

# What It Takes to Create Linked Learning

*A Report on Lessons Learned from  
Evaluating the Approach in Practice*

**SRI** Education™



# Introduction

Linked Learning is an approach for transforming high schools to prepare all students for college, career, and life. It works through career-themed pathways that integrate college preparatory academics, rigorous technical training, work-based learning, and supports to help students stay on track. With support from The James Irvine Foundation, SRI International has evaluated this approach at work in nine school districts across California over the course of seven years. The evaluation has surfaced a set of strategies that promote successful implementation of Linked Learning by both school districts and individual pathways.



## KEY STRATEGIES

### FOR SCHOOL DISTRICTS (GO TO PAGE 4)

- Common vision for Linked Learning
- Leadership for Linked Learning
- Attention to equity
- Staff and structures to support work-based learning
- Favorable human resources policies
- Broad-based coalition
- Continuous improvement process



### FOR PATHWAYS (GO TO PAGE 6)

- Principal leadership
- Support for pathway leads
- Engaged team of teachers
- Pathway-level advisory boards

SRI distilled key strategies from interviews with district and pathway leaders in the nine school districts participating in the Linked Learning District Initiative: Antioch Unified, Long Beach Unified, Los Angeles Unified, Montebello Unified, Oakland Unified, Pasadena Unified, Porterville Unified, Sacramento City Unified, West Contra Costa Unified

## WHY LINKED LEARNING?

The SRI evaluation shows that, compared with similar peers, students participating in certified Linked Learning pathways:

- Earn more credits over the four years of high school<sup>1</sup>
- Are less likely to drop out of high school and more likely to graduate<sup>1</sup>
- Report greater confidence in their life and career skills<sup>2</sup>

Moreover, certified pathways are having a strong positive effect for students entering high school with low academic skills.

# Context

## ABOUT LINKED LEARNING

Rejecting the outmoded and usually inequitable separation of students into vocational and academic tracks, Linked Learning pathways integrate four core components throughout the student experience: **rigorous academics** that prepare students to succeed in college; **career-technical education** courses in sequence, emphasizing real-world applications of academic learning; **work-based learning** that provides exposure to real-world workplaces and teaches the professional skills needed to thrive in a career; and **comprehensive support services** to address the individual needs of all students, ensuring equity of access, opportunity, and success.

Linked Learning pathways are organized around industry-sector themes and can take the form of stand-alone small schools, or academies within larger comprehensive high schools. The pathway program of study includes college preparatory academic coursework, a sequence of career-technical education courses, and work-based learning. Ideally, pathway students in every grade have their own course section for each of their classes—math, English, social studies, and a career-technical education course—to allow teachers to implement integrated, cross-discipline projects and increasingly in-depth work-based learning experiences.

Certified Linked Learning pathways have successfully undergone an external review process managed by ConnectEd or NAF, based on established indicators of pathway quality. Certification indicates that a pathway has attained a certain level of fidelity to the four core components of Linked Learning. The pathway-level implementation strategies highlighted in this brief were drawn from interviews with pathway leads and teachers from certified pathways and some of the more advanced noncertified pathways. Certification is important because students who enrolled in certified pathway had more positive academic outcomes than those in noncertified pathways.<sup>2</sup>

## THE LINKED LEARNING DISTRICT INITIATIVE

In 2009, recognizing the challenges inherent for individual schools or pathways trying to redesign the high school experience, The James Irvine Foundation launched the California Linked Learning District Initiative. This demonstration project, implemented in nine California districts, focused on the establishment of district systems to support and sustain multiple Linked Learning pathways. As evaluation partner to this demonstration project, SRI International has documented the development of these district systems and their role in strengthening Linked Learning pathways, and examined outcomes for students. This summary is intended to help districts and schools new to the Linked Learning approach benefit from the experiences of these early adopters.

