end of the year.	Weekly PD; 4 ½ days a year and one week in summer with the New Technology Foundation and other New Tech schools.
Shared governance	All staff participate in major decisions. Leadership is shared with department chairs, teachers, parents and administration.	All staff participate in major decisions. Leadership is shared with grade-level "lead teachers" or "mini-principals."	All staff participate in major decisions. Leadership is shared with department chairs, grade-level leaders, and an active parent organization.	All staff participate in major decisions. Leadership is shared with department coaches and administration.	All staff participate in major decisions. Leadership is shared with 2-3 teacher leaders and teacher liaisons with New Tech Foundation.

close tabs on individual student's progress. At Construction Tech, the principal makes home visits to students who are struggling academically or who have poor attendance records. New Tech's database on all student assessments enables the principal to track each student's progress on assignments and tests. It is not unusual for her to stop a student in the hall and comment on how he or she did on a particular assignment. The students are in constant awe of how she keeps track of them. At all five schools, in addition to the frequent contact between advisory teachers and parents, all teachers frequently contact parents to discuss ways to best support their students. The schools approach their communication with parents as a partnership to best serve the students rather than imposing their demands on families. The principal of June Jordan, Matt Alexander, explained the school's approach: "One of our founding parents said we want a school where it's like parents and teachers are raising the same child. So that's kind of been our philosophy."

Professional Learning and Collaboration

All the schools demonstrate an unwavering commitment to providing students with access to rigorous and relevant instruction by making it the consistent focus of their professional learning time. Part of this commitment includes allocating considerable time for teachers to collaborate, focus on their practice, and provide support to each other. Without this time for ongoing inquiry and refinement of practice, these schools would be unable to meet the needs of their students.

This school-wide focus and shared time contrasts with traditional high school structures where teachers are, for the most part, autonomous directors of their classrooms with little connection to their colleagues and little opportunity to construct a common educational approach. In traditional settings, teachers have few opportunities to learn from or support each other or to create shared accountability for providing rigorous, personalized, and relevant instructional environments for their students. The assumption of the factory-model school was that teachers do not need much time for collaborative planning and problem solving, as they are expected to march through lessons in a prescribed curriculum, getting through the book in a fairly routinized fashion, regardless of students' mastery or learning needs. With an assumption that many decisions would be made by curriculum designers and textbook publishers outside the classroom, the factory-model did not anticipate structures or processes for incorporating teacher collaboration or parent and student voice in instructional decision-making.

In contrast, the schools in our study use extensive collaboration to determine and enact shared goals, and they engage in democratic decision-making close to the classroom, involving teachers and often parents and students as well. Table 9 (page 58) outlines the professional learning and collaboration opportunities provided in the schools.

Supports for New and Veteran Teacher Learning

Each school provides considerable support for new teachers, which often includes regular observations of teaching by mentors and opportunities for teachers to reflect on their teaching through a guided-inquiry process. At some schools, teachers are given time to observe veteran teachers or

have mentor teachers model instruction for them. Teacher leaders and administrators meet weekly or monthly with new teachers.

At New Tech, most teachers team teach with a partner, which provides strong support for new teachers. Having a teammate provides a less experienced teacher with a model of more expert project-based teaching. The teachers who have been at the school since its launch 4 years ago act as the "veteran" teachers. Teachers benefit from the collaboration by having two minds and bodies to plan, prepare, and deliver instruction. As one teacher noted, "There are two of us. We have different skills that come together to complement each other."

Also, team teaching reduces the need for substitutes, as teammates cover each other when someone has to miss a day, thus reducing disruptions to classes. Team teaching gives teachers constant moral and practical support that provides them with instantaneous feedback about their instruction, support for their planning, and a structured forum to analyze and critique the outcomes: "It's all about co-planning, co-teaching and analyzing, and having time out of the regular teaching day to do these analyses," said one district official. In general, the structure of team teaching gives teachers more opportunities to reflect on and improve their instruction. It also frees teachers to work in small groups and one-on-one with students thereby helping to cultivate strong relations between students and teachers.

At June Jordan, multiple layers of support for new teachers are provided through regular meetings among teacher teams who plan together, both around the students they share and, in different groupings, the subject matter they teach. The teams allow new teachers to gain valuable insights from more veteran teachers as they plan together on a weekly basis. Teachers share lesson ideas, materials, assignments, and strategies for supporting specific students. As one teacher commented, "There's a lot of support curriculum-wise. They talk to you about what they expect and what other teachers do, and you get ideas."

At Animo, fifth-year English teacher and department chair Melinda Viren describes her learning opportunities as an extension of her master's program in education at the University of California, Santa Barbara. Her professional growth at Animo, what she describes as her "Ph.D." in the classroom, has occurred through opportunities to collaborate with peers, learn from experts in the building, and put what she learned as theory into action. She explains:

> I was not only putting it in practice, but being forced to put it into practice. These principals are people who walk the walk; they're not just going to say, "Hey, you should try this activity." They're going to do the activity in front of you, and then they're going to go in your classroom and say, "Are you working on that activity? Do you need some help doing that activity? How can we show you to use that activity. . . because we know it works for our kids."

Viren is describing the approach school administrators have taken to creating a professional teaching force at Animo. Over the years, it has evolved into a comprehensive system of professional development, in which layers of support, modeling, and opportunities for growth are at the very fabric of the supervisory system.

Former Animo principal Cristina de Jesus and current principal Annette Gonzalez believe that in order for their students to receive the quality of instruction they deserve, the teachers need to get as many supports as possible to deliver that instruction. They organized the school schedule so that professional development was a priority in the school and developed a multifaceted system for supporting it. Three notable components of this system are the Animo Professional Achievement Plan (APAP), the Buddy System, and new and "not-so-new" teacher meetings.

Completed every year, the APAP, requires each teacher to identify four specific and measurable goals stemming from the four foci of the APAP: assessment, incorporating a variety of teaching strategies, implementing the Animo leadership curriculum, and professional duties. Subsequent observations and discussions with supervisors track progress on those goals. In addition, teachers complete a portfolio, also based on these goals, that deeply describes one curriculum unit and the planning entailed, as well as a reflection on the unit once it is completed. The reflective nature of the portfolio and its contents are largely based on the portfolio developed by National Board for Professional Teaching Standards, a certification that both de Jesus and Gonzalez hold.

After establishing goals with teachers and conducting several informal observations, Gonzalez and assistant principal Leilani de Jesus conduct one formal observation in each teacher's classroom and facilitate videotaping of a lesson to be analyzed by both the teacher and supervisor. While most teachers may complete this videotaped analysis of practice once in their careers to send off to the state for certification, Animo teachers employ this tool every year as a window into their own practice and interaction with students. Because administrators see themselves as instructional leaders first and have designed a schedule that allows for regular observations of practice and conversations about practice, Animo teachers are supported through a rigorous and worthwhile, not onerous and punitive, evaluation process.

In addition to the APAP, teachers observe a "buddy's" classroom once a month for a semester. Pairs of buddies, selected randomly for the first semester and then assigned the second, are often matched to provide mentorship to new or struggling staff. Ninth grade science teacher Cesar Caseras describes the value of buddy system as a new way to see his students and a means to improve his practice:

> You get to see the same students, and how they respond to another person's style. And with the teachers, you see their way of organizing or structuring the subject matter or just their approach. And, there are certain things that you also adopt just by watching.

The buddy visits are guided by a monthly topic-specific focus tool, developed by department chairs and Green Dot instructional staff, which assists teachers in identifying specific practices that align with school goals. When the tools reach departments, teachers may further refine them to better analyze a specific subject area. After the observation, teachers have a short meeting to debrief their observations. By not relying solely on administrators to provide feedback on teaching and utilizing a commonly used tool, Animo is providing regular opportunities for teachers to reflect

on their practice and animating a shared professional language.

Finally, all teachers new to the school are initiated with monthly meetings for their first two years at Animo. The curriculum for these meetings, co-designed by the principals and the teachers who lead the meetings, is intended to be equally valuable to a teacher coming directly from graduate school or an 8-year veteran coming from a neighboring district. The meetings, which treat topics ranging from setting clear expectations to scaffolding, not only reinforce best practices, but also introduce teachers to the "Animo way" of instruction and collaboration. New teachers are given space to share their challenges and ideas in a collegial environment, and equally important, to engage in instructive exchanges with peers.

Through these three threads of professional development, plus the weekly all-faculty meetings and department meetings, Animo has built a professional community of teachers. This community could only be achieved with the knowledge base possessed by its instructional leaders, a schedule that permits this type of collaboration, and a climate that values teachers as thinkers and reflective practitioners. The fusing of those three elements, along with the goal of sending all the school's students to college, creates a commitment to student achievement among teachers and helps Animo to attract certified, dedicated, and well-qualified teachers to its doors. One such teacher, Tim Haack, confirms the value of the collaborative professional model at Animo, noting: "I can't imagine working in a big school district and feeling like I'm pushing a rock up a hill. It's nice to know everybody on staff is pushing that same rock because we have the same kids."

At New Tech, another design feature that supports teacher instruction is a requirement that every new project offered at the school has to be shared through a "critical friends" process. "Critical friends" takes place every Monday at all-school professional development, when teachers use a protocol to test either a new project or a new concept for a class. The presenting teachers present the project or concept to the rest of the staff. The rest of the staff then provides feedback about the project or concept by telling them what they like about it, noting what they wonder about it, and making recommendations for the next steps in the process. The process ends with the teachers retelling what they heard. Finally, the entire group engages in an open dialog about anything left uncovered. Sometimes the staff splits into two groups to provide a smaller group atmosphere for sharing or to allow staff to review multiple projects or concepts at the same meeting. According to Principal Hanzel, critical friends "is about getting better as a school and getting better in instruction." It acts as a platform for teachers to test their plans and instructional strategies, make any needed revisions, and present the best possible curriculum to the students.

Time for Collaboration

One of the most valuable supports for new and veteran teachers is the opportunity to collaborate. As the above examples illustrate, time for teachers to engage in professional learning activities together is key to improved teaching practice. All the schools in the study allocate considerable time, ranging from 7 to 15 full days of professional development in addition to weekly or bi-monthly professional development meeting time. Some of the schools concentrate this time in the summer, while others spread it throughout the year.

There are a number of factors that facilitate this use of time. First, the schools have had the autonomy to structure the school day to build in time for collaboration and professional learning. They found this time by allocating more resources to the hiring of teachers rather than many non-teaching personnel, and by offering a less differentiated, more streamlined core curriculum, which simplifies the schedule in ways that make shared time possible. Second, some have been able to secure resources to help cover the cost of providing additional outside-of-school collaboration and professional learning opportunities for their staff in the summer or after school hours. Third, they have had the autonomy to develop their own professional learning opportunities based on their instructional program.

All the schools have been able to set aside some time during the school day as well as considerable time during the summer. For example, at Leadership High School, the staff meet for a total of 15 full days of professional learning, including 6 days in late summer (two of which they spend off-site on a retreat), 3 days each semester in professional learning to focus on students and engage in their data-based inquiry process, and 3 days at the end of the school year to reflect on their year and complete self-assessments. In addition, each week, staff engage in a 2-hour, highly structured whole-staff professional learning meeting. During late-start mornings, they also meet for an hour once a week on a rotating basis in grade-level advisory groups, departments, and in heterogeneous inquiry groups. Inquiry groups focus on conducting action research in their classrooms, examining student work and achievement data from their classrooms, and conducting peer observations of each other's teaching. Teachers also meet regularly in department groups.

At June Jordan, teachers participate in a professional learning retreat before school starts, and in professional learning meetings twice a month. The retreat allows new teachers to get accustomed to the expectations for instruction at June Jordan and veteran teachers to renew their enthusiasm and understanding for June Jordan's mission. Teachers also meet weekly, by subject matter and grade level, during common planning times to collaborate on planning curriculum and unit projects and discuss student needs. Whether in a professional development session, staff meeting, or team planning session, teachers are asked to reflect on their practice and experience in the classroom. These reflections improve teacher's practice by helping them recognize areas in need of improvement as well as their successes. By talking with other teachers about their work, teachers learn from each other's strengths and adapt new ideas. The power of reflection shows up in teachers' instruction as they change their approaches to improve the instruction students receive on a daily basis. According to one teacher:

> It's easy to grab onto someone's best practices. We've developed a culture of that.... The practice of common planning time really lends itself to being able to serve students better and think about ways to support them.

