

Transforming California's High Schools: The case for Linked Learning

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Keynote Address

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【解説】

以下は2019年8月22日に実施された日本キャリア教育学会国際交流委員会主催「国際交流セミナー」にて行われた、コリーン・マルチネズ博士（カリフォルニア州立大学ロングビーチ校准教授）による基調講演の手持ち原稿である。ご本人の承諾を得て掲載させていただく。本講演の当日の同時通訳原稿（日本語）については、キャリア教育研究第38巻第2号（2020年3月発行）の51頁から60頁に掲載がある。また、以下に示されているスライド1からスライド27までは、同キャリア教育研究61頁から74頁に掲載されている。なお、本原稿は、コリーン・マルチネズ博士の手持ち原稿であり、基調講演当日の時間的な制約などの理由で必ずしも同時通訳原稿（日本語）と一致はしていないことをお断りしておく。（日本キャリア教育学会国際交流委員会）

【基調講演原稿】

INTRODUCTION

[SLIDE 1]

Hello everyone, I am honored to be here today. I travelled a long way to be here with you and I am thankful to my colleague Professor Takao Mimura and the Japanese Society for the Study of Career Education, Waseda University and the Waseda Association for Career Education for inviting me to share with you the work of high school transformation in California. **I am very excited that today's seminar focuses on the role of career technical education in providing young people with the academic, technical, and employability skills and knowledge to pursue postsecondary training or higher education.**

My talk today, recognizes the importance of preparing all students for the 21st century along with meeting both national and state accountability measures and introduces the Linked Learning

approach as a promising school reform model that answers these objectives. I will share with you aspects of the Linked Learning approach that are conducive to molding student success both in the U.S and Japanese education system.

Before I begin with my remarks, let's learn a bit more about who is in the room today. Raise your hand if you work in a . . .

An Elementary School

Junior High School

High school

District Central Office

Post-Secondary Institution

State Agency

Employer/Business

Other Type of organization

[SLIDE 2 - AGENDA]

My presentation today will begin with a discussion of growing concerns over America's educational system – concerns that may be well-displayed within modern Japanese education, as well. I will then describe how secondary education in California has been redesigned to address these concerns, within the context of one reform model, Linked Learning. I will share an overview of Linked Learning, including key aspects that are relevant to elementary schools, middle schools, and high schools. We will view a short video of what it looks like in practice. I will share with you the impact Linked Learning is having on student outcomes. And review factors that researchers believe contribute to the success of Linked Learning and then end with comments about the future of Linked Learning. We will have time for questions toward the end of the presentation.

[SLIDE 3 – CONCERNS]

GROWING CONCERNS OVER EDUCATION IN THE UNITED STATES

Today, there is growing concern in the United States that the taught curriculum needs to be reconsidered and redesigned. Decisions about 'what's in' and 'what's out' change from time to

time depending on political needs, workforce demands and national aspirations. In the 1970's the United States ranked among the world's top educational systems, in terms of attainment, in terms of achievement. The most recent data from international math and science assessments indicate that U.S. students continue to rank around the middle, and behind many other advanced industrial nations on international assessments, such as the Programme for International Student Assessment (PISA) (D. Desilver, 2017).

Equally important, however, is the **achievement gap** between white, black and Latino students as well as between students from affluent and impoverished families. For decades, researchers have documented racial and ethnic achievement gaps. Results from the 2017 National Assessment of Education Progress (NAEP). Often referred to as "the Nation's Report Card," provides a bi-annual barometer on how states and the country as a whole are performing in the classroom. A few patterns are evident in this latest report card.

[SLIDE 4 – NAEP DATA]

For example,

1. White-black and white-Hispanic achievement gaps have, in general, narrowed substantially since the 1970s in all grades and in both math and reading.
2. As of 2012, the white-black and white-Hispanic achievement gaps were 30-40% smaller than they were in the 1970s.
3. In 2017, race based gaps ranged from 0.5 to 0.7 standard deviations. (Stanford CEPA, 2019)

In spite of the positive trends on race-based gaps in the 2017 NAEP assessment, there is still a wide gap between different groups of students. And, these gaps have become a focal point of reformers' and policymakers' efforts to address educational inequities.