## ABOUT THE DEMONSTRATION DISTRICTS

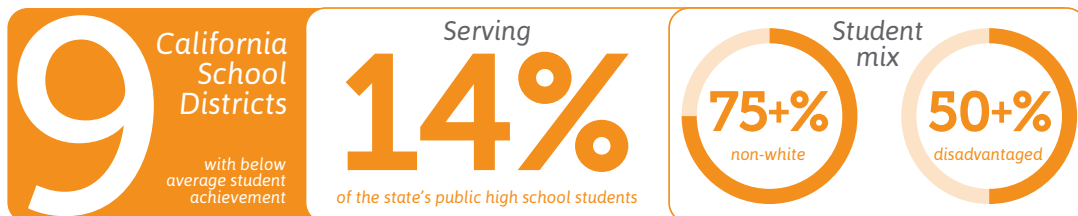
The nine districts participating in the California Linked Learning District Initiative vary in size, and include rural and urban geographies. High school enrollment in these districts ranged from just over 5,000 students in Antioch Unified School District to more than 185,000 students in Los Angeles Unified School District. Collectively, they served more than 272,000 of the nearly two million high school students enrolled in California public schools. All had a high proportion of disadvantaged students.

## SUPPORTING LINKED LEARNING

**ConnectEd: The California Center for College and Career**, established by The James Irvine Foundation in 2006, served as the primary intermediary and technical assistance provider for the demonstration project.

**NAF** provides technical assistance, professional development, and curriculum to a national network of academies in five industry sectors: Finance, Hospitality and Tourism, Information Technology, Engineering, and Health Sciences.

**College and Career Academy Support Network** provides coaching, professional development, and technical assistance to support the Linked Learning approach.





# For School Districts

Full realization of the Linked Learning approach requires the support of a coherent set of school district human resource and student enrollment policies as well as infrastructure for work-based learning placements. Leaders in the nine demonstration districts identified the key district-specific implementation strategies below as crucial to establishing and sustaining Linked Learning.

## COMMON VISION FOR LINKED LEARNING

Educators across the district and at every level must understand and explicitly support Linked Learning implementation. In particular, the superintendent, executive cabinet, and school board must be **visible and public champions** of the effort. They must actively demonstrate their commitment to Linked Learning by enacting supportive district and board policies, setting and enforcing expectations for educators, developing data systems to effectively track pathway students, and marshaling funds and resources.

The adoption of Linked Learning as the approach to high school within a district depends on moving the perceptions of a wide range of stakeholders, including students and parents. Stakeholders must move beyond inequitable and outdated notions of vocational education as a track for low-performing students and embrace a vision of applied learning in high school through integrated academic and career-technical education. Development of a **clear communications plan** at the start of implementation can help ensure consistent understanding of Linked Learning. One high-level district administrator described the effort involved in building this common vision: “Communicate relentlessly. If you think someone got it, say it again, put it in writing, put it on the website.”

Another key investment for establishing a common vision for Linked Learning is **district-level coaching**. An external Linked Learning technical assistance provider can support smooth implementation of the critical initial steps to creating common vision: building relationships, spreading the foundational knowledge about Linked Learning, helping shift educators’ mindsets to align priorities and supports with Linked Learning, and getting key leaders on board—especially the superintendent and cabinet.

“**COMMUNICATE RELENTLESSLY. IF YOU THINK SOMEONE GOT IT, SAY IT AGAIN, PUT IT IN WRITING, PUT IT ON THE WEBSITE.**”

*- School District Administrator*

## ACHIEVING SHARED VISION

In **Long Beach Unified School District**, which served more than 25,000 high school students in 2014-15, a dedicated district administrator led Linked Learning with support from a cross-district leadership team that included high school principals and an executive team that included members of the superintendent’s cabinet. The district Linked Learning office housed staff at each high school, providing a direct link to school staff. High school principals were required to detail how they would move pathways toward certification in their school improvement plans. The district adopted only programs that aligned with its priorities, and the district’s website clearly articulated how Linked Learning supported the district’s High School Reform Initiative.