The teachers share curriculum as well as instructional strategies. Teachers contribute their individual expertise in a wide range of areas, from knowing how to run a Socratic seminar to giving input to a new rubric or portfolio project.

Focused Inquiry and Learning

Each school's ability to shape its own professional learning time is essential to its suc-

cess in maintaining a coherent instructional focus that is based on its students' needs and school vision. Most of the schools examine their data each summer to set the focus for the coming year. All professional learning is designed to support that focus. Leadership High School has a particularly well developed model for professional learning. Its counselor explains:

> Everything is very intentional here. At other places I've worked, it is like, "Let's try this. Let's try that." Here, we look at the research; we look at the data and figure it out. There are reasons for everything.

The professional learning model is significant in that it both uses a data-driven approach to guide professional learning and maintains a focus on equity and narrowing the academic achievement gap. The model distributes leadership by honoring the expertise that all the teachers bring to the school during weekly and intensive professional learning opportunities. The intensity of the professional learning model helps the staff maintain its focus on creating a personalized learning environment for all students, making college access a reality for all students, and developing students' leadership capacity.

Leadership High's model for distributed leadership helps support this intensive focus on data and professional learning. Leadership at this school is primarily distributed through department coaches (DCs) who are selected by the principal as strong, equity-minded teachers. The coaches serve as the first line of support for teachers, and they receive an extra prep period to provide one-on-one support for teachers as well as lead the school's data-based inquiry process. Department coaches meet monthly with the principal to talk about coaching the teachers in their departments. They also meet weekly on their own to discuss the best ways to coach; specifically, how to use inquiry to build teachers' capacity for deep reflection on their practice.

One of the key roles of the DCs is to set the instructional focus for the year by using an extensive data-based inquiry process, which they conduct over 7 release days throughout the year. They examine achievement data (e.g., grades, test scores, graduation assessments) and student experience data (e.g., suspension rates, attendance, measures of student satisfaction). According to the principal:

> Throughout all these days, particular attention is paid to surfacing patterns of achievement and failure so that we can more equitably serve all our students and narrow the predictable achievement gaps that persist in our school.

The results of this data analysis can also be surprising, for example, one coach explained of a recent inquiry:

> A lot of prevailing notions were debunked; for example, this idea that transfer students have more difficulty because they have trouble coming in and acculturating to the sphere, where in fact, they do as well or better.

This type of data analysis enables staff to respond to real rather than perceived student needs and problems.

DCs are given release time for four data-analysis days during the year. In June, DCs use three more days to analyze data from

seniors and other students to establish their school-wide focus for the following academic year. The school-wide focus determined through the data-based inquiry process is presented to staff during their 6-day professional development retreat at the end of the summer. Based on their work in the retreat, the staff develops a central question that they all focus on for the year. For example, in 2006, the school focused on how to teach personal responsibility. As an extension of the yearly focus, each staff member grounds the yearly focus in his or her own individual work, creating an individual focus that directs personal, professional, and collaborative goals.

Staff members create their individual focus during the summer retreat and return to it throughout the year under the guidance of their department coaches. As principal Elizabeth Rood explains, "We are trying to build a coaching culture and an action-research culture at the school and are constantly doing inquiry and constantly being reflective." Key to this process is the fact that all staff participates, including security staff and counselors. For example, one counselor in her first year at Leadership wanted to be a friend and ally to students, so she never turned away students who wanted to meet with her. Over the year, she found that ninth graders were abusing their access to her as a way to get out of class. As a result of her individual inquiry on personal responsibility, she created a counselor pass policy that gives each student a set number of passes to meet with her each quarter.

The summer retreat also serves to reinforce Leadership's instructional norms and practices and to build community among the staff. It helps new faculty become acculturated to the school's structures and establishes some set norms for instruction. Teachers also begin to meet and plan in the small work groups that they will meet in throughout the year, by department and grade-level advisory. In their advisory groups the teachers plan the student retreats that follow the staff retreat.

The yearly focus is carried through the 3 days a semester when staff meets all day for professional learning. In addition, these times are used to focus on individual students and continue the data-based inquiry process. For example, early in the year, the staff dedicates a half day to talk about 15 students, taking 45 minutes for each student and using a protocol to identify the supports that are and are not working for the student. In 2007, data-based inquiry addressed staff's observations that after the school moved sites, they experienced a drop in attendance, had more students exhibiting poor behavior, and saw more students cutting class. The DCs administered a survey to the staff, conducted some preliminary analysis and then shared it with the entire staff on an all-day professional development day. The staff broke into department groups to look at the data and draft an action plan.

In their weekly whole staff professional learning meetings, attendees follow a strict protocol in which staff has clear roles, i.e., facilitator, time keeper, etc. These roles rotate at each meeting so that all teachers get comfortable in leadership roles. The meetings also rotate through each teacher's classroom to expose every teacher to all the classrooms. The meeting protocol includes set times for appreciations and a brief

sharing of timely news, leaving at least an hour for professional learning. The principal describes this weekly meeting time as "intentional that this is not a staff meeting [or] loosey goosey collaboration time.... It is important time, it is sacred time for us as a staff." Topics have included reciprocal teaching, scaffolding, student discourse, cultural competence, and parent conferences. A primary focus of all the discussions addresses issues of equity. For example, as staff met to discuss parent conferences, they discussed parents' potential discomfort at school because of their own or their children's previous negative experiences in school. Teachers discussed how to prepare for parent conferences and how to make them most constructive given any tensions, anxiety, or concerns that parents might have.

Shared Decision-Making

All the schools engage in democratic decision-making, involving as many as possible in the decision-making process. As the Leadership example illustrates, in small schools with school-led professional learning, the line between professional learning and school leadership and decision-making is often blurred. Furthermore, as small schools whose resources are focused primarily in the classroom to reduce class size and pupil load, a model of shared governance is necessary to keep the school running. More than just keeping the school running, shared governance supports teacher buy-in of the vision and features of the school.

All five schools have models of shared governance in which teachers have a say in all major decisions regarding the school. At Leadership High, teams made up of grade-level leaders and department leaders help manage the day-to-day functioning of the school. Construction Tech relies on a consensus governance model, and teachers feel they have a high degree of influence in how the school is run. CTA has four Small Learning Communities (SLCs), one for each grade-level. Each SLC has a "lead teacher," described by Principal Glenn Hillegas as a "mini-principal." Partially because Hillegas has so little administrative support, he appreciates it when teachers take initiative and demonstrate leadership within the school. For instance, one teacher is responsible for student scheduling and others have taken a lead on revamping the school discipline policy. There is a "lead-teacher meeting" after school once a week, where lead teachers update each other and the principal on their SLC's activities, discuss integration and project needs, and strategize about issues that will effect the whole school, such as student testing. Beyond the mini-principals, teachers feel they have a say in the school. As one biology teacher explained:

> I personally think that this school is very teacher run. I feel like the teachers and the administration collaborate really well. I feel like [the principal] does a really good job of listening to us, and taking what we have to say to heart.

At June Jordan, teachers work on committees to help run the school. For example, the Junior Institute (9th and 10th grades) and Senior Institute (11th and 12th grades) are led by teacher leaders who meet weekly with the co-directors to discuss overarching concerns about the school. In addition, department chairs meet weekly on the "Acquity" team (a term coined to combine "academic" and "equity") to focus on the school's professional development needs and teacher support needs. Finally,

the school culture committee, composed of teachers, meets weekly to discuss student needs and school culture issues.

June Jordan is unique in its dedication to uphold its connection and commitment to parents who helped found the school. In the beginning phases before the school opened, June Jordan's founding teachers collaborated with parents from communities feeling neglected by the school district. Some parents involved did not have the chance to send their children to June Jordan, but they supported the movement anyway because of the poor conditions they experienced in the school system. The founders took the unusual step of maintaining the strong links with parents, not only continuing to collaborate with them, but including their input in major decisions made concerning the school. This collaboration still exists today.

June Jordan's Parent Organizing Committee meets monthly and is consistently attended by parents and at least one June Jordan co-director. Parents run the meeting with the support of a community organizer from the San Francisco Organizing Project (SFOP). The committee advocates for June Jordan in numerous ways. In particular, it advocates for the school's welfare by pressuring the district for support. "We actually went down to the school board and picketed," said one African American mother. "I confronted the mayor a couple of times," said another. The group rallied together to pressure the district to handle a number of key issues: a problem with mice at the school building, some needed security lighting in the parking lot, and most importantly, a policy supporting all small schools in the district. They also organize community action meetings with over 200 parents and community members, to which they invite district and city officials and express their concerns and requests and push for change. They meet one-on-one with school board members and city officials to express their views on issues that concern curriculum and teaching as well as safety and security. As an African American father explained when the school fought off a district mandate for a scripted curriculum that would require teachers to follow prescribed lessons developed by a commercial company:

> If you just leave it up to the public officials, our voice won't be heard. They're going to do whatever it takes to fight the regular scripted high school. We're not a scripted high school. We have our own ways of teaching that are better for our students.

The district and the city view the Parent Organizing Committee as politically powerful because of its effective organizing strategies. Now, parents on the committee have powerful voices and they continue to collaborate effectively with the teachers and administrators at June Jordan to form a united front.

Although the other four schools do not share the same parent organizing roots, they all have fostered strong relationships with their parents. Three of the schools ask the parents to commit some of their own time to supporting the school. None of the schools use the parent service hours to exclude parents, the goal is to build parents' investment in their children's education. All the schools provide parents with multiple ways to be engaged, from attendance at parent/teacher/student conferences, celebrations, exhibitions of student learning, school work days, to helping students at home with their school work. Three schools

have also mobilized parents in times of crisis to fight for their schools, particularly around securing facilities, building strong community commitments in the process.

Summary

The five schools we studied are enabled to be more successful than many high schools in their communities because of core features that personalize learning for students; create rigorous, relevant, and skillful instruction accompanied by needed supports; and construct ongoing professional learning as well as participation in decision-making. Achieving these goals requires more than just "trying harder" within the confines of traditional high school settings. In each case it has required structural changes to staffing, time, and school organization that are grounded in different beliefs about what students are capable of, how they learn, and what they need to be contributing members of society. These changes started with creating smaller learning communities, but they go much further. The central features have required new approaches to how students and teachers are organized for instruction to provide continuity and reduce tracking; how instruction is organized and supported to be more coherent, intellectually and practically rigorous and engaging; and how assessment drives stronger performance and reinforces teachers' understanding of standards, students, and the learning process.

In addition to supporting better instruction, these features stem high attrition rates of teachers by creating a professionally rewarding and supportive learning environment. This is often a challenge for schools that are so committed to doing "whatever it takes" to reach their students. However, staff members are motivated by their students' success. As a counselor at Leadership stated:

> I feel like I work twice as hard here as I've ever worked in the last 12 years, but I go home feeling like I've done something that is worthwhile, and for me that's worth the low pay and everything else.

Teachers and other staff in these five schools reported that they were willing to work hard because they felt valued and supported by these design features which allowed them to make a difference for their students.

Chapter 4: Policy and Equitable Practice

Construction Tech Academy

Designing schools that serve low-income students of color well is not impossible. This is not the first study to document the practices of unusually effective schools, nor is it the first to find similar features of high schools that succeed with students who are historically underserved. (For a review, see Darling-Hammond, Ross, & Milliken, 2007). In many contexts, researchers have found that personalized schools which offer rigorous and relevant instruction — featuring project-based learning and performance-based assessment and supported by professional collaboration and learning — are more successful in graduating high-need students and sending them to college than the typical factory model high school.

However, to create such schools on a much wider scale, a policy environment must be constructed that routinely provides them with support. In this research, we identified four policy areas that have major influences on the ability of high schools to construct the practices that enable our most underserved students to succeed:

1. **Human capital policies** that shape the teacher and school leader workforce and their knowledge and skills;

2. **Curriculum and assessment policies** that shape what and how schools teach and what students are expected to learn;

3. **Funding policies** that shape how resources are allocated to and used in schools; and

4. **Postsecondary education policies** that influence what students see and experience as their opportunities after high school.