[SLIDE 5 – CHANGES IN THE US ECONOMY]

Additionally, the U.S. like Japan has seen fundamental changes in the economy, jobs, and businesses that have reshaped workplaces and the nature of work.

Over the last several decades, the industrial economy based on manufacturing has shifted to a service economy driven by information, knowledge, innovation and creativity. Today, more than

80 percent of jobs are in the service sector, which includes high-growth, high-wage and high-skilled occupations in new and emerging industries. In this new, globally interconnected economy, companies have changed how they are organized and the way they do business. Technology has supported these changes, which include decentralized decision making, information sharing and the use of task teams, cross-organizational networking, and flexible work arrangements.

Now more than ever, individuals must be able to perform non-routine, creative tasks if they are to succeed. While skills like creativity, critical thinking, and innovation may not be new to the 21st century, they are newly relevant in school systems where we tend to reward basic skills and rote memorization. **Whether a high school graduate plans to enter the workforce directly, or attend a vocational school, community college, or university, it is a requirement to be able to think critically, solve problems, communicate, collaborate, and use technology effectively (Partnership for 21st Century Skills 2010).**

[SLIDE 6 – QUESTION]

As the economy has changed, as social needs have changed and the structure of society has changed, political and business leaders find that what the US needs is an aligned, connected system that creates the opportunity for **all students** to receive an education that enables them to continue their learning beyond high school. **So one of the questions that education leaders have grappled with, is how do we improve America’s schools in ways that help close achievement gaps between the lowest and highest-performing students, and between the poorest and most affluent while at the same time preparing students to compete for 21st century jobs?**

Ten years ago, the Obama administration announced a new kind incentive program “Race to the top” and allocated 4.35 billion dollars, to schools nation-wide. The program rewarded states and school districts for encouraging certain targeted goals such as better teacher training, developing curriculum standards and data systems to measure student success, and improving the lowest achieving schools. The RTTT has since been extended as a new initiative known as the Common Core State Standards or CCSS. In theory, the Common Core standards insure that all

students, no matter where they live, are prepared for success in post-secondary education and/or in the workforce. The standards are intended to provide greater clarity in what is expected of all students, and establish a kind of staircase to college and career readiness.

[SLIDE 7 – POLICIES, STANDARDS. . .]

Today, under the current version of the Elementary and Secondary Education Act (ESEA), virtually every state in the U.S. has developed initiatives for college and career readiness and success. Federal legislation including: the **Every Student Succeeds Act** (ESSA), the Strengthening Career and Technical Education for the 21st Century Act or better known as **Perkins V**, and the **Workforce Innovation and Opportunity Act** (WIOA) call for states to develop a coherent approach to ensuring that all students are prepared for tomorrow's careers and workforce demands (Cushing, English, Therriault, and Lavinson, R. (2019).

ESSA, for example, provides funding for public education from kindergarten to 12th grade, and requires that all students be taught to challenging academic content standards that prepare them to succeed in college and careers.

Perkins V funds states to improve both secondary and postsecondary career and technical education (CTE) programs that prepare students for the real world.

WIOA funds the public workforce development system for education, training, and support services for youth and adults looking for meaningful employment, with additional funding for adult education and literacy activities for out-of-school youth and adults who lack a high school diploma or proficiency in English.

These policies and standards cannot, by themselves, raise student achievement, close the achievement gap, nor insure that all students, no matter where they live, are prepared for success in post-secondary education and/or in the workforce. Likewise, the standards can't make all students learn. Reformers argue that the impact of common standards and related legislation will be only as good as the states and school districts defining the new curriculum and the classroom teachers who implement the new standards in their classrooms.

