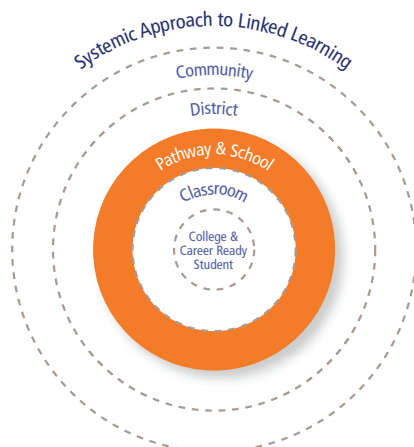


Building a Linked Learning Pathway

A Guide for Transforming High Schools for College and Career Success



This guide is a pathway and school resource.

Acknowledgments

This publication was written by Rob Atterbury, District Coach and Director, Professional Development. ConnectEd gratefully acknowledges the generous contribution of time and expertise from our district and pathway coaches. Thanks also to Mary Perry for her assistance in this document's development and to MPR Associates, especially Patti Gildersleeve and Leslie Retallick for its design and Andrea Livingston for editing. Finally, this guide and the resources that accompany it would not have been possible without the work and dedication of the districts that participate in the California Linked Learning District Initiative; the funding and leadership provided by the James Irvine Foundation; and the input and support of ConnectEd staff including Gary Hoachlander, Brad Stam, Roman Stearns, Kathy Harris, Penni Hudis, Anna Salomone, Elizabeth Stroud, and Dave Yanofsky.

Purpose and Use of This Guide

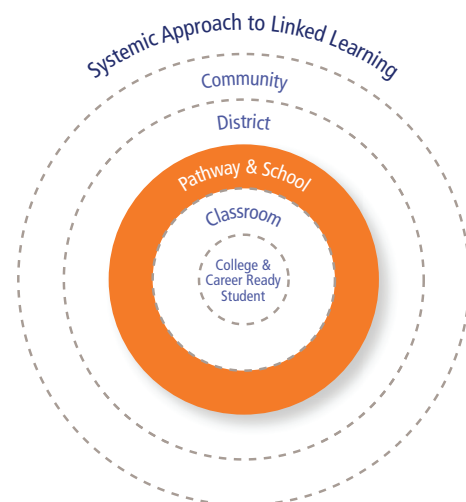
This guide provides an overview of a more robust online guide and tool kit available through ConnectEd Studios. It supplies a glimpse of the sequence of steps involved in creating a new Linked Learning pathway. This publication can help coaches, district leadership, and pathway teams gain an understanding of the overall process of designing and implementing pathways that will continue to improve over time and become high-quality learning environments for students.

More specific detail, tools, and promising practices are available online at www.ConnectEdStudios.org/toolkit/pathways, aligned with the sequence of steps described in this overview. These steps will help set the conditions for success, guide the transformation of teaching and learning, and establish processes for continuous improvement. They also form a logical sequence for an annual review of the pathway's progress and planning for continued improvement.

Systemic Approach to Linked Learning

ConnectEd and partner organizations have developed a set of tools and resources to help districts plan and implement a system of Linked Learning pathways. Linked Learning is different because it aligns all components of the system, from the classroom, to the pathway and school, to the district, and community.

This guide is a pathway and school resource.



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ConnectEd partners with communities to transform education systemically through Linked Learning, ensuring that all students, regardless of background, graduate ready for college, career, and life. Linked Learning combines strong academics, demanding technical education, and real-world experience. To advance Linked Learning practice, ConnectEd develops tools, supports demonstration projects, provides technical assistance, leads collaboration, and promotes policies that expand high-quality pathways.

Learn more at www.ConnectEdCalifornia.org.

Designing and implementing pathways can be a complicated process. This guide will help us organize and break down the process into manageable steps. I'm excited because it will not only help us plan and develop new pathways, but also serve to help assess current pathways ensuring they are of the highest quality for our students.

*Larry Gray
Linked Learning Pathway Coach
Porterville, CA*

Linked Learning: Pathways to College and Career Success

Linked Learning is a high school transformation approach whose time has come. Its guiding principles and core components are based upon decades of research and the examination of promising practices.