These specific kinds of policies sit within the context of a broader set of organizational and governance policies that are needed to support the creation of new

schools and school designs. Together these kinds of policies comprise the soil within which high schools and their students grow — or fail to thrive. They either nurture personal attention connected to strong, relevant instruction and a sense of an achievable future for young people or they create conditions in which students are unlikely to be well-known and well-taught, and unlikely to see that school provides them a pathway to a better life.

We find that current federal, state, and local policies in these areas are inadequate to ensure the widespread availability of successful high schools for students of color, and that policy changes are needed to:

- Encourage the creation and redesign of more high schools that can offer the personalization and organizational supports needed for student success, so that eventually these features are available in all schools;

- Ensure a supply of teachers with the skill set needed to carry out the practices identified by research as important for the success of low-income students of color;

- Provide school leaders with the professional learning opportunities and support to develop skills for instructional leadership and organizational change in support of equitable and engaging learning;

- Provide flexibility and supports that enable the kinds of curriculum, assessment, and instructional strategies which engage students in more rigorous and relevant learning;

- Provide sufficient, flexible funding that can be strategically allocated to create a high quality rigorous, relevant, and responsive learning environment; and

- Provide higher education supports and financial aid that will create genuine access to higher education for qualified students.

In discussing these policy areas, we 1) present specific findings from our case study research, 2) add additional analysis from the broader research base and knowledge of the education policy system, and 3) propose specific recommendations that could both support the sustenance and expansion of schools like these and enable the education system to create stronger schools and student outcomes more generally, especially for traditionally under-served students of color.

A Policy Context that can Support New School Designs

"Factory model" schools have been roundly critiqued for more than 20 years for their impersonal structures, fragmented curricula, segregated and unequal program options; and their inability to respond effectively to different student needs (see, for example, Lee, Bryk, & Smith, 1993; Powell, Farrar, & Cohen, 1985; Sizer, 1984). Despite a growing body of research finding that smaller schools and smaller units within schools appear to produce lower rates of violence and vandalism, higher achievement, higher graduation rates, and higher rates of students going on to postsecondary education (Darling-Hammond, Ross, & Milliken, 2007), the creation of such alternatives has not been easy.

The schools we identified as succeeding with low-income students of color have created new "break the mold" school designs. In this effort, most were assisted not only by philanthropic organizations, like the Bill and Melinda Gates Foundation, but also by small schools grants from the state and federal government and, in some cases, by the charter schools initiative in California. These sources of funding both supported the launching or redesign of the schools and legitimized their break-the-mold designs in the political environs that all schools must operate within.

However, grants end, and local budgets are often inadequate to support essential features of the schools' work without continuous outside fundraising. This is especially true in California, which continues to feature funding levels well below those of most other states, a point to which we return later. Significant ongoing financial support for creating and sustaining new-model schools, such as expanded grants for Small Learning Communities, will be needed if these designs that support student success are to continue to develop and spread. If we conceptualize the value of these new schools as testing models that policy should then systematically support — creating a system in which every school has the features that can support all students' success — the policy environment must provide steady support for the continuation and expansion of this work. Thus we recommend that California:

- **Expand grants to support new schools and small learning communities** that offer designs which promise to attend more effectively to students' needs and increase their success. The state should also create a means for documenting and sharing effective school organizational and instructional practices through clearinghouses and networks that allow schools to learn from each other.

The goal is not only to support a vanguard group of uniquely-situated schools, but to enable all schools eventually to adopt practices that will be more successful for all of their students. A challenge in scaling up more effective school designs is that the century-old model of school organization that has shaped most high schools is now reinforced by a geological dig of regulations that do not always produce the most effective forms of education. California's overall regulatory framework for high schools — as enacted at the state and district levels through curriculum and testing rules; assumptions made by categorical funding streams about how staffing, programs, and materials are managed; and approaches to professional development — has not yet shifted to accommodate or encourage the design choices made by these new schools.

One critical aspect of the governance problem is the extent to which the education system relies on bureaucratic or professional forms of accountability — that is, the extent to which the state attempts to create regulations that prescribe and manage what schools do, or, alternatively, strives to develop knowledgeable educators who can be trusted to make responsible decisions about practice (Darling-Hammond, 1990). The ongoing tug-of-war between bureaucratic control and autonomy cannot ultimately be resolved without investments in school capacity and professional knowledge and skill. The autonomies regarding hiring, professional development, curriculum, and assessment these schools rely upon to construct more powerful learning environments are not likely to be granted to most schools

unless there is a high degree of confidence on the part of the public that defensible decisions will be made. In all professions, this confidence rests on the knowledge, skills, and commitments professionals bring to their work that allow them to behave accountably.

The success of these schools and the transformation of others will rely on both investments in schools' capacities and changes in the current regulatory and funding structure for education. These include:

- Teacher preparation and development to enable the kinds of pedagogical strategies and advisement responsibilities teachers have taken on in these new models;
- School leader recruitment and development to help principals learn how to design and manage organizations in which their instructional leadership, organizational design, and change management skills are critically important;
- Support for a system of curriculum, assessment, and instruction that encourages the development of 21st century skills and enables a curriculum that is intellectually rigorous as well as socially and practically relevant;
- Funding streams that are sufficiently reliable and flexible to enable strategic investments in innovative approaches at the school level, as well as stable and adequate facilities; and
- Financial support that enables college access to become a reality for low-income and undocumented students.

As we describe below, all of these are areas where the schools in our study have struggled to change existing policies or bend them to new ends — or they have had to invent their own infrastructures because needed state/local supports were absent.

Human Capital Policies to Develop Teachers and Leaders

Recruiting and Preparing Strong Teachers for Urban Schools

Key to the effectiveness of the schools in the study has been their ability to hire both teachers and administrators who are a good fit for their instructional program and can meet their instructional goals. To be well prepared to teach in schools with the types of design features evident in these schools, teachers need to have different types of capacities than many currently have the opportunity to acquire. In addition to flexible knowledge of the content they teach, they need to understand how students learn as individuals and in cultural contexts, and they need to be able to put this understanding to use in designing engaging curriculum that builds on students' prior knowledge and on the funds of knowledge they bring to school. To teach effectively in the kinds of schools we have described, teachers need the capacity to develop respectful and productive relationships with their students and their parents, and they need to learn how to integrate academic support into their instructional practice. They need knowledge of culturally relevant instructional practices, methods for teaching English language learners effectively, project-based learning and other aspects of the pedagogical models of their schools,

and methods of authentic assessment. They also need experience sharing, critiquing and refining their practice with their peers.

Most of the schools we studied used their status as charter or new innovative schools to seek out and hire teachers who have these skills and who represent their student bodies. For example, June Jordan had hiring autonomy for the first 3 years of its existence through the district Consent Decree, an agreement the district established with the NAACP and plaintiffs to desegregate its schools. June Jordan thus assembled a staff, including 80% teachers of color, which shares its mission, has developed teaching skills for the school's social justice-oriented, project-based approach to teaching, and reflects the racial and ethnic make-up of its student body. New Tech High, while part of the Sacramento district and teachers association, also has the opportunity to select its own teachers.

The schools created unique and intensive hiring processes in order to hire teachers that best fit their school design. For example, at Leadership High School, the administrators and teacher leaders created a multiple phase hiring process that allows them to search for teachers who share their commitment to collaboration in the service of equity, leadership, personalization, and ongoing improvement. The process begins with applicants having a phone conversation with the administrators to learn about the school and determine their level of interest. Second, applicants interview with staff to address their content knowledge. Third, prospective hires teach a model lesson and the school solicits student feedback. In a final interview, staff members assess the applicant's commitment to teach for equity. One veteran teacher describes the final interview as the, "Are-you-going-to-believe-in-what-we-believe interview?" This teacher feels that the intentional process has enabled strong hires who "buy into the vision and are willing to uphold it." The principal notes:

> We're really explicit in interviews, you are walking into a place where people have their doors open, metaphorically, and people will be in your classroom, and you will be expected to be collaborating on work, that this is not a place where you can just sort of do your own thing in your own classroom and not have it be connected to the work of the other adults.

New teachers agree that that is why they are there. One explained, "I really wanted a smaller school; I wanted to work more specifically on the achievement gap. I wanted to work in a community where there was a lot of collaboration."

While the schools we studied are clear about the kinds of teachers they want and work hard to find them, they struggle to find enough teachers with these skills and commitments. Some, like June Jordan, create a pipeline by partnering with progressive schools of education like Stanford University and San Francisco State University, serving as a professional development school for training new teachers. All of them beat the bushes for the candidates they need, while also striving to avoid accepting transfer teachers who may not share their specific mission.

The Policy Problem

There is a substantial shortage of teachers in urban districts and armed with the kinds of skills needed for the sophisticated pedagogies used in these schools. While strong

pre-service programs provide a good start on these skills and commitments, because of costs and availability, many prospective teachers do not have access to them — and some have little access to any training at all, entering with little prior preparation through one of California's many backdoor routes into teaching, some of which sharply truncate training.

Teacher shortages have been particularly severe in California, where the number of emergency hires has exceeded those in more than half of the other states combined. Although the number of under-prepared teachers in the state's schools has declined since 2001 — in part as a function of No Child Left Behind rules requiring schools to hire "highly qualified teachers" — there were still nearly 18,000 teachers working without full credentials in 2005-06. About half of these were teaching on emergency permits and about half were working on intern credentials. These teachers were six times more likely to be teaching in schools with the largest proportions of "minority" students than they were to be teaching in predominantly white schools (Guha et al., 2006). Such placements have occurred because of inadequate recruitment incentives, noncompetitive salaries, and poor working conditions in these schools, as well as dysfunctional hiring and assignment practices in some districts that favor the hiring of unprepared teachers because they are less expensive, and foist them off on the most vulnerable schools.

Without adequate preparation, many new teachers lack the capacity to teach effectively, which leads them to become easily overwhelmed and burn out. For example, teachers who do not receive student teaching are more than twice as likely to leave teaching after a year, and those who lack preparation that includes knowledge about how children learn and develop are even more likely to leave teaching (Henke, Chen, & Geis, 2000; Luczak, 2004; National Commission on Teaching and America's Future, 2003). The costs of this teacher attrition are enormous, averaging more than $15,000 per beginning teacher who leaves (Benner, 2000), plus the costs of reduced student achievement, since beginning teachers are significantly less effective than those with three or more years of experience (Darling-Hammond & Sykes, 2003). Currently, teacher attrition costs California more than $200 million dollars annually (most of it not retirement-related) that could more productively be spent on preparing teachers and supporting them in the classroom.

Although California has periodically enacted programs to subsidize the preparation of teachers for high-need schools, most of these programs have been cancelled or reduced in scale over recent years, despite their temporary success in beginning to resolve these problems. Among the programs cancelled during state budget cuts in 2003 or 2004 were the Cal Grant T program and the Governor's Teaching Fellowships, which subsidized preparation for prospective teachers who went on to teach in low-performing schools, and the California Mathematics Initiative for Teaching, which gave forgivable student loans to math teachers. Also cancelled were the Teacher Retention Tax Credit, which gave teachers increasing state tax credits based on years of service; the Teachers as a Priority Program, which provided grants to districts for incentives to recruit and retain qualified teachers in low-performing schools (such as improved working conditions and mentors); and the Teacher Recruitment and Incentive Program and CalTEACH, which supported districts in recruiting teachers.

Policy Recommendations

California's school staffing problems can be solved. A number of states and districts have filled all of their classrooms with qualified teachers by streamlining hiring, investing in stronger teacher preparation and induction, and equalizing salaries (Darling-Hammond & Sykes, 2003). Some of these strategies are part of broader reforms of school funding systems, discussed later. In addition, the state must make it possible for all teachers in such schools to get the kind of preparation they need to be successful. To address these needs the state should:

- **Provide financial subsidies for high quality pre-service preparation for candidates who will teach in high-need schools**. This would include reinstating and expanding service scholarships and forgivable loans for individuals who prepare to teach in low-income schools, with special incentives for high-need teachers with language skills and content backgrounds in short supply.

If modeled after North Carolina's highly successful Teaching Fellows program, these initiatives would both completely underwrite these teachers' preparation, in exchange for their commitment to teach for at least 4 years in the state's schools, and would provide additional enrichment to train them to work in diverse schools and take on leadership in school improvement. The North Carolina model has brought large numbers of male and minority teachers into the profession, many of them in math, science, and other shortage fields, and has retained them in teaching as a long-term career, sending many into leadership roles. If teachers for students of color are valued, they should receive the very best training the state has to offer, not the least supportive entry pathways that cause them to flounder and, too often, to leave.

