



January 2014

Governance Brief

The Linked Learning Approach to High School Reform

Introduction

This series

This brief is one in a series on the Linked Learning high school reform effort that focuses on preparing graduates for both college and career. This first brief will discuss achievement gaps and employment and economic trends that support the need for high schools that prepare all students for both career and college. The following briefs will be informed by interviews with members of governance teams from districts that are implementing the Linked Learning approach, and will explore how career and college preparation programs—including Regional Occupational Programs/Centers (ROP/C)—promote success for underserved and underperforming students.

What is Linked Learning?

Linked Learning is a high school reform effort that includes cross disciplinary instruction, career-themed experiences and content, and opportunities for solving real-life problems as strategies to increase student motivation, engagement, and learning. Linked Learning is equity focused and has the specific goal of providing all students—particularly students of color and low-income students—with the opportunity to access the instruction, guidance, and experience that will lead to the capabilities and behaviors they will need to succeed in both college and career. The approach aims to prepare all students to be able to make the choice between college and career—or both—based on their wishes, not on the limitations of their preparation. Linked Learning, therefore, identifies 21st Century college readiness skills as a necessary foundation for students no matter what they choose to do after high school.

What are the Essential Elements of the Linked Learning Approach?

Partnerships

Collaboration is a hallmark of Linked Learning: partnerships with a range of individuals and entities are essential to the Linked Learning approach. For example, Linked Learning combines the knowledge and resources of a range of existing programs, including those offered through Regional Occupational Programs/Centers (ROP/C). It builds on the strengths of these longstanding efforts and in many cases partners with ROP and other career focused programs as an integral part of the approach. Business enterprises and community organizations also work with Linked Learning to provide students with career-focused content and real world learning and work opportunities. Because Linked Learning is a comprehensive, cross-disciplinary approach, it requires collaboration among district office staff, between district offices and schools, and among teachers and leaders at schools sites.

Linked Learning focuses on:

1. A-G courses emphasizing real work applications
2. Technical core of courses that meet industry standards
3. Systemic approach to work-based learning
4. Personalized academic, socio-emotional, and other student supports

Career-themed real-world experience and problem-based learning via partnerships

Another foundational Linked Learning strategy for closing achievement gaps is to provide career themed instruction and experience. This aspect of Linked Learning increases students’ understanding and motivation as they learn through real-world problems—and provides students with experience that builds the skills, knowledge and behaviors necessary for career success.

Teachers with attitudes and skills to implement Linked Learning successfully

1. Linked Learning has the central goal of providing underserved and underperforming students with access to instruction that will promote their opportunity to learn and close achievement gaps. Central to achieving this goal are teachers who have a range of capabilities, professional skill, and attitudes. Among these are expectations for success of students of color and low-income students, as well as the ability to: 1) use inter- and intra-disciplinary collaboration in curriculum design and delivery; 2) develop lessons using problem- and project-based learning; 3) create industry and postsecondary education partnerships; and 4) develop learning experiences that integrate career-technical standards, academic standards, and work-based learning experiences.¹

In sum, Linked Learning differs from other high school reforms. It is unique in its combination of comprehensiveness, partnerships, strong equity emphasis, and college and career focus.

Why We Need High School Reform: Outcome Gaps in California

The achievement gap in California

On a positive note, over the last decade all California students—including low-income students and students of color—have made gains on the California Standards Tests, the state academic achievement measure, and some gaps have closed slightly. Nonetheless, large gaps remain and California’s low-income, African American, Latino, and English learner students are over-represented among students scoring at the lowest levels and under-represented among those scoring the highest on these statewide tests (Figures 2 and 3). In order to eliminate or narrow these gaps, California educators must find the ways to foster more rapid and dramatic achievement for students of color and low-income students.