Linked Learning responds to the urgent need to:

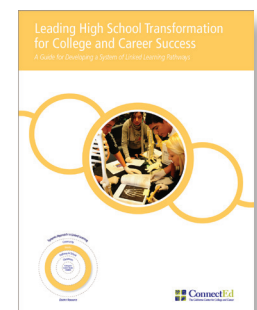
- Keep all students engaged in rigorous learning and motivated to succeed.
- Move beyond a high school model built to serve the industrial age and create a more personalized, coherent educational program for youth.
- Be guided by Common Core and other state standards without being limited by narrow state and federal accountability requirements.
- Extend learning beyond the traditional school day, school year, and school site.
- Engage adults throughout the community in the education of our youth.
- Focus on both equity and excellence without letting one compromise the other.
- Align today's education with the economy of tomorrow.

Across the nation, educators are finding that a Linked Learning approach to secondary education is helping them meet these needs and realize their community's vision for all their students.

Data from California show that students in career academies (the most common delivery method for Linked Learning) have better attendance, higher rates of graduation, and substantially higher college eligibility rates than non-academy students. These results are even better for Latino and African American students, helping to narrow the achievement gap.¹

The districts participating in the California Linked Learning District Initiative led by ConnectEd also see this transformation as the means to teach 21st century and workplace skills, a new national priority. These districts are using Linked Learning as the strategy for accelerating adoption of the Common Core State Standards and for preparing their teachers and students for new, more rigorous assessments that demand the use of 21st century skills.

Pathways are uniquely different from the traditional high school, requiring a level of autonomy from the standard curriculum. To be sustainable, they also need the support and leadership of the school site and the district. For a complete guide to the school district's role in supporting pathways, see *Leading High School Transformation for College and Career Success: A Guide for Developing a System of Linked Learning Pathways*. This publication and related tools and resources can be found at www.ConnectEdCalifornia.org/about/publications.



¹ *Profile of the California Partnership Academies – Executive Summary*. October 2011. California Department of Education. www.cde.ca.gov/ci/gq/hs/cpareport09.asp.

Linked Learning in Action

Los Angeles High School for the Arts

When you have Linked Learning, it all connects. I think it makes more sense. You know, kids always ask “Why are we learning this? We’re not going to use it later in life.” By doing Linked Learning we actually see how the things we learn will be important in our real lives.

*Arely
10th-grader
Los Angeles, CA*



Academy of Finance and Enterprise High School

While the Academy of Finance and Enterprise was not my first choice, it was the right choice. The teachers and staff members are always encouraging me to do better. At first it felt like a lot of work. But as the years progressed, I saw it made a difference.

*Michael
12th-grader
Queens, NY*



Health Services Pathway, Applied Technology Center

I notice that being in a pathway is different than what other kids do at traditional high schools—pathways actually relate to the real world.

*Ray
9th-grader
Montebello, CA*



Steps for Building and Sustaining a Linked Learning Pathway

Linked Learning pathways engage students in school and prepare them for both postsecondary education and career opportunities. Across California and the nation, a growing number of school districts are successfully implementing pathways in their high schools and, by doing so, dramatically improving learning environments and student achievement, better preparing students for college and career.