Across the U.S., individual states are creating and launching college and career readiness goals and adding college and career readiness standards and assessments to drive curriculum and instruction. **This is certainly the case in California, - the most populous state in the nation, the home of Silicon Valley's technology, some of the country's best universities, including my alma mater, UCLA. The Golden State has one of the largest economies in the world, is one of the country's wealthiest, most culturally diverse and politically influential states that has embarked on a movement to transform its middle school and high schools in rural communities, suburbs and urban centers.**

In California, the movement to ensure that more students are ready for college and have what it takes to enter the world of work and pursue a career pathway is multifaceted and includes systemic change at the classroom, school, district, and regional levels. Strategic investments from foundations and the State Department Education, (which has committed more than \$2 billion) to help schools and regions establish and expand college and career pathways has resulted in exponential growth in the number of school districts across California that are offering or planning to offer readiness opportunities to students.

[SLIDE 8 – LINKED LEARNING IN CA IS TRANSFORMING EDUCATION]

State-funded career academies include California Partnership Academies, academies sponsored by the National Academy Foundation and Linked Learning pathways. At its technical core, Linked Learning joins together rigorous college-prep academics, a challenging career or profession themed curriculum that meets industry standards, and an opportunity for students to apply classroom learning through work-based experiences or other real-world experiences in their communities. **Beyond this defining core, however, Linked Learning encapsulates a broader and clearly transformative vision for the American high school.** Linked Learning began in 9 California school districts and is currently implemented in more than 75 districts, hundreds of high schools, and several middle schools with more 50,000 students in pathways.

[SLIDE 9 – THE LINKED LEARNING APPROACH]

As framed by the California Department of Education (CDE) in a report to the California Legislature, the Linked Learning approach is understood as aiming to “fundamentally change the orientation of the high school experience... [wherein] the school must work with the community to support students and families... [and where] business, industry, and labor must be engaged in more integral roles within high schools to help ensure the relevance and applicability of curricula” (California Department of Education, 2010, p. 197).

[SLIDE 10 – VIDEO EXPLANATION]

In the short video featured earlier this afternoon, Gary Hoachlander, the President of the California Center for College and Education or ConnectEd describes the essential features of the Linked Learning approach, noting that the transformative power of pathways rest in merging academic course content with an industry theme. You heard from business leaders and employers investing in the future of their work force by providing students in Linked Learning pathways with opportunities such as job shadows, internships and apprenticeships. You saw students like David and Eric reflect on how the fieldtrips, anatomy courses and interning at the local hospital provided first-hand experience in the field of health sciences. Teachers commented that knowing your students, integrating their interests into the curriculum and connecting it to the real world has empowered them to improve their pedagogy.

<https://www.youtube.com/watch?v=0mCw2S5hC4E>

In the Linked Learning approach, industry-themed pathways (tied to one of California’s fifteen CTE industry sectors) are created to provide a focus and context for students’ learning. Students take a specific course of study for their pathway that includes academic courses (e.g., English, social studies, math, and science) and a series of CTE elective courses. The resulting career-themed pathways infuse CTE curricula within college preparatory education (Saunders, Hamilton, Fanelli, & Moya, 2013; CSBA, 2014).

[SLIDE 11 – LL CORE COMPONENTS]

These pathways combine rigorous academics, technical skills, work-based learning, and student supports (CSBA, 2014; Linked Learning Alliance, n.d.a.; Saunders, Hamilton, Fanelli, & Moya, 2013; Rustique & Stam, 2013; Guha et al., 2014).

Rigorous academics. The challenging academic core is comprised of rigorous courses (a-g courses) that satisfy requirements for admissions eligibility into the California State University and University of California systems (Saunders et al., 2013; Rustique & Stam, 2013; Guha et al., 2014). Inquiry based, interdisciplinary units and projects are a critical aspect of Linked Learning's rigorous academic core (The Education Trust West, 2015). Specifically, Project-based Learning (PBL) has become a core instructional delivery model applied within many Linked Learning pathways (Saunders, 2013).

In the Linked Learning context, PBL supports student learning by integrating curriculum across disciplines and maintaining rigor while students produce real, meaningful projects that prepare them for 21st century college and careers (Buck Institute for Education, 2011).

Other aspects of Linked Learning include work-based learning opportunities, technical skills development and integrated student supports.