Figure 2: English–Language Arts California Standards Test (CST): Percentage of Students Proficient & Above by Subgroup

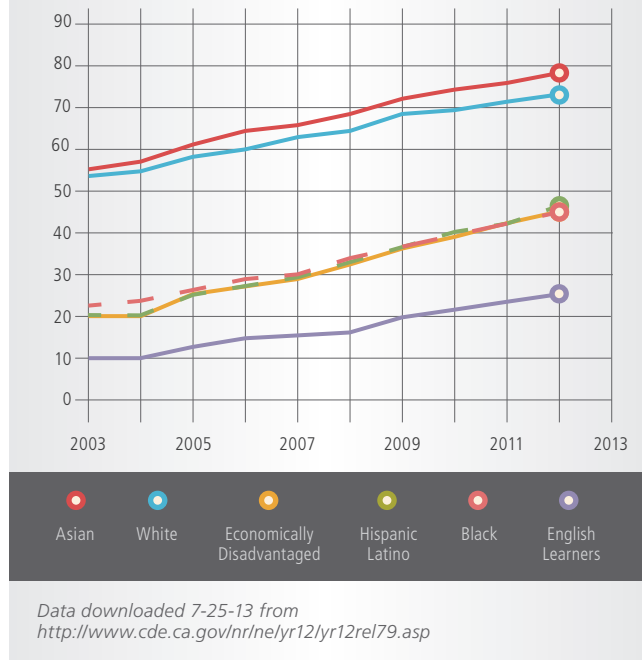
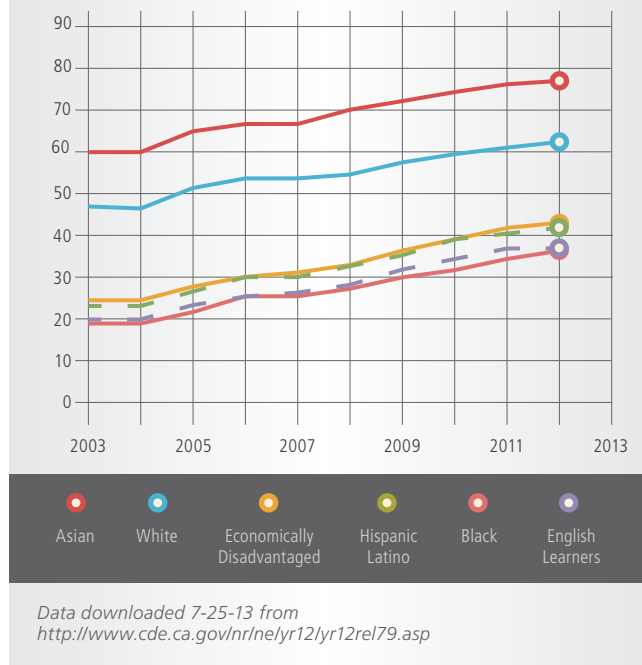


Figure 3: Mathematics California Standards Test (CST): Percentage of Students Scoring at Proficient and Above by Subgroup



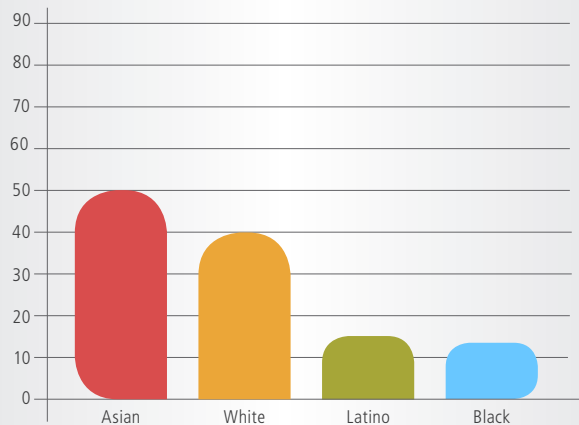
NAEP results

The National Assessment of Educational Progress (NAEP) reflects gaps among subgroups of California students as well. The NAEP is given to a random selection of students nationwide and is considered by many to be the most informative measure of how students are doing because it allows for cross-state comparisons. While achievement gaps on this measure among California students have closed slightly, significant gaps persist. Achievement gaps between African American and White students on both mathematics and reading NAEP tests have not changed significantly since 1990. For Latino students over the same time period, these gaps in math scores have not changed significantly, but have narrowed slightly in reading (Figures 4 and 5).

