The Linked Learning Advantage: Using Linked Learning to Implement the Common Core State Standards

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Linked Learning is the vehicle with the most promise to implement the challenging Common Core State Standards at the high school level… [and] lead to increased student engagement and achievement. The Common Core is the "what"; Linked Learning [is] the "how." Both share the same "end in mind" — which is students who are college and career ready.

—Pamela Seki, Director, Curriculum, Instruction, & Professional Development, Long Beach Unified School District

About This Brief

This brief examines how Linked Learning, an innovative approach to high school reform, offers an advantage to teachers, schools, and districts implementing the Common Core State Standards (CCSS). Both the CCSS and Linked Learning seek to prepare students for college and career by connecting learning in the classroom with real-world applications outside the school. Practitioners, administrators, parents, policymakers, and others can use this brief as a guide to understanding the parallels between the CCSS and Linked Learning and to discover strategic approaches for combining the CCSS and Linked Learning to design high-quality, relevant, 21st century instruction for all students.

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What Is Linked Learning?

Teachers, principals, and superintendents seeking a solution for secondary education that engages students and better prepares them to succeed with the Common Core State Standards (CCSS) would be well advised to take a look at Linked Learning. Linked Learning is an innovative approach to high school reform that seeks to prepare students for both college and career by connecting learning in the classroom with real-world applications in the workplace.

Students enrolled in a Linked Learning pathway enter into a four-year program of study that integrates academic content with technical and 21st century skills within a career-based theme, such as engineering, law, or performing arts. The Linked Learning pathway model includes four major components that complement and align closely with the CCSS. These are:

1. A college-prep academic core emphasizing real-world applications,
2. A technical core of three or more courses meeting industry standards,
3. Work-based learning, and
4. Personalized student supports (academic, emotional and social, college and career guidance).

Currently, 10 school districts across California — Antioch, Long Beach, Los Angeles Unified School District Local District Four, Montebello, Oakland, Pasadena, Porterville, Sacramento, Sonoma Valley, and West Contra Costa — are implementing this system of high-quality, career-themed pathways through the California Linked Learning District Initiative, which aims to demonstrate that when school districts use Linked Learning as a primary strategy for high school transformation, student outcomes improve. For these districts and other school districts across the country, the CCSS offer a resounding validation of Linked Learning's goals: To provide a teaching and learning environment of high student expectations and to ensure that every student receives the access and opportunities to be successful at the postsecondary level, in college and career.

For teachers, Linked Learning pathways offer a variety of real-world contexts in which to teach rigorous academic and technical content; the career focus makes teaching and learning more meaningful, engaging, and accessible for students from a diverse array of backgrounds and interests. For superintendents, district leaders, and principals, Linked Learning offers schools an approach to learning, teaching and assessing that can build the district's capacity to use the CCSS to provide engaging learning experiences for students that will equip them with the knowledge and skills they need for college and career.

Implications of the Common Core State Standards for Linked Learning

The Linked Learning field is gaining momentum like never before. Dozens of schools and districts have committed to making Linked Learning a district-wide improvement strategy and are participating in the new AB 790 Linked Learning Pilot Program. They join other schools and districts that have been implementing Linked Learning for years. Combined, they serve more than one third of the state's high school students (Linked Learning Alliance, Spring 2013 Convening).

As Linked Learning expands throughout California and the nation, understanding how Linked Learning both supports and aligns with the CCSS will provide much needed clarity and coherence to teachers, administrators, parents, students and other stakeholders.

Currently, 45 states (California among them), the District of Columbia, and four territories have signed a memorandum of agreement with the National Governors Association and the Council of Chief State School Officers committing to a state-led initiative that establishes educational standards for college and career readiness. This initiative—the Common Core State Standards Initiative—defines what every student should know and be able to do from kindergarten through 12th grade in order to graduate from high school and succeed in entry-level, credit-bearing academic college courses as well as entry-level jobs and workforce training programs. Currently, common standards are available in three subject areas, the CCSS' English/language arts (ELA) and mathematics and the National Research Council's Next Generation Science Standards.

In California, the recent passage of AB 790 (Linked Learning Pilot Program) means that approximately 55 schools districts will begin implementing Linked Learning in the 2013-14 school year, while also beginning implementation of the CCSS. When the pilot is fully implemented, Linked Learning's career-based pathways will be available to more than one-third of California's high school students.