Work-based Learning. School districts are developing, and scaling, a system of work-based learning to ensure its students are prepared for the 21st century economy. The core component of work-based learning offers opportunities for students to learn through real-world experiences such as internships, apprenticeships, and school-based enterprises (Saunders et al., 2013; Rustique & Stam, 2013; Guha et al., 2014). A focus on 1 of California's 15 high employing industry sectors helps students meet the demands of the twenty-first-century workplace; helps students make a smooth transition into colleges and universities; and prepares graduates to successfully compete in the global community.

Technical Skills. The technical skills component emphasizes the practical application of real-world skills to prepare students for high-skill, high-wage employment (Saunders et al., 2013; Rustique & Stam, 2013; Guha et al., 2014). Students learn technical skills such as creativity,

communication, collaboration, and critical thinking, which represent “the knowledge, skills, and expertise students should master to succeed in work and life in the 21st century” (p. 2). In their CTE elective courses and through cross-curricular projects and work-based learning experiences students reinforce these real-world skills.

Support Services. To ensure students the greatest chance of success in a rigorous pathway, Linked Learning teachers, counselors and support staff provide comprehensive and integrated student supports. This personalized attention may include academic and career counseling and additional instruction or tutoring in reading, writing, and mathematics (Guha et al., 2014).

So, what does Linked Learning look like in practice?

Although my focus here today is on the implementation of Linked Learning at the high school level, it is important to note that access to college and career readiness opportunities are critical at the elementary and middle school level as well. At the elementary level, for example, K through 5th grade students engage in interactive, and informative career experiences. Through **activity stations and hands-on exhibits that are set up in a library or multipurpose room** students are able to personally explore how different interests and skills can link to a future career. Under the direction of the classroom teacher, students, participate in **career exploration activities** through lessons and home-based activities presented in class and available for students to take home with them. As students enter middle school, career exploration becomes much more critical, because it is at this point that students begin to develop educational and career aspirations. Furthermore, the ages 10-14 have been found to be a critical time when students begin to engage or disengage from learning (Camblin, 2003). Given these factors, it is important to provide a comprehensive middle school Linked Learning program that focuses on **exploration of postsecondary options, participating in career and college readiness activities, and informed decision making about future coursework.** In order to ensure later success in high school Linked Learning pathways, school counselors focus on strategies to increase student’s career and college readiness and strengthening outcomes related to student’s preparedness for high school pathway selection and college and career readiness knowledge and skills.

At the high school level, the focus is on academic rigor or engaged learning, relevance, and meaningful use of technology. Each Linked Learning pathway is organized around a career sector, such as engineering and architecture, biomedical & health sciences, and digital media arts,

so that students learn through real world experiences and are able to see how what they're learning in school gets applied beyond the classroom walls.

[SLIDE 12 – ANA’S STORY]

At Kearny High School in San Diego, California, for example, students have the option of enrolling in one of four career pathways. In this short video, Ana describes her high school experience in the Construction Technology Academy and how it impacted her future. Before entering a Linked Learning pathway at Construction Tech Academy, Ana dropped out of high school, twice. She lacked motivation, and had very little interest in attending school. On the verge of dropping out, she enrolled at the Construction Technology Academy at Kearny High School. At Kearny HS, the teachers, staff and counselors work to prepare students for college and for life after high school. Ana describes how teachers at Kearny integrate architecture and engineering with the academic courses. She recalls her experiences in an advisory course where she had the opportunity to job shadow a woman who worked as a project manager for the local school district. She comments on the importance of the skills she developed through group projects, presentations and decision-making opportunities. All skills that she uses regularly in her college courses. Today, she is proudly working as an engineer – a career she never thought she could pursue. She also spends her time mentoring young women who are interested in pursuing careers in construction, engineering and architecture. In all, Ana describes how her experience in the Construction Tech Academy taught her to be responsible, to show accountability for her actions and decisions, and to give back to her community by motivating young women to pursue a career in construction.

As you watch the video, reflect on the following question: How did Ana's high school experience impact her future postsecondary choices and career path?