High school dropout and graduation

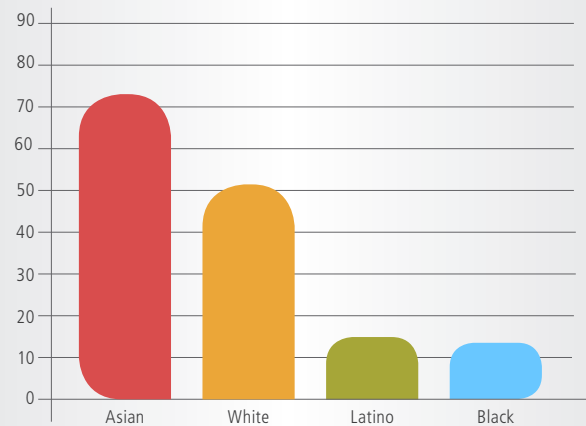
The California Department of Education's current approach to calculating the graduation rate is to count students entering the 9th grade in a given year, and count the same students at the end of four years to see if they have graduated (or have transferred, are continuing in high school, or have dropped out). Although its critics note that this methodology has limitations (for example, undercounting both graduates and dropouts by not considering what happens to students who remain enrolled after four years), it nevertheless provides a picture of differences among student groups. In the latest CDE report, California's African American and Latino students show lower rates of high school graduation than their White and Asian peers (Figure 6).

Figure 4: 2011 NAEP 8th Grade Reading: % California Students Scoring Proficient or Above



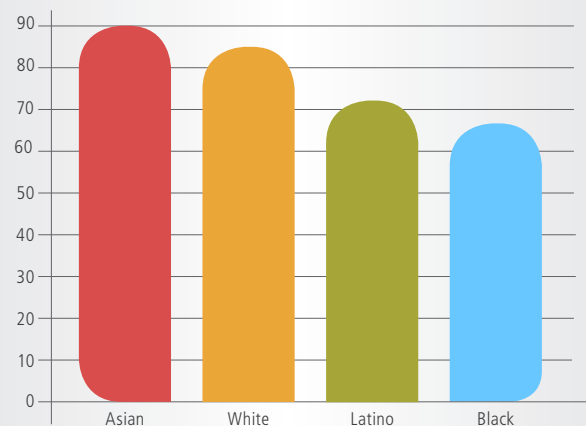
Downloaded 7-29-13 from <http://nces.ed.gov/nationsreportcard/pdf/stt2011/2012454CA8.pdf>

Figure 5: 2011 NAEP 8th Grade Mathematics: % California Students Scoring Proficient or Above



Downloaded 7-29-13 from <http://nces.ed.gov/nationsreportcard/pdf/stt2011/2012454CA8.pdf>

Figure 6: California Cohort Graduation Rate for the Class of 2011-12 Statewide Results



Downloaded 7-26-13 from <http://bit.ly/HprbiA>

Why We Need High School Reform: Costs of Less and Benefits of More Education

Cost to individuals and society of dropping out

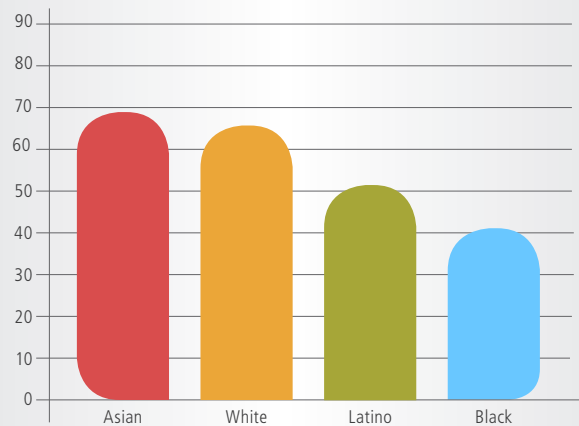
Dropping out is costly for individuals. Research indicates that dropouts are more likely to participate in crime, to become teen parents, to have poor health, and to report overall less “well-being” than high school graduates. Moreover, this cost may be enduring: children who are born poor are strongly likely to be poor adults, and “Because high school dropouts are twice as likely to be poor as high school graduates, children of dropouts are also more likely to become poor adults.”²