- **Provide support for improving the capacity of teacher education programs** to provide a foundation in the skills that teachers most need to provide rigorous, relevant, and responsive education to low-income students of color, including the creation of professional development school partnerships in urban areas.

While California took the lead in instituting preparation for teaching "culturally and linguistically diverse" students when it established the CLAD and Bilingual CLAD credentials many years ago, the effects of these important efforts have been reduced since then by folding all of the requirements into the standard credential program (which, by state law, must still occur in no more than one year's time, causing many topics to be treated superficially) and by allowing a much shorter in-service training to substitute for the original requirements. Although most teachers in California who go through pre-service preparation in the CSU system feel adequately prepared (CSU, 2002), the areas in which they feel least prepared have to do with teaching diverse learners. And funding for teacher education improvements has been lacking in California for more than a decade.

Three kinds of reforms would make a major difference in the capacity of teacher education programs to prepare teachers for the work they undertake in schools serving low-income students of color. First, investments in teacher education programs should be made to strengthen their capacities to help teachers learn to support the

development of literacy skills at all grade levels, to skillfully teach learners who learn in different ways and who bring diverse cultural and language experiences to the classroom, and to assess student learning diagnostically and authentically. These investments should not only support stronger coursework — and the sharing of best practices across programs — they should also support stronger clinical experiences, since teachers learn from what they see and experience, not just what they read and discuss. As in Maryland, North Carolina, and some other states, California should support *professional development school partnerships* where prospective teachers can undertake extended practice teaching under the wing of expert teachers who are themselves successful teachers of students of color. Like teaching hospitals, these kinds of partnerships make it possible for universities to connect theoretical and practical learning in ways that advance the state of knowledge and practice.

Second, some of these funds should be targeted for state-of-the-art teacher education programs in hard-to-staff communities that create such teaching schools, which are partnered with universities. Using a teaching residency model, these programs could provide a fully subsidized year-long clinical experience in the classroom of a mentor teacher, conducted in conjunction with the coursework that leads to a credential, to candidates who are willing to teach for at least 4 years in the district, the point at which teachers generally stay in the profession. Such programs can solve several problems simultaneously — creating a pipeline of committed teachers who are well-prepared to engage in best practice for children in high-need schools, while creating demonstration sites that serve as models for urban teaching and teacher education. Since many teachers have a strong preference to teach close to where they grew up or went to school, this approach would also enhance the pool of local college graduates prepared to teach in their communities.

Finally, the state should fund the implementation of the Teacher Performance Assessment it has recently mandated for schools of education, which supports prospective candidates in developing and demonstrating real teaching skills before they enter the classroom — including, in the recently approved PACT[1] assessment, the capacity to plan and adapt instruction for English language learners and students with special needs, and to assess and respond to student learning. Current examinations used for licensing measure basic skills and subject matter knowledge in paper-and-pencil tests that demonstrate little about teachers' abilities actually to work well with a range of students. Early evidence from the teacher performance assessment suggests that it both improves teachers' abilities to teach responsively and effectively and it improves the capacity of programs to prepare such teachers (Pecheone & Chung, 2006). Together, these kinds of reforms would create a *systemic approach* to preparing teachers to succeed with all students.

Professional Development and Support

Once teachers are working in schools, they

[1] The Performance Assessment for California Teachers is a subject-specific performance assessment for novice teachers created and used by a consortium of more than 30 public and private universities. It uses a portfolio to assess how teachers plan and teach a unit of instruction with the needs of their learners in mind; and evaluates student learning, based on plans, videotapes of teaching, daily commentaries on instruction, and analysis of student work and learning. There is a strong emphasis on meeting students' language development needs and teaching in culturally responsive ways.

need ongoing high quality opportunities for learning focused on addressing concrete problems of practice in the content areas they teach with the specific students they serve. High quality professional development requires multiple layers of support for new teachers as well as ongoing support for experienced teachers, including opportunities to collaborate, plan, and reflect on practice and to observe each other teach. Teachers also need opportunities and methods for reflecting on their practice with others, and frequent feedback and support from administrators and outstanding teachers.

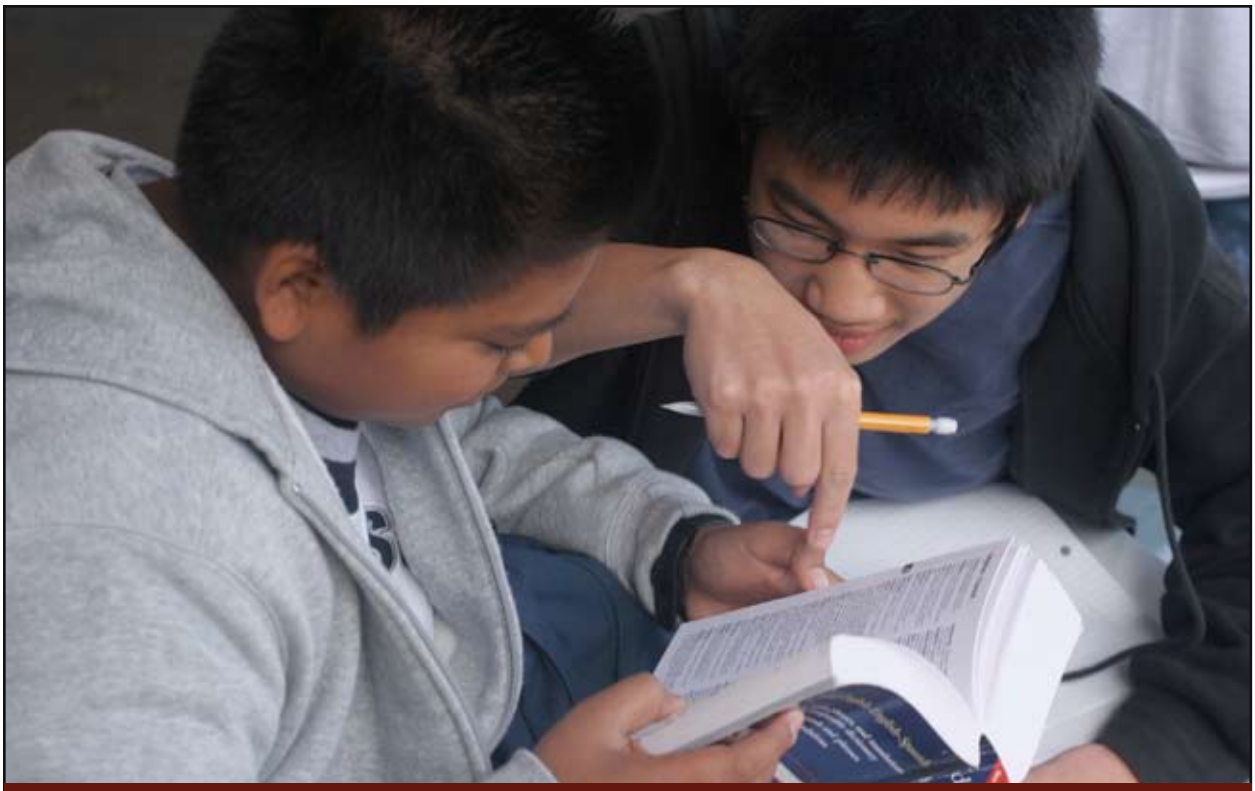
All the schools in this study invested considerable time and resources in professional development, sponsoring retreats during the summer, collaborative planning and staff development time built into the school day, and various forms of coaching and mentoring for teachers. The schools also took advantage of external resources for learning like the National Board Certification process, the National Writing Project and other Subject Matter Projects, the Coalition of Essential Schools, and the resources offered by charter organizations like the New Technology Foundation and Green Dot Public Schools.

While the schools used creative scheduling and staffing strategies to provide time during the week for professional collaboration, all of them also had to raise additional resources to pay for their professional learning time. For example, Leadership benefited from its relationship with the Coalition of Essential Schools and the Bay Area Coalition of Equitable Schools, which provided access to Gates Foundation funds. Later Leadership received a federal charter dissemination grant to cover the expense of release time for teacher leaders to conduct inquiry using student learning data and to develop their professional learning model and advisory curriculum. June Jordan raises considerable funds through an affiliated non-profit to cover the staff that places students in half-day and all day community service assignments, freeing up the classroom staff to have meeting time two days a week. Construction Tech, which struggles to find resources for collaboration time and professional development time during the school year, raises external funds for teachers to go to a two-week curriculum camp each summer to learn about the *Project Lead the Way* curriculum. Both the quantity and quality of these professional learning opportunities contribute to the coherence and effectiveness of the schools' instructional programs.

The Policy Problem

Ongoing collaboration time and professional development are made available in most high-achieving nations' schools through government supports that provide 10-20 hours a week for teacher planning and collaboration, plus another 2 to 4 weeks per year of professional development time. Such opportunities are provided in restructured high schools like the ones we studied by redesigning time use and staffing patterns, as well as by raising outside funds. But in most U.S. schools, schedules do not provide sufficient time for collaboration or professional development. On average, U.S. teachers have about 1/4 as much time for professional collaboration during the school year as teachers in other advanced countries. The problem is even worse in California, which ranks 50th in the nation in the number of school staff to students.

State support for professional development days was ended in the late 1990s, and supports for many professional development



Leadership High School

programs were also reduced both in the late 1990s and again, after some interim reinstatements, in 2003. In 2005, most programs were folded together into a Professional Development Block Grant at a lower overall funding level. In 2006, a substantial one-time Discretionary Block Grant was also provided for one year.

California retains some elements of an infrastructure for providing some of the professional development that is needed, but not all are fully supported. For example, its high quality system of Subject Matter Projects focuses on teaching in the content areas, but funding for the Subject Matter Projects, like many other professional development programs, has been greatly reduced in recent years. The Bilingual Teacher Training Program is intended to enable teachers to learn skills for teaching English language learners, but it is funded at only $2 million statewide. Aside from this miniscule program, the state no longer sponsors targeted professional development for learning the skills to teach diverse learners.

The state program to support new teachers, Beginning Teacher Support and Assessment (BTSA), has also been a helpful resource. However, minimal support exists for the training of the mentors who work with the new teachers, and not all mentors have a strong knowledge base about the teaching skills most important for teaching low-income students of color — or about how to mentor others to acquire them. Finally, the state continues to provide a $20,000 stipend over four years for National Board Certified teachers who serve in low-performing schools, a useful effort to encourage teachers in such schools to

pursue the powerful learning experience provided by board certification.

Policy Recommendations

Providing the kinds of supports teachers need in order to succeed requires building on some of the currently under-funded state efforts as well as creating some policy changes. First, it requires a fundamental reworking of the school schedule and sufficient resources to allow for ample collaboration time, including release time for teacher leaders to engage in coaching and for teachers to observe one another in the classroom. It also requires stable funding for high-quality professional development that supports the teaching of students of color. Finally, it requires supports for mentors and professional development providers to develop strong knowledge about effective teaching of currently under-served populations, so that this understanding is reflected in the learning opportunities they provide. We recommend that California:

- **Restore support for at least 10 days of professional development time each year**. As was once the case in California and is now the case in other states and nations, the state should fund learning time for teachers. Schools should have the flexibility to determine when in the year this time is used and whether several days are grouped together or partial days are spread throughout the year.

- **Support the adoption of school models that provide time for teacher planning and collaboration.** Many schools have developed innovative ways to create in-school time for professional collaboration, but these have not been widely studied or disseminated in ways that allow other schools to learn how to develop similar practices. The state could sponsor both incentive grants for school redesign and a "best practices" clearinghouse that shares models of school organization and instructional practice so that others can consider alternatives for creating professional learning communities within their schools.

- **Provide adequate, stable support for high quality professional development** in areas teachers need to be effective. This would include increasing support for the Subject Matter Projects as well as sponsoring much more extensive high quality professional development for teaching English language learners.

- **Support training for professional development providers** and mentors in the Beginning Teacher Support and Assessment (BTSA) program to make sure they have the opportunity to learn deeply about successful methods of teaching students of color and English language learners, and about how to help other teachers acquire these skills.