Linked Learning and the CCSS are mutually supportive of each other in four ways:

1. Shared student learning outcomes, with an emphasis on higher order thinking skills;
2. Compatible approaches to interdisciplinary curriculum, instruction, and performance-based assessment;
3. Real-world integration and application of academic and technical skills and knowledge;
4. Student assessment through authentic demonstrations of learning (e.g., portfolios, project defenses, exhibitions).

Shared Student Learning Outcomes

A question being asked by Linked Learning educators is the extent to which the CCSS align with grade-level benchmarks and graduate outcomes that districts, schools, and pathways may have already developed. Linked Learning and the CCSS are not mutually exclusive; they are complementary. Given their mutual emphasis on real-world applications of knowledge and skills, Linked Learning is the ideal "how" to deliver the "what" of the CCSS.

Table 1: Alignment between CCSS & Linked Learning: A School Example

The Common Core State Standards (2010)	Linked Learning's College and Career Readiness Framework (2012)	Linked Learning Pathway Student Learning Outcomes Example (2012)
Under the CCSS ELA Standards, "Speaking and Listening" is broken down into two areas: *1) Comprehension and Collaboration and* *2) Presentation of Knowledge and Ideas.*	*Communication is a key 21st century skill identified in the framework.*	*Example from John Muir High School's Arts, Entertainment, and Media (AEM) Pathway.*
"Presentation of Knowledge and Ideas" • SL.9-10.4. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. • SL.9-10.5. Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. • SL.9-10.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.	"Communication: Listening, speaking, writing, and non-verbal communication" • Using active listening skills to obtain and clarify information • Articulating thoughts and ideas clearly and effectively • Public speaking skills • Written communication, including memos, letters, and complex technical reports that are clear and effective.	"Communication: The AEM graduate interprets, organizes, composes, and articulates ideas that artfully communicate content knowledge and global perspectives." Translation to grade-level benchmarks: • Ninth/10th: Upon completing 10th grade, the AEM student composes and presents organized presentations as well as improvised oral responses that clearly articulate their ideas. • 11th/12th: Upon graduation, the AEM student exhibits confidence in both written and improvised oral presentations to articulate idea with impactful results.

Table 2: Common Core Instructional Shifts for English Language Arts/Literacy

CCSS Instructional Shift	Applying the Shift in Linked Learning
Balancing informational and literary text	Career themes and technical coursework provide highly engaging and relevant contexts for students to read, be challenged by, and comprehend demanding informational text.
Building knowledge in the disciplines	Teacher collaboration, student cohorts, and the establishment of common student learning outcomes in pathways allow teachers to align literacy building strategies and responsibilities across the subject areas for specific projects and throughout the year.
Staircase of complexity	Projects with real world tasks create engaging opportunities that motivate students, even those reading below grade level, to persist with challenging central texts. Projects go in depth, instead of skimming the surface, and allow time for teachers to design scaffolds that provide differentiated support so that all students can be successful.
Text-based answers	Pathway themes provide engaging and authentic contexts for text-based discussions involving expository and literary sources in which students may have established more shared background knowledge to assist both their understanding and articulation of ideas. Examples include mock trials in law and justice academies or design presentations in engineering and architecture academies.
Writing from sources	Students regularly produce writing for a range of engaging and more authentic purposes related to the theme of Linked Learning pathways. This writing is frequently presented to and assessed by an audience around specific criteria.
Academic vocabulary	Academic and technical education teachers in Linked Learning pathways can regularly collaborate to reinforce the consistent use by students of key academic and technical vocabulary necessary for college and career success.

From the CCSS to the Linked Learning context, there is strong alignment around the articulation of student outcomes (see Table 1, page 3). For example, language from the "Speaking and Listening" ELA standard for CCSS is also part of the Linked Learning College and Career Readiness Framework (ConnectEd, 2012).

Linked Learning pathways develop pathway-specific student learning outcomes using as guidance their district's overall student outcomes and graduate profile, which is typically CCSS-aligned. This process of pathway/district alignment offers Linked Learning teachers an advantage in mapping their student outcomes to the CCSS.