<https://youtu.be/JgXT-Vxziyg>

The Linked Learning approach makes learning exciting and challenging, by connecting strong academics with real-world experience in a wide range of fields, and helping students prepare for success in college, career, and civic life.

Students in a traditional high school may spend Periods 1-6 in different classrooms, studying subjects that have no connection to one another. They may often ask, “*Why do I need to know this?*” or “*What does it matter?*” Students are right to ask these questions, and they deserve better answers.

For students enrolled in a Linked Learning Engineering pathway, for example, students not only learn trigonometry and calculus but also how they are applied in designing seismically sound buildings and bridges. Under the guidance of a professional engineer, they may make a model of a bridge to evaluate the tensile strength of different materials, and write up their results and analysis. Additionally, they intern in an architectural or engineering firm interacting with working adults around real problems.

[SLIDE 13 - PROGRAM OF STUDY]

Here is an example of typical course of study in an Engineering Pathway:

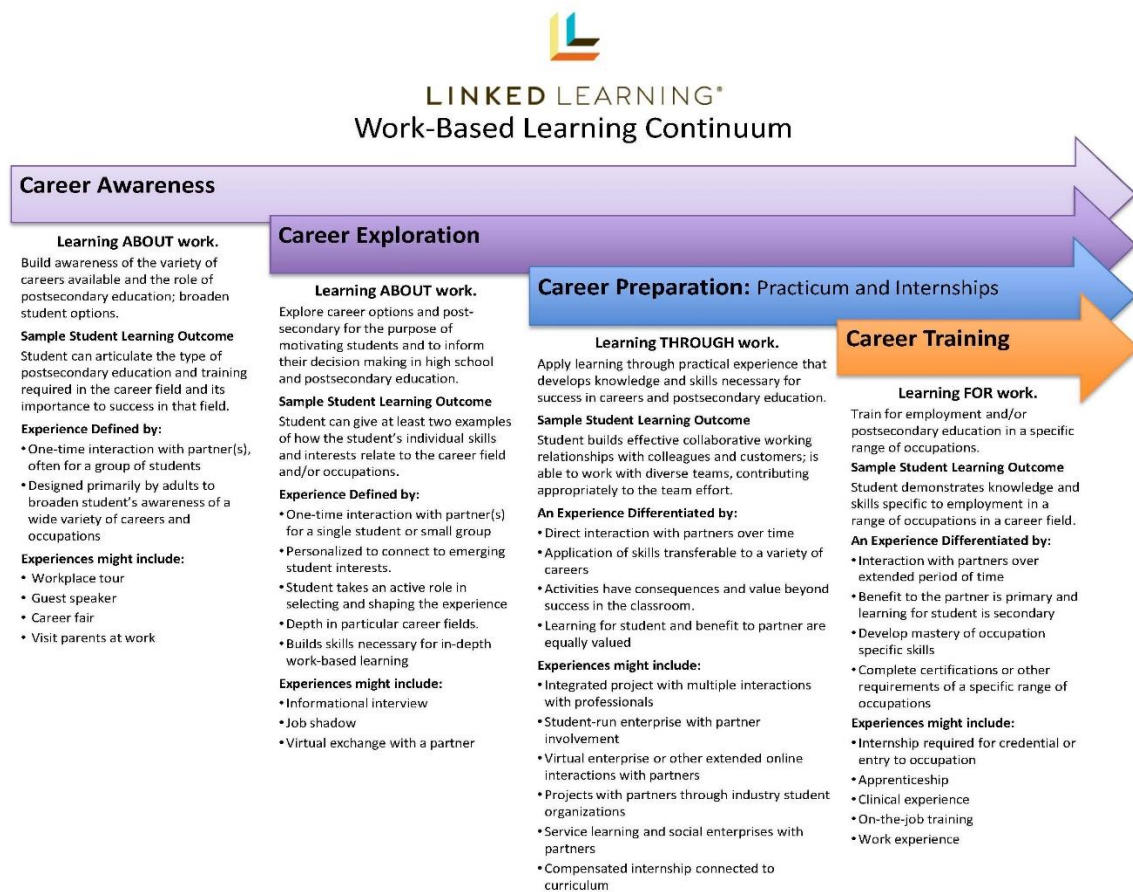
This joining together of rigorous academics, a profession-themed curriculum, and an opportunity for students to apply classroom learning through work-based experiences makes learning more like the real world of work, and helps students answer the question, “*Why do I need to learn this?*” When students love what they’re learning, they work harder, dream bigger, and learn more.