Recruiting and Preparing School Leaders

In addition to having adequately prepared teachers, schools also need well-prepared principals who can be strong instructional leaders. The leaders in all five schools were strong teachers of low-income students of color prior to becoming school leaders. Leaders need not only to model strong instructional practice, they also need to know how to plan professional development, redesign school organizations, and manage a

change process. They need to know how to reorganize their schools to focus resources on core academic instruction — for example, how to organize staffing and teacher time to reduce class size, create teams, incorporate advisory systems, and provide time for collaboration and professional learning opportunities.

All the schools in the study also employed varied strategies to distribute leadership more broadly by supporting teacher leadership. Two schools in the study also developed a model of co-principalship where the leadership position was shared. Particularly because of the leadership shortage faced in California and because of the scope of the principal's job, principals need to be able to develop the leadership skills of their staff. This is important both for succession planning, so that good schools maintain their strength when there are changes in leadership, and to ensure that the instructional leadership function gets enough attention within the school. For example, June Jordan has developed a co-director intern position in which a teacher leader is groomed to replace a co-director every few years. This co-director intern has a reduced teaching load and takes on some administrative duties such as leading committee meetings and managing all the coordination for technology and performance assessment.

The Policy Problem

As is true for teacher policy, there has been little investment in leadership development in California over recent years. (For a recent analysis of California's leadership policy, see Darling-Hammond & Orphanos, 2007). California has established professionally-grounded credential requirements and accreditation standards, but the quality of its preparation programs is uneven. Some are very high quality and support a modern conception of the principalship as instructional leader, while others are a collection of courses aimed at an outdated notion of the principal's role. Most leadership preparation programs provide little guidance for principals with regard to developing or leading schools that are organized differently from traditional schools so as to better support a personalized, rigorous, coherent, and responsive learning environment. California also does not provide funded internships as other leading states do, so few principals have the opportunity to practice under the wing of an effective principal while they are completing their coursework and reflecting on how to put theory into practice.

Beyond initial preparation, the state has only one major state-level initiative directed at principal professional development and it is a one-size-fits-all short-term program focused primarily on understanding the state elementary school standards and textbooks. Once in service, California's principals are much less likely than principals in other states to have access to mentoring, coaching, and high quality professional development, including principals' networks. Based on a random sample of California principals, one recent study found that school leaders in this state are less likely than principals elsewhere to be regularly engaged in evaluating and supporting teachers, working with teachers to change practices when students are not succeeding, helping to develop curriculum plans, fostering professional development, or using data to monitor and improve instruction. They are also significantly less likely to have participated regularly with teachers in professional development — a practice associated with strong instructional leadership (Darling-Hammond & Orphanos, 2007).

On average, California principals also reported that the professional development experiences they had were less useful in improving their practice than that experienced by principals nationally and that their jobs were more stressful. They were also significantly more likely to report that they are planning to leave the principalship than school leaders in other states, feeding the shortage of principals in the state that has been reported by several studies (Adams, 1999; Kerrins, 2001). Notably, better prepared principals found their jobs less stressful and were more likely to plan to remain in their positions, even when they were working in higher-need schools in urban areas (Darling-Hammond & Orphanos, 2007).

Finally, unlike some other states, there is not a statewide system in California for developing the pipeline of future principals who have the right capacities for the job, who are from demographic backgrounds that reflect the diversity of their students, and who receive top-flight training that will allow them and their schools to succeed.

Policy Recommendations

California's intent to raise student achievement and reduce the achievement gap requires investments in leadership development. A central need is to develop approaches that support principals' abilities to lead instructional improvement and to design school organizations that invest resources in productive ways. Successful programs emphasize learning and instruction, including the learning needs of students from diverse cultural and linguistic backgrounds; development of quality teaching and professional learning; knowledge of how to examine student work and evidence of learning to support ongoing improvement; and leadership skills for connecting to communities, distributing leadership, and managing change.

To create a cadre of educational leaders who can lead equitable and effective schools for all students, the state should:

- **Proactively recruit dynamic future leaders into the principal pipeline** by subsidizing training, including paid internships, for teachers who have strong instructional and leadership capacities and who reflect the demographics of California's students.

California has no direct subsidies that would support the proactive recruitment and training of talented prospective principals for these jobs. Instead, except for a few programs, the pool is largely comprised of those who self-recruit into programs. California could benefit from a recruitment initiative like North Carolina's Principal Fellows Program, a particularly successful model which underwrites high-quality preparation in selected state universities and full-time paid internships with expert principals in participating school districts in exchange for at least 4 years of service in the state's schools. This program has supplied that state with 800 highly-trained principals. Mississippi's Educator Sabbatical program provides another strategy that allows districts to target talented teachers for a full year of subsidized preparation. This, too, typically includes a year-long internship with an excellent principal in addition to coursework.

These recruitment strategies allow the state and districts to identify particularly talented individuals to bring into the principalship, ensure that they get strong training, and provide them with incentives to enter and

stay in the state's leadership corps. The coupling of recruitment with programs providing internships is important, as research on strong leadership development programs underscores the critical importance of learning sophisticated practices *in* practice under the supervision of expert practitioners in tandem with high-quality coursework. Such funding could support successful innovative schools in supporting internships for prospective principals connected to preparation programs at forward-looking universities. With focus, such an initiative effort could create a substantial pipeline of dynamic leaders for California schools in a short period of time. The state should:

- **Provide support for systematically improving principal preparation programs**, specifically organizing clinical experiences and content that prepare principals as instructional leaders and organizational designers who can develop successful, equitable schools.

Investments in program development are also needed to create a greater number and reach of programs that can prepare instructional leaders who can create and maintain schools that work successfully with students of color and English language learners. Such programs will need to develop both high-quality coursework and equally high-quality clinical work that help principals learn to develop teachers' capacities and curricula to teach intellectually challenging content in ways that meet student needs. To accomplish this, California can:

- **Restore the California School Leadership Academy**. The Academy's offerings should include mentoring and coaching specific to beginning principals and training about the specific learning needs of students of color and English learners.

Like other states, California needs a stable set of institutions that can develop cutting-edge professional development that take many forms as needed to meet different needs: residencies, coaching, principal networks, brokered school visits, workshops and conferences, training for school and district teams, and so on. For 20 years, California did have an infrastructure for principal professional development through the California School Leadership Academy (CSLA). CSLA was nationally recognized and served as a model for other states. It also developed programs for working with failing schools and successfully turning them around. CSLA was cut from the budget in 2003 along with many of the state's other programs for recruiting and preparing educators.

Given the strong research documenting the work of the CSLA and its 12 regional centers until 2003, and the fact that the hub of that work has not yet disappeared (it is still housed in WestEd), refunding the CSLA would be an efficient way to renew this capacity. A rebooted state leadership academy could organize professional learning and mentoring for veteran principals around topics of particular need and interest in collaboration with other organizations, such as the Association of California School Administrators, that have been developing this capacity. With a steady base of support for core operations, more widely and consistently available offerings would allow districts to plan how to take advantage of an ongoing learning resource for leadership development over time. As in other states, offerings organized by the Academy could also be operated by existing entities such as

universities, principal organizations or, regional/county education agencies. Whatever the strategy, it is clear that some vehicles for continuous, consistently available, customized professional development are needed to support principals' learning for the challenging work they are called upon to do.

Curriculum, Assessment and Accountability

The schools in this study have developed innovative, engaging, and relevant curriculum that prepares their students for the hands-on, minds-on learning they will need to succeed in college, careers, and civic life. These schools are able to develop a coherent instructional program with shared expectations, norms of practice and common assessments because they have a strong conception of what students need to know and be able to do to succeed in higher education and in 21st century careers, and they provide strong supports for teachers' instructional planning and implementation. Thus, the curriculum reflects strong connections between and among courses, internship placements, and students' hoped-for futures.

These coherent instructional programs rely substantially on performance-based assessments developed by the schools that measure their learning goals for their students and provide students and staff with timely feedback about students' progress and success. These assessments typically also incorporate opportunities for students to receive and respond to feedback in order to improve their work, further guiding learning and teaching organized around standards of quality. Built-in opportunities for "revision and redemption" give students multiple opportunities to improve upon their work until the learning goals are reached with a high level of rigor. When they are collectively scored — as is the case with portfolios or performance tasks presented at exhibitions juried by teachers and external judges — the assessments also help develop shared ideas about what constitutes good work and stimulate conversations about how to improve teaching.

The curriculum and assessment systems created by these schools place the emphasis on deep learning and application of central concepts and skills, as educational reformers and business leaders have been urging for at least two decades, rather than on decontextualized knowledge resulting in a superficial recall of facts. The performance assessments the schools use resemble those used in high-achieving nations like Finland, Hong Kong, Singapore, Canada, and Australia, which require students to conduct research and scientific investigations, solve complex real-world problems in mathematics, and defend their ideas orally and in writing. By asking students to show what they know through real-world applications of knowledge, and by embedding these assessments in the process of teaching and learning, these other nations' assessment systems encourage serious intellectual activities that are poorly represented in most U.S. testing systems.

The Policy Problem

The structures governing standards, curriculum guidance, and assessments in many U.S. states are not yet firmly pointed at the expectations for higher-order thinking and problem-solving that increasingly characterize higher education and 21st century jobs. In comparison to those of other nations that outperform the United States, the standards used to guide teaching in California and many other states ask schools to cover

many more topics (about twice as many in math and science, for example), and to prepare for multiple-choice tests of recall and recognition, rather than the ability to produce and explain ideas and to apply knowledge to novel situations.

Research on high-stakes accountability systems shows that, "what is tested is what is taught," and those standards that are not represented on the high stakes assessment tend to be given short shrift in the curriculum (Herman & Golan, 1993; Jones & Egley, 2004). Students are less likely to engage in extended research, writing, complex problem-solving, and experimentation when the accountability system emphasizes short-answer responses to formulaic problems. As a consequence, high-achieving countries are increasingly testing their students with open-ended tasks and school-based investigations that require them to write extensively and to apply their knowledge in the ways that writers, mathematicians, historians, and scientists do.

These higher-order thinking skills are often cited as essential to maintaining America's competitive edge and for succeeding on the job, in college, and in life. As described by Achieve (2004) — a national organization of governors, business leaders, and education leaders — the problem with most traditional U.S. tests is that they cannot measure many of the skills that matter most for real world success:

> States… will need to move beyond large-scale assessments because, as critical as they are, they cannot measure everything that matters in a young person's education. The ability to make effective oral arguments and conduct significant research projects are considered essential skills by both employers and postsecondary educators, but these skills are very difficult to assess on a paper-and-pencil test (p. 3).

Testing dilemmas

The schools in the study are committed to these essential skills and have developed curriculum and assessments demanding extensive oral and written communication and research. They are keenly aware of the mismatch between their instructional goals and the types of knowledge represented in the state testing system. Teachers often voice frustration at "the amount of time [students are] sitting and taking bubble tests" and the loss of time for what they view as more important learning. Many estimated that the state tests consume at least a month of instructional time every year. Staff and principals believe that their test scores might improve if they "taught to the test," but that this would be at the expense of more productive learning.

Teachers at Leadership High School described how their instructional focus on inquiry — that is, involving students in conducting research and investigations into major topics and problems — is not supported by the decontextualized approach of the standardized tests. One specific example was Leadership High School's selection of the Integrated Math Program (IMP), an inquiry-based, hands-on math curriculum which is used successfully by schools across the country, including many that are very high-performing. While the design of the IMP curriculum corresponds to the school's pedagogical beliefs that students will learn more deeply through an applied approach that focuses on learning major concepts deeply, the IMP curriculum introduces mathematical topics at different times than the state standardized tests. For example,

there are concepts on the "integrated mathematics" CST for 10th graders that are not introduced in the IMP curriculum until 12th grade, while some concepts taught in the 10th grade are not tested until later, if at all. Further, as principal Elizabeth Rood explained, the way math is taught through IMP is much more conceptual than the "plug and play" assumptions of the state standardized tests. She describes the dilemma this way, "We are getting at the standards in a very different way than the state assumes we are getting at them. While the state says we can get at the standards however we want, because of the high stakes nature of testing, that is only a half-truth." The school maintains this curriculum because of its faith (and other research evidence) that their methods will benefit students in college and life.

Similarly, the U.S. and world history studies the schools undertake are not well-matched to the Eurocentric focus of most of the content used on the state history tests. While most of the schools include substantial work on the histories of people of color in the United States and areas of the world beyond Europe — South and Central America, Africa, and Asia — as well as immigration patterns relevant to the students, these important areas of social studies have to be shoehorned in around state testing specifications that largely omit them.