**Porterville Unified School District**, one of the smallest participating districts, with fewer than 7,000 high school students, achieved a shared vision by making an early commitment to a clearly defined plan for a district-wide Linked Learning system and by maintaining consistent and highly-visible support for that plan from the superintendent and other key district staff. Strategies included holding all principals accountable for making Linked Learning a priority for their schools, garnering broad-based community support through a coordinated system of pathway- and district-level advisory boards, and creating and staffing a strong district-level pathways office to support and sustain quality implementation of the Linked Learning approach.



## LEADERSHIP FOR LINKED LEARNING

Responsibility for Linked Learning implementation should be concentrated, with broad ownership of the approach. Adoption of Linked Learning requires someone with both the authority and time to oversee implementation: a **dedicated Linked Learning director** with high-level (i.e., cabinet) positional authority, supervisory authority of high school principals, and a support team. However, one office alone cannot make Linked Learning happen. Successful adoption also requires a cross-district Linked Learning leadership team with representatives of many district offices (including the human resources and curriculum and instruction offices), as well as principals and pathway leads (lead teachers with administrative and programmatic responsibility for each pathway).

## ATTENTION TO EQUITY

Student selection of pathways is an underlying principle of the Linked Learning approach, but student choice-driven enrollment may reinforce stratification by race, class, and achievement level. To achieve equitable pathway enrollment, districts must be intentional about the distribution and location of pathways, as well as the policies and recruitment practices that influence student preferences and access to pathways. Requiring all students to make a deliberate choice of high school pathway or program, and centralizing pathway recruitment, can help ensure that students do not default to their neighborhood school because of lack of information or motivation.

## STAFF AND STRUCTURES TO SUPPORT WORK-BASED LEARNING

Work-based learning is a distinguishing component of Linked Learning and can help integrate academic and applied education. But many pathway teachers lack the time and industry connections to develop and maintain work-based learning opportunities for students. For pathways to provide adequate opportunities that are equitably allocated to students, districts must invest in staff and structures to support work-based learning so the responsibility does not fall solely to pathway leads and teachers.

## FAVORABLE HUMAN RESOURCES POLICIES

Successful Linked Learning implementation requires favorable human resources policies to recruit and retain pathway teachers and allow for the development of experienced, collaborative pathway teaching teams. Career-technical education teachers, vital to Linked Learning pathways, may be particularly vulnerable to layoffs in lean budget years. The Pasadena Unified School District's board passed a resolution permitting the district to deviate from terminating certificated employees in order of seniority, which allowed them to protect trained pathway teachers from layoffs. One board member explained the impetus for this policy: "If someone has specific technical skills that support a pathway, you can't just plug somebody else in. It's important that we maintain a level of stability in the staff that is trying to move this initiative forward because it's our central secondary reform initiative."

### SUPPORTING WORK-BASED LEARNING

**Pasadena Unified School District** funded two local organizations—the Chamber of Commerce and the Armory Center for the Arts—to provide pathway industry connections. These organizations conducted outreach to local industry to expand work-based learning opportunities, engaged with pathway advisory boards, coordinated industry field trips, and supported the internship preparation process. To tailor their work-based learning support to each pathway, staff from these organizations participated in teacher collaboration meetings and summer professional development when teachers built their integrated units.

Several districts, including Pasadena, provided teachers with materials from the Exploring College and Career Option (ECCO) program to help teachers integrate work-based learning experience into their courses.<sup>3</sup>

## BROAD-BASED COALITION

A broad coalition of **regional industry partners** and **civic leaders** (e.g., Chamber of Commerce, mayor) is crucial for developing industry partnerships, supporting work-based learning, and sustaining Linked Learning. Community connections are critical early; they help create work-based learning opportunities and ensure that Linked Learning is sustained even in the face of district staff turnover.

## CONTINUOUS IMPROVEMENT PROCESS

Districts need to ensure fidelity to the Linked Learning approach and support a continuous improvement process for pathways that is valuable to district staff and pathway teachers. Some districts accomplished this by having pathways regularly reflect on their progress against criteria for high-quality pathways using ConnectEd or NAF self-assessment tools.<sup>4,5</sup> For example, in Long Beach Unified School District, all pathways completed the ConnectEd online self-assessment and district staff used the data collected to identify professional development needs.