[SLIDE 14 – WORK BASED LEARNING CONTINUUM]

Work-based learning adds depth and meaning to students’ education, as classroom learning becomes more meaningful and relevant to students when paired with opportunities to experience the subject matter firsthand. The primary purposes of work-based learning are to expose students to future options and provide opportunities for skill development and mastery over time. These learning experiences are intentionally designed to help students extend and deepen classroom work and to make progress toward learning outcomes that are difficult to achieve through classroom learning alone. A continuum of work-based learning experiences can extend

classroom learning into professional settings and helps students gain real-world experience in the process. The continuum outlines some of the many activities, both in and outside the classroom, which enable students to connect academic and technical content to its ‘real world’ application, and to build 21st century career readiness skills and competencies. The stages of work-based learning can be described as:

- Career Awareness and Exploration: Learning ABOUT work.
- Career Preparation: Learning THROUGH work.
- Career Training: Learning FOR work.



Source: The Linked Learning Alliance (nda). Retrieved from <https://www.linkedlearning.org/about/work-based-learning/>

So, let's look at the difference that Linked Learning is making for high school students. A longitudinal analysis of Linked Learning conducted by the Center for Education Policy at SRI International finds the following positive outcomes associated with district participation in Linked Learning (Warner, M. et al., 2016).

[SLIDE 15 – ACADEMIC SUCCESS]

1. On average, Linked Learning–certified pathway students are less likely to drop out of school and more likely to graduate than their peers in traditional high schools.
2. Linked Learning students are earning more credits than similar peers in traditional high schools, which is critical for on-time graduation.
3. Students who entered certified Linked Learning pathways with low prior achievement were more likely to graduate from high school and enroll in a four-year institution than their peers in traditional high school programs.

[SLIDE 16 – IMPROVING EQUITY]

1. Among African Americans who enrolled in a postsecondary institution, students who completed a certified Linked Learning pathway were more likely to enroll in a four-year college than their peers.
2. On average, English learner students in certified pathways earned more credits—equivalent to more than two additional courses—and completed one more college prep requirement than similar peers in traditional high school programs.
3. Latino students in certified pathways were less likely to drop out and more likely to graduate than similar peers.

[SLIDE 17 – THE LINKED LEARNING ADVANTAGE]

1. Compared to peers, Linked Learning students were more likely to report a counselor or other adult encouraging them to pursue postsecondary education opportunities.
2. Linked Learning students reported higher job quality (i.e., employment with paid vacation and sick time and health insurance) than their traditional high school peers.

Beyond the traditional indicators of success, such as graduation rates, and college going there is evidence that Linked Learning is addressing non-cognitive factors such as motivation, persistence, tenacity and attitude – all important determinants of success in college and careers. Students participating in certified pathways describe themselves as more engaged and successful in school. In addition, students report that they are learning skills they will need to succeed in college and in the workforce. Lastly, Linked learning students report greater confidence than their peers in life and career skills integral to the Common Core State Standards.

[SLIDE 18 – STEM ACADEMY OF HOLLYWOOD]

[2-minute video - <https://youtu.be/lox3vsc2Nko>]

Among Linked Learning schools, STEM Academy in the Hollywood area of Los Angeles, stands out in performance. All of STEM Academy’s students are placed in one of two career pathways — biomedicine or engineering. Students take a mix of college-preparatory and Advanced Placement courses on top of career-focused classes. In the aerospace engineering elective, which is geared for juniors and seniors, most of the students are also in pre-calculus or calculus and have taken physics.