All of these factors have an obvious cost to society. A perhaps less evident cost to society is in the area of civic engagement, a long-held goal of public education that citizens be involved in political and community life. High school dropouts are much less likely to vote or participate in the political process in any way. They are also much less likely to be involved in their communities by, for example, volunteering or donating blood.³

Ongoing effects of less rigorous high school education

The less rigorous high school preparation of many students of color and low-income students continues to affect the progress of these students when they graduate and go on to college. It not only results in an academic barrier, but also adds to the cost and time it takes to complete a college degree. This is because students with less robust high school preparation often must take remedial classes before enrolling in those that meet degree requirements: nearly 60 percent of current new college enrollees must take remedial classes before they can take credit-earning courses.⁴ The results of this challenge can be seen in the data documenting the percentages of students from different subgroups who graduate from public colleges within six years.⁵ For Asian and White students these numbers are fairly high: 69 percent and 66 percent respectively while for Latino students only 52 percent graduate within six years and only 42 percent of African-American students (Figure 7).

Figure 7: 2009, Among Students Who Entered Public Colleges, % Who Graduated within Six Years



Downloaded 7-26-13 from: http://www.edtrust.org/sites/edtrust.org/files/California_0.pdf

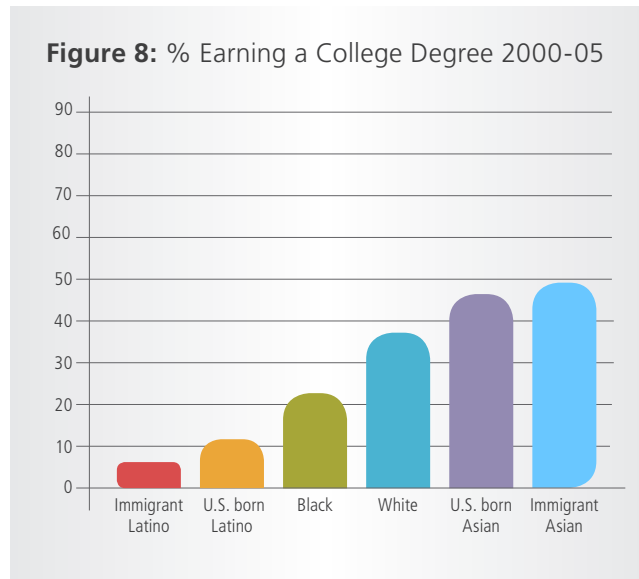
Effect of greater and less education on employment and income

These disparities have real and far-reaching consequences to our state, our local communities, as well as to individual students. The economic downturn of the last decade highlighted the relationship between education and economic security as those who lost jobs were the least educated.⁶ This translated into a disproportionate impact on minorities. For example, as a result of the recent recession, African Americans are twice as likely to be unemployed as their White counterparts and three times as likely to be unemployed if they are young.⁷

Relationship of education to growing income inequity

According to The Economic Policy Institute, California has one of the greatest income disparities in the U.S. among ethnic groups. Nearly 40 percent of Latino and 30 percent of African-Americans, while—though still too high—only 18 percent of Asian-Americans, and 15 percent of Whites do not earn a living wage in California. These income disparities are increasing between those with more and those with fewer years of education. Between 1973 and 2003, wages of workers with less than a high school degree decreased by 14 percent. During the same period, wages for those with a college degree increased by 19 percent.⁸ This disparity in income

between those with and without education translates into income disparity among ethnic groups. Between 2000-2005, only 6 percent of immigrant Latinos, 12 percent of U.S.-born Latinos, and 23 percent of African-Americans earned college degrees compared to 37 percent of Whites, 46 percent of U.S.-born Asians, and 49 percent of immigrant Asians (Figure 8).⁹



Benefits of college education

The other side of this coin is the benefit that individuals and society derive from college education. A 2012 nationwide report based on analysis of U.S. census and education statistics, finds that “almost without exception, each successive level of higher-educational attainment yields additional economic benefits.”¹⁰ For example the authors report that Americans who complete a bachelor’s degree have a median income of \$50,360, compared with a median of \$29,423 for people with only a high-school diploma. Those with an associate degree earn some \$9,000 more than those with only a high-school diploma.¹¹