In addition to the mismatch in learning goals, there is a structural mis-match between the once-a-year timing of the test and one of the schools' 4 by 4 schedule, which create semester-long courses. Students who complete a course in the fall do not take the test on the content of that course until the spring. In contrast, those who take the class in the spring have only completed half of the required course-work. Although technology for offering tests when students are ready to take them exists, the state system currently does not allow for this option.

Finally, for schools serving ELLs, concerns were expressed about the state's approach to testing these students in English without the range of accommodations or modifications offered in most other states. Most states serving large numbers of ELLs exempt them from state accountability tests for at least 3 years while developing and assessing their English language proficiency — and they offer state accountability tests in both the native language and linguistically modified formats that more accurately assess students' understanding in content areas. Research finds that these kinds of tests produce stronger results for ELLs (Abedi, 2002), and instruction that is more appropriate to their long-term learning progress.

Curriculum Dilemmas

California also constrains curriculum decisions by requiring specific approved courses for admission to the University of California/California State University system — the only state in the nation to regulate high school course-taking in this way. While these requirements (outlined in brief on page 86) have value in expressing the intention for students to access a college preparatory curriculum, and the schools we studied strive to make such courses available to all of their students, the A-G requirements are based on outdated notions of curriculum that date back to the Committee of 10 that outlined a vision of the high school curriculum for the industrial age in 1893 (NEA, 1893). Beyond these course lists, the UC system must approve specific course descriptions with content represented in specific ways.

The A-G Requirements		
A	History/Social Science	2 years (1 year of world history, 1 year of U.S. history or half year of U.S. history and a half year of civics)
B	English	4 years
C	Math	3 years required, 4 years recommended (algebra, geometry, algebra II required)
D	Laboratory Science	2 years required, 3 years recommended (2 of the courses must be in biology, physics or chemistry)
E	Foreign Language	2 years (same language) required, 3 years recommended
F	Visual/Performing Arts	1 year
G	College Prep elective	1 year

The UC-approved course list typically excludes courses from the core, non-elective requirements that are very applied or include new areas — like computer science, biotechnology, journalism, or sociology and the law — which do not fit into the century-old perspective on what constitutes preparation for college. The core list also excludes career-oriented courses in fields ranging from health to engineering, many courses taken at local colleges, and interdisciplinary courses. Schools that offer interdisciplinary courses that blend two content areas are typically forced to pretend that they are offering two separate courses and must call a course by its official A-G course title on the transcript while offering a different curriculum within the class.

As a consequence, many California high schools offer less flexible and forward-looking curriculum than many high schools across the country, or they innovate in ways that require subterfuges, compromises, or additional bureaucratic effort that deflects attention from the core work of teaching and learning. For example, in more than one school we studied, a 9th grade humanities course is listed as two separate courses, requiring the teachers to fill out two separate sets of attendance sheets and grades. One school is struggling to figure out how to appropriately classify a Spanish 4 class that does not fit the A-G guidelines, in which students will spend time in the Yucatan in a Spanish exchange program learning to use their language skills, rather than studying for a paper-and-pencil Advanced Placement test.

Rigorous courses requiring advanced math and physical science study in fields like engineering and architecture at schools like Construction Tech cannot fulfill core A-G math or science requirements. These courses and others which are directly connected to students' potential future careers and their higher education pathways have to be fit in on top of — or at the expense of — the non-elective A-G requirements. Requiring students to complete both these paths of study strains the school's ability to schedule classes and deploy faculty. It also places constraints on students' schedules, leaving them little time to pursue other interests such as arts or sports. Many students are not able to complete both sets of courses and must choose one or the other for reasons that have little to do with what will successfully prepare them for college or the world outside of school. The ability to take useful college courses, which is another ex-

New Tech High School

pectation at several of these high schools, is also undermined by the fact that, ironically, many college courses in core subjects do not fulfill the core A-G requirements.

As these schools are seeking to attach students to courses of study that are relevant to their futures, engaging, and worth coming to school for, they must work around policy frameworks that perhaps inadvertently embody a conception of curriculum and learning that is designed for a different set of goals and a different time in history.

Policy Recommendations

If more schools are to create strong curriculum that is oriented to their students' and the society's future — and assessments that prepare students for the genuine expectations of college and workplaces of the 21st century, state and local policies will need to support these efforts. The state should:

- **Rethink the A-G curriculum requirements** to more fully acknowledge modern conceptions of learning and curriculum, including interdisciplinary and applied learning that incorporates new technologies.

The state should convene a panel that will reconsider the A-G curriculum requirements in light of global knowledge trends in the society and economy, the demands of 21st century learning, and the requirements of career education as well as traditional academic pathways. This panel should include school and university-based educators, as well as experts in business, industry, and technology and social scientists familiar with global knowledge trends and the capacities needed to solve global and community problems.

Recognizing that the top 10 in-demand jobs projected for 2010 did not exist in 2004, we need to realize that we are currently preparing students for jobs that do not yet exist, which will use technologies that have not yet been invented to solve problems that we have not yet even recognized (Darling-Hammond et al, in press). Indeed in the four years from 1999 to 2002, the amount of new information produced approximately equaled the amount produced during the entire history of the world (Varian & Lyman, 2003). Rigid approaches to defining knowledge are sure to hold our students back. They need an education that will help them learn how to learn in powerful ways, so that they can manage the demands of changing information, knowledge bases, technologies, and social conditions. To facilitate this, the state should:

- Redesign the assessment system to better assess and encourage applications of knowledge and skill in performance assessments at the state and local level, while allowing more flexible timing of assessments to fit local curricula.

To support higher-order thinking and learning, California will need to redesign its assessments to include performance-based elements both within the state tests and — like many other states and high-achieving nations — in locally administered assessments that evaluate more serious intellectual pursuits. These local assessments, which include such assignments as lab experiments and research papers, allow the testing of complex skills that cannot be measured in a two-hour test on a single day and count at least half of the total examination score. They ensure that students receive stronger learning opportunities, and they give teachers timely information they need to help students improve — something that standardized tests that produce scores several months later cannot do.

The kinds of portfolios and research projects pursued by the schools we studied are like other countries' local assessments and are part of high school assessment systems in Connecticut, Maine, Nebraska, Pennsylvania, Oregon, Rhode Island, Vermont, and Wyoming, among other states. In addition, state assessments in states like Connecticut and Vermont ask students to complete tasks like designing and conducting a science investigation to answer a specific problem, compile and present their data, write up and analyze the results, and defend their findings. These kinds of assessments can be planned when they make sense in the curriculum, as is the case in some other states.

California should examine the assessment systems used in high-achieving nations and states and develop a combined state and local assessment system that draws on the strong performance assessment work underway in some schools and incorporates it in the state's framework for evaluating student learning. California should:

- Develop appropriate assessments for English language learners that evaluate language proficiency and content learning appropriately and support value-added measures of accountability.

California's state policies for assessing English language learners are currently out-of-step with psychometric standards, other states' policies, and federal guidelines. ELL students in California are tested on state standards tests in English after only 10 months in the country, before they have

learned English, and many generally accepted accommodations are prohibited. Research suggests that oral proficiency in a new language takes 3 to 5 years to develop and academic language development can take 4 to 7 years (Hakuta et al., 2000, p. 32). Most states provide English language proficiency testing while students are exempt from accountability testing for at least 3 years, and they provide native language assessments and/or linguistically modified assessments in the content areas as needed to provide valid measures of students' subject matter knowledge. Without more valid assessments that can be examined in terms of growth over time, teachers and schools have little means for judging students' real capacities and developing appropriate instruction, and school contributions to student learning cannot be understood.

Funding Strategies

We found that schools which successfully provide a rigorous, relevant, and responsive education to low-income students of color can only do so by raising additional funds. Not only do schools not have enough funds to provide what they know their students need, but they also lack flexibility in using the funds that they do have to direct the resources so as to best serve their students.

Typical comprehensive high schools have large numbers of special add-on programs intended to serve categories of students' needs after students end up in crisis, often because they are not being well-served in the school. By contrast, the schools in this study have instituted a model of personalization that enables them to respond to individual needs in a proactive and individualized manner within the context of their regular instruction so students are not tracked out of college prep classes or pulled out of class to service a fragmented need for which there is a small amount of categorical funding. All the schools in this study achieve an integrated system of support by reallocating resources to reduce pupil load and class sizes, instituting an advisory program and providing students frequent feedback and support on their academic achievement. This is possible both because of creative uses of funds that would normally be spent in less integrated fashion and because of additional fundraising.

The schools in our study raise considerable additional funds ($500-$1,200 per student from foundations, individual donors, and government grants) to increase staffing so they can lower class size and support professional learning and collaboration time. Strong, experienced teachers are sometimes given reduced teaching loads so they can work with new teachers. More staffing also enables teachers to provide responsive support to each student in the context of caring relationships: Additional staff translates into smaller class sizes and time to teach classes such as advisory that provide students with individualized academic and emotional support. Furthermore, additional staff members make it possible for principals to distribute some of their duties and free up time, so that they can be in classrooms and provide instructional leadership. External funds also provide lead teachers with time and/or stipends to engage in an annual analysis of student data and student work to set instructional goals for the subsequent year, and to develop curriculum.

Additional funds enable each school to carry out its unique vision that makes learning come alive for its students. Construction Tech Academy uses funds to buy building materials and to reduce class sizes from

39 to 26. June Jordan also funds reduced class sizes, and hires a parent liaison and a staff person to develop high quality service learning internships. New Tech invests in technology hardware and software essential to its curriculum. These funds do not go to frills or extras, but to features that are integral to each school's work.

A clear vision that is widely held by the school community has been found in study after study to be one of the key factors in providing a high quality and equitable education. But lack of funds often prevents schools from effectively actualizing their vision. In all of the schools we studied, we found major funding challenges: For example, science teachers at June Jordan lack simple lab materials like sinks and beakers. Like many other teachers, they spend considerable money out of their own pockets to buy supplies. At Con struction Tech, the continual lack of adequate vocational equipment and materials means that fundraising takes up a good portion of the principal's time. As Mr. Hillegas notes, the goal of personalized education competes with the need for fiscal solvency:

> Here is our biggest challenge right now: funding. How do you fund a school like this? [The School District] took the cost of running [Kearny High] school when it was one campus; they found out how much it cost to run this, and they divided that by the number of heads. So, we get paid by the number of heads. It's been my goal to keep the school at about 400 but it won't pay for itself. We need to grow. So, I brought in more kids this year to try to get more per head funding….

Finally, there is one item that schools successfully providing a rigorous, relevant, and responsive education rarely pay for, but this resource must be funded if the work of such schools is to be sustainable or widespread: staffing that eases the crushing workload of serving students well. Teachers and administrators at these schools typically work very long hours to realize their goals. There is so much to do to make sure that no student falls through the cracks. Several principals reported that that they typically spent 12 to 14 hours on campus each day, and teachers spent almost as much time. While these are heroic efforts to serve students well, they are not sustainable or replicable on a wide scale. While a couple of schools have co-principals (which summed to about 1.5 or 1.25 FTE), only one of the schools had an assistant principal. All schools concentrated staff in the classroom, which reduced pupil load and increased personalization, but increased the work load for teachers. All the schools spend considerable energy securing additional resources. Despite the funds they do raise, many of these schools remain under staffed. These schools show what activities and practices need to be carried out, but increased funding is necessary to enable normal hardworking, dedicated educators to carry out these activities, or these will never become the norm.

The Policy Problem

Although some sources of state funds directed at redesigning high schools have been very helpful in launching these schools, these are not enough to sustain the work. With respect to useful supports, for example, New Tech received a $450,000 small school/charter grant from the state, which was used to buy books, fund professional development, and purchase science equipment and some technology. Leadership High used $200,000 in a 2-year state dissemination grant to support curriculum development and hosting visitors. June

Jordan has received modest funds (about $50,000 per year) through the Comprehensive Student Support program (formerly SB 65) to address truancy and dropout prevention, and about $150,000 over 2 years through the state specialized secondary program to support their portfolio development.