Compatible Approaches to Curriculum, Instruction, and Assessment

States' adoption of the CCSS will require teachers to make a series of instructional shifts. Far from starting from scratch, many teachers in Linked Learning pathways have already begun to make the necessary

Table 3: Common Core Instructional Shifts for Mathematics

CCSS Instructional Shift	Applying the Shift in Linked Learning
Focus	Linked Learning pathways focus outcome-based and student-centered instruction. Student learning is monitored through formative and summative student performance assessments that measure the key concepts that students have learned to mastery, rather than how many topics teachers have covered.
Coherence	Teacher teams in Linked Learning pathways collaborate together to provide multidisciplinary learning opportunities for students. Use of mathematics and mathematical practices purposefully extends out to other classrooms.
Fluency	The thematic approach of career pathways allows mathematics teachers to continually spiral back to foundational skills and concepts. Students have multiple opportunities to practice in a variety of contexts until key mathematics can be performed with speed and accuracy.
Deep understanding	Complex, industry-based problems provide opportunities in which students are required to use mathematics in new situations and persist through extended problem-solving scenarios.
Applications	Real-world projects offer open-ended contexts in which students must make independent determinations about when and how mathematics should be applied and what mathematical approaches will best serve to solve a problem.
Dual intensity	Students engage in multidisciplinary projects where foundational mathematics skills can be learned and practiced to fluency within the math classroom, and are then applied to larger, novel problems that span multiple classes.

changes in instruction, curriculum, and assessment through the utilization of problem- and project-based learning. For many Linked Learning teachers, the focus on applied learning facilitates a smoother integration of the CCSS into performance task criteria.

Tables 2 and 3 identify important instructional shifts required by the CCSS and describe how these instructional shifts are applied within Linked Learning pathways. As the tables illustrate, in many instances Linked Learning teachers have already made the shifts required by the CCSS because the Linked Learning approach to curriculum, instruction, and assessment has required similar shifts in practice. These teachers already have an advantage in learning how to incorporate the CCSS into their instructional practice over teachers utilizing more traditional approaches to instruction.

Real-World Application of Academic and Technical Skills Through Work-Based Learning

Central to both the CCSS and Linked Learning is the belief that students gain deep understanding when they apply content and higher-order thinking skills, such as analysis and problem solving to the

Table 4: The CCSS & Linked Learning Integration Strategies for Districts

Strategies	Suggested Actions
1. Develop a common understanding of college and career readiness	• Continue messaging around vision of college and career readiness • Make vision concrete by developing district graduate outcomes (graduate profile) • Align graduate profile with the common standards
2. Ramp up communications and information sharing	• Increase awareness of the alignment and synergy of the CCSS and Linked Learning
3. Form cross-disciplinary teams for CCSS planning and implementation	• Continue organizing pathways into cross-disciplinary teams • Build and recruit teacher leadership from within pathways • Foster Career & Technical Education (CTE) and academic teacher collaboration
4. Foster CTE and academic teacher collaboration	• Ensure pathway structures enable collaboration between CTE and academic teachers • Encourage CTE to integrate academic content into curriculum
5. Create or update curricular and instructional resources	• Conduct crosswalks between school-level student learning outcomes, district graduate profile, and the CCSS (starting with the CCSS) • Districts can create curricular and instructional resources to guide development of interdisciplinary projects and curriculum that integrates CTE and academic content
6. Enhance literacy and math strategies within CTE and academic content instruction	
7. Involve post-secondary CTE business in CCSS implementation	• Familiarize business and post-secondary partners with the CCSS so they can address them in their presentations, site visits, and teacher externships

real world. Work-based learning, a key component of Linked Learning but uncommon in traditional high schools, allows students to experience the workplace firsthand and to apply the content and skills learned to both their academic and technical courses. The design and content of work-based learning offers fertile ground for the integration of the CCSS. High-quality, work-based learning experiences integrate the CCSS and college and career ready outcomes, and include employer assessments of students' proficiency. Far from a "nice to have" or "additional" activity, Linked Learning's work-based learning approach is a powerful accelerant of student proficiency and an instructional strategy for integrating the CCSS into engaging learning experiences for students.