# For Pathways

In addition to a supportive district system, Linked Learning depends on strong implementation at the school and pathway level. Across the nine demonstration districts, principals and pathway leads identified the following key strategies of pathway implementation.

## PRINCIPAL LEADERSHIP

Principals face competing priorities emanating from the community, from different district offices, and from their school staff. Therefore, to prioritize Linked Learning, they must believe in its goals, see implementation of Linked Learning as part of their job responsibilities, and have the support needed to build facilitating structures.

School leader (e.g., principal and assistant principal) investment in Linked Learning is essential to implementation because school leaders control the structures needed to sustain successful pathways. Principals must ensure that schools have **master schedules** that enable student cohorts to move through core pathway classes together and provide regular collaborative planning time for pathway staff.

Districts must get principals on board early, support them in implementation through coaching and technical assistance, and hold them accountable. This is particularly important for principals of comprehensive high schools, who may oversee multiple school improvement initiatives, and have only a fraction of their student body enrolled in pathways.

In the nine demonstration districts, successful strategies for supporting principals included targeted principal coaching or technical assistance and communities of practice where principals could support and learn from one another. The experiences of the demonstration districts also revealed the importance of accountability; places where the principals of comprehensive high schools were not held accountable for implementing Linked Learning encountered the greatest challenges engaging principals.

## SUPPORT FOR PATHWAY LEADS

Pathway leads need dedicated time and support to fulfill their multiple responsibilities, which include managing pathway operations, supporting pathway teachers with integrating curriculum, and organizing work-based learning opportunities. Leads cannot successfully take on all of these extra responsibilities in addition to a full teaching load: They need extra release time.

In addition to extra time, staffing schools with either a **site-based pathway assistant** or **work-based learning coordinator** dedicated to supporting pathways can remove some of the burden of clerical duties, such as setting up field trips and guest speakers, completing expense reports, and filling out paperwork. According to one pathway lead, her pathway assistant was “like the glue that puts everything together.”

## CREATING A SUPPORTIVE MASTER SCHEDULE

Creating a master schedule that supports both student cohorts and regular collaborative planning time for pathway staff can be logistically challenging, particularly in comprehensive high schools where some students are in pathways and others are not. There is no one-size-fits-all solution as the number of students, teachers, and class periods all factor in.

At **Hiram Johnson**, a large comprehensive high school in Sacramento City Unified School District that offered three pathways, the assistant principal in charge of scheduling allowed the pathway teams to schedule their classes first and then asked the rest of the departments to work around them. Other districts sought technical assistance on master scheduling from the College and Career Academy Support Network (CCASN), which provides many freely available resources at [casn.berkeley.edu](http://casn.berkeley.edu).



“MY PATHWAY ASSISTANT WAS LIKE THE GLUE THAT PUTS EVERYTHING TOGETHER.”

- Linked Learning Pathway Lead

## ENGAGED TEAM OF TEACHERS

Building an integrated academic and technical curriculum with aligned work-based learning opportunities requires strong communication within the pathway team. In order to make it work pathways must have an engaged team of teachers who come together as a community of practice to develop integrated curriculum, deliver high-quality instruction, and support students. **Common planning time** is essential for building a strong pathway program—and for that time to be useful, pathway teachers must be willing to collaborate with one another.

One strategy for assembling an engaged team of teachers is to start with those who volunteer to be involved in Linked Learning. Although this may not be a sustainable approach in the long run—as schools and districts scale to wall-to-wall pathways, they may run out of volunteers—it can still be helpful to start with enthusiastic early adopters and establish a set of high-quality pathways before expanding.

One of the greatest threats to an engaged team of teachers is turnover. Human resources policies that are supportive of recruiting and retaining teachers in pathways are a good first step. However, some level of turnover is inevitable, and pathways need a strategy to build new teachers' understanding of and engagement with Linked Learning.