Inadequate funding

When these funds run out, however, the funding base is inadequate to keep the reforms afloat. As we have noted, California public schools are severely under-funded when compared to school systems in other states, especially those with a high cost of living. Whereas average per-pupil instructional spending in California has edged up to about $8,000 per-pupil, comparable expenditures in states like New York, New Jersey, and Connecticut exceed $12,000 per-pupil, with even greater funding going to urban districts serving low-income students of color, since the recent resolution of school finance cases calling for more equitable spending.

Furthermore, of the funds directed to education, schools often have relatively little discretion over a substantial portion (see Table 10 below). Even when the district share is used to fund important educational elements, these constraints can make it difficult to fund the specific strategies we found help to personalize learning and support student success.

To be sure, district investments have often helped the schools. New Tech benefited from Bill & Melinda Gates funding given to Sacramento for start-up costs for all the district's new small schools. Furthermore, the district invested $10.8 million to renovate the New Tech facility which, aside from lacking a library and gym, is state-of-the-art, fully wired for the latest technology

Table 10: Per Pupil State and Federal Funding for Each School

	Total Revenues (to District or CMO)	Amount School has discretion over
Animo Inglewood	$7,963 per pupil	$5,847 per pupil[1]
Construction Tech	$8,981 per pupil	$4,256 per pupil[2]
June Jordan	$7,953 per pupil	$4,660 per pupil[3]
Leadership	$7,036 per pupil	$6,349 per pupil[4]
New Tech	$8,454 per pupil	$6,843 per pupil[5]

[1]Excludes district management fee, facility cost and CMO management fee.
[2] Excludes special education staff, custodial staff, food workers, facility repairs, utilities and telephone, payroll administration, accounting and benefits, and other central office staff.
[3] Excludes payroll and other administrative services, textbooks, special education, custodial services, substitutes, security aides, and district services, such as professional development, which JJSE does not use.
[4] Excludes district oversight fee and special education services.
[5] Excludes services that the school buys back from the district, including special education, facilities, services from the student behavior and placement office, student attendance and review board (SARB), and some staff development services.

and featuring oversized classrooms. Construction Tech Academy was launched with new facilities, in part with district funds.

Facilities problems

Facilities issues plague most of the schools. Four of the five have no library and three lack a gymnasium; several have little outdoor space for students. The urban districts that sponsor them have struggled, like others in California, with the lack of investment that occurred as spending on facilities fell from 1960 to 1982, even as the population grew, and has lagged behind the rest of the nation in most of the years since (Brunner, 2006). Schools identified as critically overcrowded serve primarily low-income and "minority" students. Although funds have increased since 1998, there is a long backlog of projects to be financed, especially in cities with older buildings. Districts must still pass bonds to fund construction, and only about half of bond requests pass. In addition, charter schools have a particularly difficult time finding and affording facilities. Although districts are required to provide facilities if requested under Proposition 39, those districts rarely have extra buildings in good shape available, especially in overcrowded urban areas where schools may already be operating on shifts.

As a consequence of these dilemmas, June Jordan has already moved buildings once in its first three years of operation and currently shares a facility with a middle school. The current site lacks rooms for science labs and administrative offices.

Animo had been in a very small and old church for 2 years. When they did not receive a building from their local district, Animo staff and parents marched 400 strong to Inglewood city hall demanding space. After the demonstration, they received support that enabled them to purchase a building that had been a hospital.

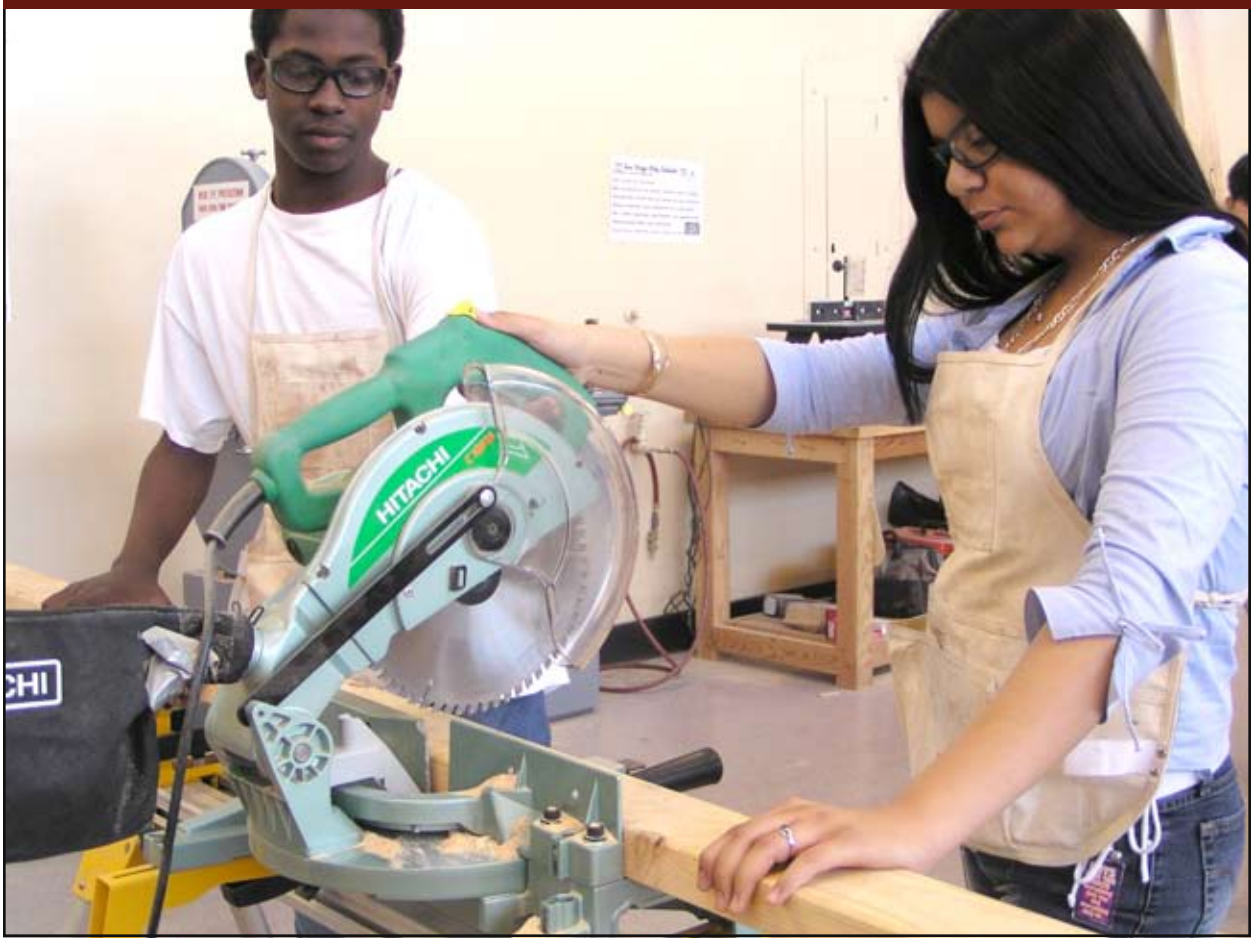
Leadership High School had to endure three moves around San Francisco, which greatly challenged their stability and cost them many students who were not able to follow them through their moves. These buildings have typically lacked basic amenities such as decent bathrooms, a library, lab science rooms, a cafeteria, gym, and playing fields. The school's second location did not meet earthquake or Average Daily Attendance (ADA) standards, which forced it to move mid-year in 2006-07, when a new law required charter schools to meet public school facility safety standards. This new location, in the bottom windowless floor of a shared building, is hard on the students. As one 11th grade Latina student stated, "We feel caged up, with no windows, no control over heat and no A/C." Several students have complained of their asthma flaring up from the new facility, and Leadership administrators have called OSHA to have them test the facilities. As a result of the January move, Leadership lost 50 families. Furthermore, co-principal Greg Peters worries that the new transportation challenges that limit students' ability to stay after school will undermine the school's effectiveness:

> If our kids can't hang out 'til 4 and 5 in the afternoon to be with our teachers, that's where a lot of the support happens and that's where additional relationship building happens, what is going to happen to our culture if that can't happen?

Inadequate flexibility

Some of the schools in our study have more flexibility in the ability to use their funds than most California schools, either be-

Construction Tech Academy



cause they are charter schools or because they have other unique situations. These schools use this flexibility to provide better quality support to students by allocating resources to reduce pupil load and class sizes and instituting an advisory program and strong counseling so that support can be based on strong continuous relationships between teachers and students and personalized to meet the individual needs of the student.

However, in spite of these efforts to consolidate and focus resources, the schools are still hindered in their work by the state's fragmented funding streams. Aside from their state per-pupil funding, much of the funding schools receive comes in small categorical dollops for additional programs, often not enough to provide the additional services — for example, a set of separate state categorical funds, individually applied for and administered, might provide for half a counselor and a couple of tutors but not enough for the students who need them, a library aide but no library, a small fund for athletic equipment, extra CAHSEE prep classes but not a teacher to reduce class sizes so that students don't fail the exam to begin with, a specific afterschool program but not the one the school wants to offer. This fragmented, overly prescribed allocation of funds gets in the way of schools carrying out their vision and undermines the provision of meaningful supports for

students. It can also create a set of unglued programs that detracts from a core instructional focus.

Leaders in the schools we studied struggle with these constraints. For example, the principal at Construction Tech described how he often has to sacrifice potential dollars to maintain the school's instructional design in a way that will foster student success. He funds an ROP (regional occupational program) engineering class and internship out of his general fund because if he used ROP funds to pay for those classes, the school would not meet the ADA requirement which disburses funds to schools based on "seat time" during the normal school day. By funding these courses so they count as seat time, he can provide junior and senior students with the opportunity to take a class at the community college or another ROP class. Similarly, he draws on his general fund to operate a CAHSEE prep class during the normal school day rather than using funds which would require the course to occur after school when the students who most need it are often unable to take it.

Rather than cutting back on what Construction Tech offers students, the principal puts pressure on himself to raise additional funds. He said, "I'm going to service the kids. I'll go out door knocking to get the money the kids need. I'll get it somehow." He is working with industry partners to try to develop funding strategies tied to union dues that will create sustainable funding for the high school. He is also hopeful that California Governor Arnold Schwarzenegger's interest in career and technical education will lead to increased funding, which, in turn, can help support renovation of facilities and increased pay for vocational instructors. These funds will be most helpful, however, if they can actually be used to meet student needs within the school's design.

District schools typically have discretion over only a portion of their per-pupil funding, which greatly limits their ability to direct resources toward core instruction and to support their overall school design. For example, June Jordan receives a little over half of the district per-pupil funding in discretionary funds and CTA receives a little under half; the rest is spent for them by the district. At June Jordan the district controls textbook funds and, because of a settlement in the *Williams v. California* funding case, purchases textbooks from standard lists that are not used by the school because teachers rely on primary source documents, trade books, and more sophisticated texts. These have to be purchased from the school's remaining dollars while the textbooks "sit in the closet collecting dust."

The district also charges June Jordan an average teacher salary ($74,217) for each teacher position, regardless of what the actual cost is of that teacher. Since June Jordan has teachers who are more inexperienced than the average San Francisco teacher, they end up losing several hundred thousand dollars a year to subsidize schools with older staff. In addition, the district has its BTSA program for new teachers, so new teachers at June Jordan are assigned a BTSA coach who does not teach at June Jordan and is not familiar with their program. Instead, the school would like the district to give them the BTSA funds so they could hire their own coach or give their veteran teachers some release time so they could run their own, better integrated program. Giving schools the ability to use funds well is as important as giving them access to the funds they need.

Policy Recommendations

As the recent set of studies on California's school funding system (Stanford University, *Getting Down to Facts,* 2006)[2] has established, California's public education system needs more resources to meet the goals it has established for students and the kind of education they deserve. Furthermore, these resources should be organized to provide a more stable and rational funding stream that is more connected to the needs of students, that offers responsible flexibility in the uses of funds, and is linked to reforms in the ways that resources are spent. Our research suggests that to ensure that the needs of currently under-served students are met, California should:

- **Increase funding for schools by establishing a weighted student funding formula** in which funding is allocated based on students' needs, thus ensuring that funds are distributed more equitably. The level of resources should factor in the costs of competitive salaries, reasonable class sizes and pupil loads, professional development and collaboration time, and teacher mentoring.