In this short video, the principal Paul Hirsch, teachers and students share how STEM Academy’s Linked Learning biomedical and engineering pathways come to life. Mr. Hirsch begins by describing the importance of adopting a distributive leadership model in which teachers, parents, students, and community members all take part in making important decisions regarding curriculum, instruction, and the allocation of funds. Ms. Chavez, a science teacher values the opportunity to collaborate with colleagues on the development of integrated projects. And Ryan, explains how projects help students develop skills necessary in the field of medicine or any other field. At STEM Academy of Hollywood, students regularly stay after school for tutoring, project work, and to carry out experiments. Integrated projects, are central to the curriculum and a core teaching strategy through which concepts, content and standards are taught. For example, in an

algebra class, biomedical and engineering students work on projects together, incorporating elements from both fields to analyze how blood pressure and blood glucose impacts the body in order to anticipate the needs of a person with diabetes. Engineering students may focus on how an insulin pump would be designed based on the needs of individuals, while the biomedical students may determine the algorithm needed to control the pump to automatically increase or decrease insulin delivery. Through a partnership with a local hospital, Kaiser Permanente, close to 100 students volunteer or participate in internship programs, working in labs, assisting with patients and observing first-hand what it takes to be doctor, nurse, and technician. **Students collaborate, think critically about a real-world issue, and apply their knowledge in other subjects to solve a problem. This is deeper learning at work!**

[SLIDE 19 – A GUIDE TO MAKING SCHOOLS WORK]

It is great time for Linked Learning in California. We have had tremendous scale, a lot of growth, and more funding. At the 2015 White House summit on next generation high schools, Linked Learning was featured as one of most promising national models. Since then, we have hundreds' of schools and pathways that want to get started, they want to know what to do and how to really impact the lives of young adolescents in our public schools. But that comes with some challenges. The quality of a pathway is becoming key and the uniqueness of each pathway means that practices vary from site to site. What works at one site, with a particular theme, might not work at another site, even one with a similar theme. As a result, researchers have identified not a list of best practices, but rather the conditions that allow Linked Learning principles to flourish.

Dr. Marisa Saunders (Saunders, M., Hamilton, E., Fanelli, S., Moya, J., & Cain, E. (2013) from UCLA's Institute for Democracy, Education, and Access and her team of researchers highlight the experiences—both the struggles and successes—of sites that have committed to the hard work of transforming the high school experience for students using the Linked Learning approach. Based on a study of 10 high school sites across California, this guidebook provides educators, policymakers and stakeholders interested in revamping their school communities a

solid launching point. The guidebook presents the following six conditions that are strongly associated with successful Linked Learning pathways.

[SLIDE 19 – CONDITIONS FOR SUCCESS]

First is a Commitment to Equity

At the core of Linked Learning is the conviction that all students must receive the resources and opportunities they need to be prepared for life after high school.

Linked Learning identifies desired student outcomes and equity concerns that serve as the starting point for developing all of the school’s activities, from its **purpose** to its **programs** and **lessons**. Such a fundamental shift cannot be achieved without cohesion of purpose, open commitment of intent, and strong and frequent communication of support.

Condition Two: Connecting Linked Learning Components

Linked Learning attempts to create a more cohesive whole by connecting the various components of the curriculum. The pathway theme is at the center of a coherent system of student engagement, curriculum, resources, and learning. It makes sense to students and fits with real-world needs beyond high school graduation.

Condition Three: A Culture of Care and Support

When students talk about Linked Learning, they speak of themselves as members of a caring community. Students use the expression “Here, teachers and counselors know my name and they care about me.” A caring culture allows space for effort, trust, risk, and focus, all of which make Linked Learning work.

Condition Four: Grounding in the Real World

A fundamental principle of Linked Learning is that education extends beyond the classroom. Therefore Linked Learning is dependent on intersecting sets of partnerships among a wide range of stakeholders including site principals, teachers, parents, business and community leaders and groups.

Condition Five: An Environment that Works for Adults

Linked Learning is designed to improve learning opportunities for students, but it must also work for adults at the school. Linked Learning shares three common strategies to create a supportive, professional, and creative environment. Distributed leadership, collaboration, and support allow for the establishment of these professional and creative environments.