## PATHWAY-LEVEL ADVISORY BOARDS

The most effective advisory boards help pathways develop curricula, assess student performance, and identify work-based learning opportunities. Pathway teachers typically do not have the level of industry knowledge of advisory board members and thus value opportunities to collaborate with these board members to incorporate real-world applications of the pathway theme into their instruction.

Dozier-Libby Medical High School in Antioch Unified School District engaged with the local healthcare industry through its advisory board before the school became a certified pathway. School and pathway leaders consulted with board members to ensure that their curriculum was aligned with the workplace expectations in the medical field.

Before contacting prospective advisory board members, it is important for pathways to have a clear sense of the role they would like these advisors to play. To assist pathways in building successful advisory boards, Sacramento Unified School District began training pathway staff on how to contact industry partners, convince them to join their advisory board, and keep them engaged once they have committed.

## COACHING FOR UNDERSTANDING AND ENGAGEMENT

Porterville Unified School District offered training by external coaches, including both ConnectEd and NAF, for pathway leads and teachers. In addition, Porterville sent a cadre of pathway leads and teachers through the more intensive ConnectEd coaches training (to become coaches themselves). This helped to build buy-in and understanding of Linked Learning.

Pathway coaches can help teachers make the instructional shifts necessary to truly implement a rigorous, integrated academic and technical curriculum with aligned work-based learning experiences. Effective coaching can be either external or internal, but must be tailored to a pathway's specific needs (e.g., master scheduling, development of integrated projects, leadership skills).

Among internal coaches, those who were former pathway leads had the advantage of credibility and authority with the teams they supported. Moreover, internal coaching was most effective when the coaches were fully released from other district and pathway responsibilities. Those not freed up in this way struggled to have the time necessary to provide adequate support to pathway leads.



## ENDNOTES

- 1 Warner, M., Caspary, K., Arshan, N., Stites, R., Padilla, C., Park, C., Patel, D., Wolf, B., Astudillo, S., Harless, E., Ammah-Tagoe, N., McCracken, M. & Adelman, N. (2015). Taking stock of the California Linked Learning District Initiative. Sixth-year evaluation report. Menlo Park, CA: SRI International.
- 2 Guha, R., Caspary, K., Stites, R., Padilla, C., Arshan, N., Park, C., Tse, V., Astudillo, S., Black, A., & Adelman, N. (2014). Taking stock of the California Linked Learning District Initiative. Fifth-year evaluation report. Menlo Park, CA: SRI International.
- 3 More information available at <http://www.mdrc.org/video/exploring-college-and-career-options>
- 4 Information on the Linked Learning Pathway Quality Review, Continuous Improvement and Certification Process available at: [https://connectedstudios.org/files/certification/LLPQRC\\_ProcessPurpose.pdf](https://connectedstudios.org/files/certification/LLPQRC_ProcessPurpose.pdf)
- 5 NAF standards available at: <http://naf.org/wp-content/uploads/2015/11/standards2015.pdf>

## SRI Education™

SRI Education, a division of SRI International, is tackling the most complex issues in education to identify trends, understand outcomes, and guide policy and practice. We work with federal and state agencies, school districts, foundations, nonprofit organizations, and businesses to provide research-based solutions to challenges posed by rapid social, technological and economic change. SRI International is a nonprofit research institute whose innovations have created new industries, extraordinary marketplace value, and lasting benefits to society.

SRI International is a registered trademark and SRI Education is a trademark of SRI International. All other trademarks are the property of their respective owners. Copyright 2016 SRI International. All rights reserved.

**Kyra Caspary**, Senior Researcher,  
[kyra.caspary@sri.com](mailto:kyra.caspary@sri.com)

**Miya Warner**, Senior Researcher,  
[miya.warner@sri.com](mailto:miya.warner@sri.com)

Silicon Valley  
(SRI International headquarters)  
333 Ravenswood Avenue  
Menlo Park, CA 94025  
+1.650.859.2000

Washington, D.C.  
1100 Wilson Boulevard,  
Suite 2800  
Arlington, VA 22209  
+1.703.524.2053

[www.sri.com/education](http://www.sri.com/education)

November 2016

STAY CONNECTED