- **Create less fragmented funding streams.** Aside from major categorical programs intended to address specific population needs (e.g., special education, English language learner funding), reduce the number of small categorical programs and roll funds into core funding through the weighted student formula, so that schools have more flexibility to align funding to their instructional mission.

- **Create a more consistent and stable approach to funding facilities.** To address the unstable facilities funding that undermines rational planning, drives up facilities costs, and is unfair to low-wealth districts, the state needs to create funding streams that draw more predictably on the general fund and are less dependent on local bonds, with regular allocations to districts that include the needs of charter schools.

Postsecondary Access and Supports

Once students graduate from a supportive high school, they are ready for higher education. The schools we studied succeed to a remarkable extent in preparing students for college who would, in other contexts, frequently fail even to graduate from high school. But too often, higher education is not ready for them. Tuitions have been rising while state support for college has been declining in real dollar terms. Fewer scholarship funds are available than was the case a decade ago, and the Dream Act, which would allow undocumented students to pay in-state tuition and receive financial aid, was vetoed by Governor Schwarzenegger. Undocumented students who work hard to succeed in school and are admitted to college must pay out-of-state tuition without the hope of government aid. Many students who qualify for four-year colleges have to attend the community college system, itself suffering from underfunding and overcrowding, because of a lack of financial resources.

The high schools we studied work hard to solicit private donations and to identify as many scholarships for students as pos-

[2] The full set of studies can be found at http://irepp.stanford.edu/projects/cafinance.htm

sible. These fundraising needs compete with the need to raise funds for the school program, and the needs seem never-ending. As one staff member noted, "Sometimes there are as many scholarships as there are seniors…. [Beyond tuition], the money is needed for non-traditional things: some use the award to buy sheets and meet all kinds of other needs." While the staff commitment to their students is heartwarming, the schools' effectiveness could be greater if the staff could focus on improving teaching and learning, rather than spending so much time raising funds that should be routinely available for their students' education.

The Policy Problem

California has struggled to maintain its investments in higher education as well as elementary and secondary education over more than a decade.

This problem is not only cyclical with changes in the state economy; it is also structural, as higher education funding is traded off against the rising costs of incarceration in the state. The growth of prisons, in turn, is the result in part of the state's under-investments in elementary and secondary education, since most inmates are functionally illiterate and high school dropouts.

Between 1985 and 2000, California state spending on higher education decreased by 16% in real dollar terms (from $6.5 billion to $5.4 billion in constant dollars) while spending on corrections increased by 184%, from $1.7 billion to $4.7 billion (National Association of State Budget Officers, 1987, 2001; cited in Justice Policy Institute, 2002). During that time, the state built 21 prisons and only one state university (McDermid et al., 1997). By 2006, the state was spending as much on corrections as on higher education. One study found that, while 50,000 new African American inmates were added to the California state prison system during the 1990s, African American enrollment in higher education declined (Eddin, Macallair, & Schiraldi, 1999). The authors noted that for every African American male subtracted from a state university campus, 57 were added to state correctional facility. And, three Latino males were added to the prison population for every one added to the four-year public university system.

The implications of these budget priorities have been wide-ranging: The state university system has not grown to meet demand; the share of costs borne by students has increased; and the size of subsidies for attendance through programs like the Cal Grants has declined, creating growing barriers to college for low-income students.

The state must change its priorities for its young people. Increasingly, both early literacy skills and high school graduation have been found to be highly correlated with the capacity to join the labor market and the alternative likelihood of landing in the "school to prison pipeline." Investments in early grades education, high school education, and college access for African American, Latino, and other traditionally underserved students are needed to change the trajectory of declining economic capacity projected for California's future.

As the Public Policy Institute of California noted, as whites shrink to a third of the state population by 2025, and Latinos grow to about half, current education trends predict a less well-educated population in the future than exists today. Researchers note that "one of the most threatening trends is the potential mismatch between

the education requirements of the new economy and the amount of education its future population is likely to have" (Baldassare & Hanak, 2005, p. 14). The percentage of jobs requiring a college degree is projected to rise to 39% of all employment, but only 33% of California workers are likely to have that degree if current trends continue. And despite the need for greater access to higher education, there is a predicted shortfall of higher education space for over 686,000 students by 2013, equal to about a third of current full-time enrollment.

Policy Recommendations

To create the kind of access to higher education that California's students need and the state needs them to have, California should:

- **Reinvest in higher education** to keep the college and university systems affordable, accessible, and high-quality.

The state should set goals and targets for increasing access to the higher education system in line with the growing number of jobs requiring a college degree, and should invest in higher education funding that both enhances quality and ensures the number of student slots needed to keep pace. This may mean re-aligning state funding priorities and investment strategies to re-direct funds from incarceration to education so that young people become literate in elementary school, are supported through graduation from high school, and have access to higher education when they have met the standards for admission. The state should:

- **Increase student financial aid and put the Dream Act into law.**

During the 1970s, the federal and state governments — alongside universities — made a commitment to ensure that any eligible student who could be admitted to a college would be given the financial wherewithal to attend. A truly meritocratic system has receded in the years since 1980, and now many eligible students cannot afford to attend the schools to which they have been accepted. This commitment needs to be re-established and made good for all students, including those who are new immigrants to the country. The Dream Act would allow all students, regardless of their immigration status, to be eligible for financial aid and for in-state tuition at state colleges they have earned the right to attend. It is critical for the welfare of every citizen that the state invest in the education of all students who will become our workforce, our taxpayers, and our social supports.

Conclusion

Creating a system that supports the learning of all students is not an impossibility. It takes clarity of vision and purposeful, consistent action to create, systematically, a web of supportive elements that are mutually reinforcing. In a context where the kinds of school designs we studied could become the norm rather than the exception, the state would, in collaboration with local districts and schools:

1) Support teacher recruitment and development that enables teachers to develop the skills needed for adaptive, culturally responsive teaching attentive to the needs of the whole adolescent — and enables schools to recruit teachers who have the expertise and commitments needed to succeed in distinctive schools serving students of color well;

2) Support professional learning opportunities for principals to develop the skills of instructional leadership and organizational change;

3) Support a more forward-looking curriculum for high school education by rethinking the content and nature of A-G requirements and creating a state and local assessment system focused on higher order thinking and performance skills;

4) Increase funding to what is needed for schools to serve each student well, so that funds follow students based on their needs, so that resources are consistently available for safe, well-designed facilities, and so that — beyond targeted resources for special needs students — schools have the flexibility to fund strategic innovations that support student success.

5) Invest in higher education quality and access so that students who have worked hard and earned a place in college have the opportunity to pursue their dreams and contribute to the welfare of all.

June Jordan School

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Appendix A

Study Methods

We selected schools for the *High Schools for Equity* study through a quantitative screening of demographics and achievement data coupled with a qualitative screening of school features and practices. We used a three-pronged approach to identify schools:

1) We searched the literature for research about California high schools successfully serving low-income students of color;
2) We used Ed Trust-West's *Raising the Roof* web tool to identify schools meeting our selection criteria; and
3) We solicited nominations of schools meeting our criteria from 127 experts on effective schools and high school reform.

Our demographic criteria were as follows:

- Non-selective schools serving at least 9th – 12th grade, excluding continuation schools and court schools.
- Schools in existence since 2002-03.
- Schools serving at least 50% students of color.
- Schools serving at least 20% students qualifying for free and reduced lunch (FRL) within a district that is at least 40% FRL. We initially set this proportion low because of high school students' typical under-enrollment in the FRL program, even when they qualify.

In addition, we searched the literature, evaluated data, and asked experts for schools where:

- Achievement is high or strongly improving.
- Rigorous academic content is combined with academic supports and encouragement.
- Curriculum, pedagogy, and student learning experiences are shaped by the culture, language, personal experiences, history, and social contexts of students and their communities.
- Trusting, personalized relationships exist between and among students and staff;
- A commitment to social and racial justice is demonstrated.

Based on the quantitative criteria, we identified 364 qualifying schools. We narrowed our sample to 157 by including only schools that served 70% or more students of color and had a similar school rank of 6 or better on the California Academic Performance Index (API) in 2005. We included the API ranking to select those schools that showed above average performance among schools with similar demographics.

At this point in the selection process we collected additional data on each school regarding grade level enrollment data and the percentage of students who were special education students or English language learners. We also looked at graduation rates and, where possible, we looked at the percentage of graduates who had completed A-G qualifying coursework. Since many of the expert nominated schools were quite new, we expanded our search to include schools that had been in existence since 2003-04. Since many of these newer schools had not yet graduated their first class, we examined enrollment numbers in 9th, 10th and 11th grades to determine how many students appeared to be on track for graduation.

We narrowed the sample to 29 by selecting those schools that had met all Annual Measurable Objectives (AMOs) for each subgroup under the federal No Child Left Behind Act, as well as those schools that had an overall state rank of 4 or better for 2005 in addition to a similar schools rank of at least 6. We created profiles of each of the 29 schools that included three-year trends (from 2004-2006) in API scores overall and for subgroups, similar school API ranks, state API ranks, CST ELA (10th grade) and Algebra I (9th and 10th grade) proficiency school-wide and for subgroups, and CAHSEE pass rates in ELA and math. We also confirmed that schools were non-selective by examining school profiles. Using these data we narrowed the sample to 22 by weighing multiple factors including: standardized test performance, percentage of low-income, English language learner and students of color, graduation rates and information we knew from experts and the literature about schools that met our initial selection criteria.

For each of the 22 schools we conducted phone interviews with a key educational leader or leaders at each school and conducted web searches to assess the extent that the school had high standards, expectations and sufficient supports for all students, a connection to students' communities and culture, a personalized learning environment for students, and opportunities for collaboration and professional learning for educators. This final qualitative selection process enabled us to select five schools for the study, taking into account geographic diversity and the distinctiveness of school models.

The study was conducted in the 2006-2007 school year. We began by conducting an in-depth phone interview with each school's principal and collaboratively identifying the schools' key strategies for serving students. From this discussion the researcher and the principal collaboratively developed a site visit schedule that would enable the researchers to get a broad overview of the school as well as examine in-depth areas of the schools' practices. Between November 2006 and May 2007, the research team conducted several intensive site visits to each school for a total of about 5 days per site. We collected pertinent documents, interviewed district/CMO officials, school administrators, teachers, support staff, students, parents and community members. The table on page 106 summarizes the types and numbers of interviews and observations we conducted across all five sites.

Type of data collection	Subject	Number
Interviews	Teachers	24
	Administrators (each administrator was interviewed 3-4 times)	9
	Counselors	3
	Student groups	7
	Parent groups	5
	District officials and charter management organization leaders	12
	School board members, advisory board members, and union leadership	5
	Community-based organizations, parent organizing groups, business partners, university partners	4
Observations	Classroom instruction	37
	Collaborative planning and professional learning with staff	11
	Exhibitions of student learning (performance assessment)	3
	School board meetings and district principals' meeting	3
	Advisory board and parent organizing groups' meetings	2

At each school we interviewed the administrator at least three times. We interviewed teachers whose instruction we observed as well as a mix of teachers who were newer and more veteran to the school and who taught a range of subjects and grade levels. We also interviewed students who were selected to be diverse in terms of their racial/ethnic backgrounds and academic performance, and we interviewed a diverse group of parents. Beyond the school, we tailored our interviews to the additional programs and supports schools had in place (e.g., business partners at Construction Tech, parent organizers at June Jordan, and advisory board members at Leadership High School). At each school we interviewed either district or charter management organization leaders and, when applicable, advisory board members. Similarly, beyond observations of instruction and professional learning we selected key events at each school to observe (e.g. performance assessments at Leadership and June Jordan, after-school mentoring at Construction Tech, and school board meetings at June Jordan). Protocols for interviews and observations were tailored to the role of the interviewee as well as the context of the school and covered core school features and practices in the areas of curriculum, instruction, assessment, governance, teacher hiring and evaluation, professional development, school organization, and budget. Students and parents were asked about specific events and instances related to

various aspects of their experiences. Respondents were also asked about policy supports, constraints, and suggestions.

Following our site visits we organized and coded our data by central themes, and began to write in-depth case studies of each school, conducting follow-up interviews with several staff at each school to fill in gaps in our data. The case studies were completed and checked with key members at each school for accuracy of factual information. A cross-case analysis was developed by examining cases for common features and themes and cross-checking confirmatory and disconfirming information for each case.

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