More education is also associated with better health. A 2012 study that followed more than 7,000 people over a number of years revealed that those who had at least a bachelor’s degree had better mental and physical health by mid-life.¹²

Education requirements related to changing workforce needs

The trend of increasing education requirements for employment is projected to continue. By 2020, 65 percent of all jobs in the U.S. economy will require postsecondary education and training beyond high school. At the current production rate, by 2020 the United States will fall short by 5 million workers with postsecondary education.¹³

This shortfall in the college-educated workforce is projected to be even more pronounced in California. Statistics on the state’s economy indicate that it is continuing along a trajectory of increasing demand for a highly educated workforce and, if current trends persist, will have one million fewer college graduates than it needs in 2025. Given the state’s increasingly diverse student population, and considering the lower educational opportunity and attainment for students of color discussed above, a particular focus on improving education attainment among currently underserved and underperforming students will be necessary if California is to come close to meeting this need.¹⁴

Linked Learning: A Promising Approach for Closing High School Achievement Gaps

Linked Learning holds promise for schools and districts as they look for ways to target their resources under the Local Control Funding Formula (LCFF) to improve high school student outcomes. As noted above, Linked Learning blends a range of research-supported strategies into an overall approach to high school reform. Among the most fundamental Linked Learning strategies are: academic supports for students to ensure that all can participate in rigorous, career-themed courses earning A-G college prep credit; cross-disciplinary instruction; professional collaboration among teachers and leaders; career-themed experience and instruction based on solving real-world problems; guidance from one or more caring adult at school as well as guidance and or mentoring from adults in the world of career or business.¹⁵

The blending of these strategies into the overarching Linked Learning approach is relatively new—most schools have been implementing Linked Learning for fewer than five years—and until recently, it has been implemented in a small number of schools. Nonetheless, the approach has shown promise in increasing various student outcomes. For example, a study of

Linked Learning in three California school districts found it to be associated with an increase in achievement and graduation among African American, Latino and English learner students in all three.¹⁶ Another study of four schools with certified Linked Learning pathways found that the approach mitigated or eliminated barriers to students completing college prep coursework and resulted in higher graduation rates, although students in these schools demonstrated mixed results on standardized assessments of academic achievement. The authors of this latter study also explore both the areas of Linked Learning promise, such as those mentioned above, and the challenges that schools and districts face as they implement the approach. These include providing “all students with meaningful work-based learning opportunities,” developing and communicating “a well-articulated vision for college and career preparation that spans the K-12 continuum and ensures that students are progressively challenged at each grade level”, and “organizing multiple systems and coordinating their efforts.”¹⁷ This information about both the promise and challenges associated with Linked Learning provide useful guidance for schools and districts that are interested in implementing the approach.

Summary

Although there has been some improvement, there are persistent gaps in achievement between students from most Asian groups and White students and their Latino and African American peers. Both now and in the past, this lower education attainment has resulted in less remunerative employment and more unemployment among these groups. Over the last decades the share of jobs in the U.S. and California that require some college education has been increasing, and according to economists, will continue to do so as the country rebounds. Linked Learning seeks to prepare students to take advantage of these opportunities: its goal is to provide students with the capabilities and behaviors that prepare them to go to college and to ensure no matter what route students choose to take after high school, these choices are a result of students’ wishes, not the limitations of their educational preparation.

Questions and Considerations for School Boards

1. Does the board have a clear and common understanding of its high school students and their achievement levels and challenges?
2. Has the board identified early warning indicators for high school dropout and does it gather evidence of these from its feeder schools?
3. Has the board established and articulated clear goals for addressing both opportunity and achievement gaps for underserved and underperforming students?
4. Do the board’s decisions about allocation of resources demonstrate its commitment to closing these gaps?
5. Has the board worked with the superintendent to clarify the indicators of success of current efforts to close these gaps?
6. Has the board made clear to the community its priorities with regard to closing outcome gaps?
7. Has the board worked with district staff to determine the potential of Linked Learning as a potential approach to close achievement gaps in the district?
8. Has the board shared information about and explored community interest and concern regarding the Linked Learning approach and its central features?
9. Has the board explored the possibility of community and business partners for the Linked Learning to provide valuable career-focused experiences for students?
10. Has the board worked with staff to determine to what extent teachers are prepared for and interested in teaching in a Linked Learning environment, and what it would take to provide the necessary teacher and administrator expertise and time to implement the approach?