Condition Six: Redefining Success

Linked Learning schools use a number of measures including performance-based assessments to gauge students' readiness for graduation, college, career, and life beyond high school. Linked Learning attempts to create balance between external accountability measures and the development and use of appropriate assessment tools and structures that undergird the critical content, skills, and abilities valued by the school.

Above all, it takes time to be successful! Linked Learning is a fundamental and far-reaching high school reform that requires time to build the necessary human capacity as well as the relational and organizational structures to support it. Political and educational leaders alike, must understand the long-term commitment that this requires and their commitment to “stay the course” is essential. Linked Learning also requires time (1) for teachers to learn, collaborate, and plan in a cross-disciplinary manner, (3) for counselors to develop the resources necessary to enable students and their families to develop a realistic understanding of the benefits of a college education and a specific career pathway; (2) for students to engage in internships, mentorships, and other career-focused activities, in addition to their coursework and any supports necessary to help them meet the demands of a rigorous college preparation curriculum.

[SLIDE 20 – THE FUTURE OF LL]

The success of this reform effort is fueling interest and adoption of Linked Learning across the nation. There has been exponential growth in the number of Linked Learning pathways that have been developed across CA, and other states including Ohio, Illinois, and Texas and **I am thrilled that we are gaining international attention for the work we are doing in transforming high schools. While Linked Learning may not provide Japanese schools with a packaged**

solution for cross national import, this comprehensive approach to education reform may offer innovative steps towards advancing your goals.

In the future, this commitment to a vision of 21st century knowledge and skills for all students, requires transformation at the classroom, school, district and regional levels. **At this moment, an important challenge for the field is to ensure that this massive increase in scale is accompanied by a commitment to pathway quality since better student outcomes are only seen in pathways that implement Linked Learning with fidelity to the four core components.**

To ensure that every child has access to a great education that prepares them for the 21st century, **leaders within the field have identified 3 key goals to guide the Link Learning movement over the next few years.** First, we must

1. Drive improvement in practice through effective professional development, technical assistance, and sharing of best practices across regional collaborative, cross-agency networks. Enlist the help of educator preparation programs in transforming the way educators are connecting academic learning with technical skills and real-world applications in the context of students' career interests. Successful integration of 21st century knowledge and skills into a program and its curricula. Educator preparation programs play a key role in helping all educators learn, develop, practice, refine; and assess 21st century curriculum, planning; and instruction.
2. We need to better understand and improve the Linked Learning model through measurement of and research on the connection between specific practices and student outcomes. – expand the research agenda around Linked Learning and its impact.
3. Lastly, we must establish quality standards and assessment systems to define and measure high-quality Linked Learning, and develop data standards that support measurement of Linked Learning practices and outcomes across multiple systems – regional, state and national education systems.

[SLIDE 21– CROSS NATIONAL CONNECTIONS]

Today’s Linked Learning High Schools are better engaging students by providing stronger connections to the educational needs and interests of individual students; opening new opportunities to personalize and tailor academic content and wrap-around student supports; challenging students with rigorous courses, including in new economy subjects such as computer science; using innovative approaches and strategies to restructure the scope and time spent learning; and employing innovative educational technologies, project-based learning, and competency-based progressions to engage and empower learners.

Ultimately, the hope is that the strategies reflected in California’s Linked Learning High Schools will equip today’s youth with the strong content knowledge, collaboration opportunities, and critical skills needed to meet the demands of an innovation economy, while preparing them to embark upon a lifetime of learning. Because of the global and interconnected nature of our economies, I believe the key themes and components of Linked Learning can be implemented in ways that will benefit any educational system.

[SLIDE 22 – TO LEARN MORE]

The following regional, cross-agency networks focus on transforming systems and creating conditions critical for strategic and authentic partnerships that support the [Linked Learning](#) approach. I work with cross-sector partners to **strengthen leadership and build systems that** empower more players to lead the development and improvement of pathways, including players in education, business, and workforce development.

[SLIDE 23 – THANK YOU]

I thank you for joining me today and welcome the opportunity to share educational perspectives, approaches, and achievements.

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