Student Assessment through Authentic Demonstrations of Learning

The new CCSS assessments being developed by the Smarter Balanced Assessment Consortium (SBAC) and the Partnership for Assessment of Readiness for College and Careers (PARCC) feature many components of well-designed systems of authentic performance assessment. As districts look ahead to the assessments that schools will need, the SBAC and PARCC assessments support the shift to a performance-based assessment system that Linked Learning pathways and districts are striving to build. In Linked Learning pathways that are building these assessment systems, the CCSS are reflected in performance task criteria and rubric descriptors, providing teachers and students early opportunities to demonstrate the CCSS in connection with college- and career-readiness outcomes.

Looking Ahead: Next Steps and Strategies for Districts

The adoption and implementation of the CCSS across the country, and the expansion of Linked Learning pathways across schools and districts offers a new set of promising opportunities for any student to learn and demonstrate the CCSS in highly engaging, real-world contexts. By working together, schools and districts can effectively leverage Linked Learning as a primary vehicle to ensure student success with the CCSS. A summary of strategies recommended by Achieve (2012) to bridge the divide between college preparation and career readiness is shown below. Table 4 (page 6) shows how Linked Learning districts have translated these strategies into actions.

Capacity-Building Actions for Districts

Districts implementing Linked Learning can build their capacity for instructional change and improvement by designing professional development programs to provide teachers at all grade levels and in all content areas with a deep understanding of the CCSS as they begin to make the necessary shifts in instruction, curriculum, and assessment. Capacity-building activities that can support teachers to make instructional change include:

- Cross-walking standards at different levels of the system in order to align the CCSS with state, district, and school-level student outcomes.
- Supporting teachers to make meaning of each standard by unpacking its content to clearly understand what is being asked of the student, the level of cognitive demand, and the types of tasks and activities by which students can effectively demonstrate the standard.
- Creating or adopting instructional frameworks to guide teams in their disciplinary and interdisciplinary curriculum and planning.
- Developing prototypes of performance assessments for interdisciplinary projects that are mapped to the CCSS, student learning outcomes, and graduate profiles.

Essential Actions for Supporting Teachers

Teachers in schools that are simultaneously implementing Linked Learning and the CCSS will need high levels of support and continuous professional development to shift their instructional and assessment practices. These professional development needs include technical support in performance task design and in "backward mapping" curriculum from identified assessment tasks to demonstrate attainment of a level of performance on one or more of the CCSS.

A second area where district leaders can support teachers' implementation of Linked Learning and the CCSS is in focusing on teachers' instructional capacity to design curriculum, differentiate, and scaffold instruction for diverse learners, including those learning English as a second language. The interdisciplinary and collaborative nature of Linked Learning pathways more directly supports accelerated teacher learning and skill development, which is essential to implementing the shifts in instruction, curriculum, and assessment called for by the CCSS.

A third area where district leaders and principals can support teachers is in ensuring that the school-based conditions, organizational structures, and resources are in place that will facilitate the professional collaboration and instructional leadership needed to simultaneously implement Linked Learning and the CCSS. One advantage of Linked Learning's pathway model is that teachers are organized into teacher-led interdisciplinary teams, which are responsible for the design of curriculum and assessment by which students demonstrate their knowledge and skills across the core content areas of the CCSS. For both Linked Learning and the CCSS, pathway teachers will need a master schedule that provides dedicated team collaboration time to plan for and reflect on continuous improvement. For both Linked Learning and the CCSS, success depends greatly on teachers' instructional capacity to make students' learning experiences engaging, rigorous, and relevant.

Endnotes

Achieve. (2012). *Common Core State Standards & career and technical education: Bridging the divide between college and career readiness.* Retrieved, July 29, 2013, from http://www.achieve.org/files/CCSS-CTE-BridgingtheDivide.pdf.

California Center for College and Career. (2012, August). *College and career readiness: What do we mean? A proposed framework.* Retrieved August 4, 2013, from http://www.connectedcalifornia.org/direct/files/RevED_CACRF%20paper_final%20txt_v4.pdf

Linked Learning Alliance. (2013). Spring 2013 Convening. Retrieved July 29, 2013, from http://linkedlearning.org/spring-2013-convening.

This brief is part of a series of briefs and case studies on Linked Learning. To see the full series, and to view this brief online, please visit http://edpolicy.stanford.edu/node/661/edit

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