References

- 1 Farnan, N., (2012). *Transforming High Schools through a Linked Learning approach* [PowerPoint slides]. Retrieved from: <http://www.ctc.ca.gov/educator-prep/TAP/2012-10-TAP-linked-learning.pdf>
- 2 Rumberger, R. (2010). *Dropping out: Why students drop out of high school and what can be done about it* (page 121). Cambridge, MA: Harvard University Press.
- 3 Rumberger, R. (2010). *Dropping out: Why students drop out of high school and what can be done about it* (page p. 117). Cambridge, MA: Harvard University Press.
- 4 *Beyond the rhetoric: Improving college readiness through coherent state policy*. Retrieved from http://www.highereducation.org/reports/college_readiness/gap.shtml
- 5 *Education watch state report 2009*. EdTrust West. Retrieved from http://www.edtrust.org/sites/edtrust.org/files/California_0.pdf
- 6 Carnevale, A., Jayasundera, T., and Cheah, B. (2012). *The college advantage: Weathering the economic storm*. Retrieved from <http://cew.georgetown.edu/collegeadvantage/>
- 7 Carnevale, A.P., Smith, N., and Strohl, J. (2013). *Recovery: Projections of Jobs and Education Requirements Through 2020*. Georgetown University. Retrieved from: <http://cew.georgetown.edu/recovery2020/>
- 8 Pastor, M. (2010). United or divided: *Can multiple pathways bring together multiple communities?* In Oakes, J. and Saunders, M. (Eds.), *Beyond Tracking* (pp. 91-112): Cambridge, MA: Harvard University Press.
- 9 Pastor, M. (2010). United or divided: *Can multiple pathways bring together multiple communities?* In Oakes, J. and Saunders, M. (Eds.), *Beyond Tracking* (page 102): Cambridge, MA: Harvard University Press.
- 10 Zaback, K. and Carlson, C. (2012). *The Economic Benefit of Postsecondary Degrees: A State and National Level Analysis*. A Report from the State Higher Education Executive Officers. Retrieved from: <http://www.sheeo.org/sites/default/files/publications/Econ%20Benefit%20of%20Degrees%20Report%20with%20Appendices.pdf>
- 11 Charles Huckabee, C. (December, 2012). Analysis Adds to Data Showing the Economic Benefit of a College Degree. *Chronicles of Higher Education*.
- 12 Better Health: Another Reason for Getting a Degree (February 28, 2012). *Science News*. Retrieved from, <http://www.sciencedaily.com/releases/2012/02/120228114042.htm>
- 13 Carnevale, A.P., Smith, N., and Strohl, J. (2013). *Recovery: Projections of Jobs and Education Requirements Through 2020, Executive Summary*. Georgetown University. Retrieved from: <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/Recovery2020.ES.Web.pdf>
- 14 Johnson, H and Sengupta, R. (2009) *Closing the gap: Meeting California's need for college graduates*. San Francisco, CA: Public Policy Institute of California (PPIC). Retrieved from: http://www.ppic.org/content/pubs/report/R_409HJR.pdf
- 15 *Multiple pathways to student success: Envisioning the new California high school*. California Department of Education, 2010. Retrieved from: http://www.schoolsmovingup.net/mpstudy/downloads/AB2648_MP_Report_060110.pdf
- 16 *Linked Learning in California: High school transformation in three districts* (2013). Stanford, CA: Stanford Center for Opportunity Policy in Education.
- 17 La Fors, J. and McGlawn, T. (2013) *Expanding access, creating options: How Linked Learning pathways can mitigate barriers to college and career access in schools and districts*. EdTrust West. Retrieved from: <http://www.edtrust.org/sites/edtrust.org/files/Expanding%20Access%20Creating%20Options%20Report.pdf>