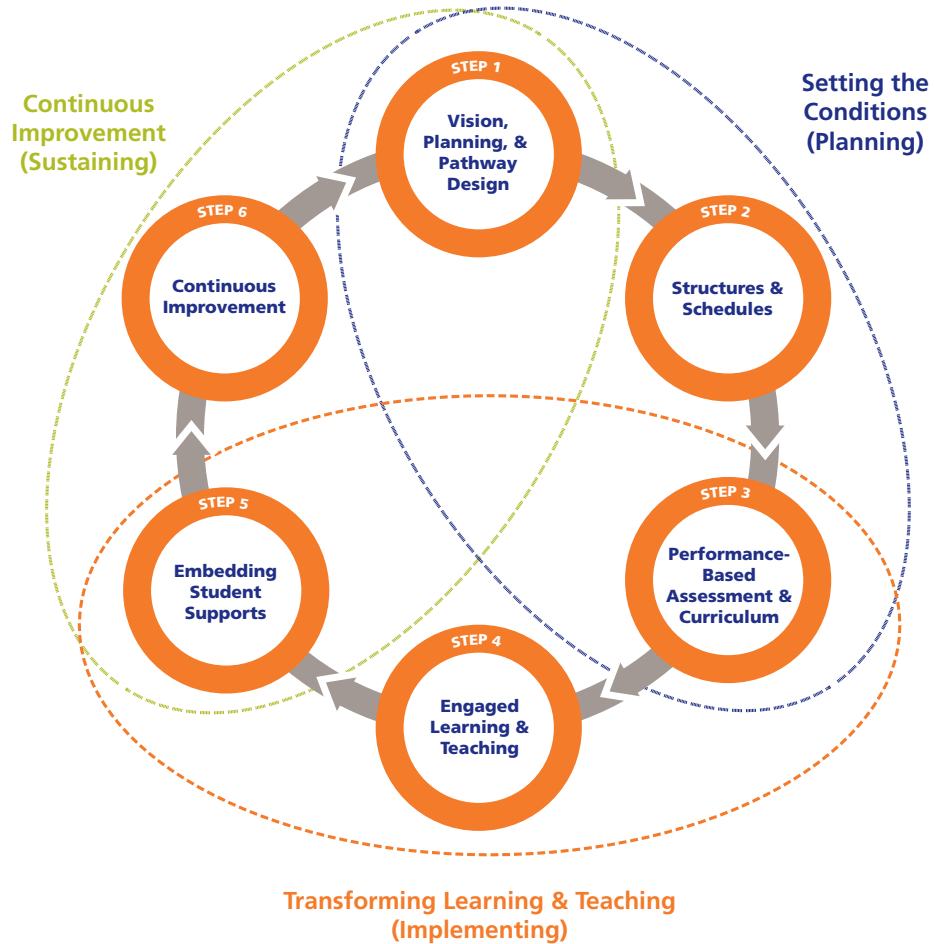
A pathway is defined as a comprehensive four-year program of study that integrates rigorous academics with high-quality technical core, a sequence of work-based learning experiences, and the supports needed for student success. Each pathway is organized around a major industry theme such as engineering, arts and media, finance and business, environmental design, or biomedicine and health.

Linked Learning is a flexible approach that can be implemented through various models such as career academies and career-themed small schools, small learning communities, and charter schools to name just a few. Each pathway typically serves between 250 and 500 students.

A Comprehensive Program of Study Integrates:

- **Rigorous academics.** The academic component of Linked Learning includes college preparatory English language arts, mathematics, science, history, and foreign language courses.
- **Real-world technical skills.** A challenging technical component of three or more courses that help students gain the knowledge and skills that can give them a head start on a successful career.
- **Work-based learning.** A series of work-based learning opportunities that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, virtual apprenticeships, or projects with industry professionals.
- **Personalized student supports.** Student supports including college and career guidance, academic counseling, and supplemental instruction in reading, writing, and mathematics that help students master academic and technical learning.

Six Steps to Pathway Success



This diagram illustrates the six major steps in the pathway creation process, which together form a continuous improvement loop that can help communities and schools not only design and implement a successful pathway, but also sustain it.

These steps—organized into three groups: Setting the Conditions, Transforming Learning & Teaching, and Continuous Improvement—are intended to be sequential to the degree possible. There is no one best way to plan, implement, and sustain a Linked Learning pathway, but experience has informed ConnectEd’s design of this six-step process. Teachers, schools, and districts can feel confident that using this process will result in a well-designed, high-quality pathway.

This publication gives you a brief overview of the steps involved in creating a new pathway, but existing pathway staff may also find it helpful to reflect on each of the steps and determine if there are areas that they want to improve.

Both new and existing pathways should use the *Criteria for Linked Learning Pathway Quality Review and Continuous Improvement* as a reference. Each step outlined in this guide is directly related to the Criteria. More detail and a wealth of valuable tools are available at www.ConnectEdCalifornia.org.

STEP 1: Vision, Planning, and Pathway Design

The impetus for creating a Linked Learning pathway at a school can come from any number of sources, such as interested faculty, community members or parents, local business leaders, or a district-led initiative. Regardless of where the idea begins, pathway success will be much more likely if the school uses a process of planning and pathway design that is both inclusive and systematic.

The process involves:

- **Forming a Design Team**, a volunteer leadership group of teachers, students, parents, industry and community partners, and other participants who share an interest in a particular career field and who will share responsibility for envisioning and planning the pathway.
- **Establishing the pathway vision and mission** based on the Design Team's development of a shared understanding of pathway quality through research and site visits.
- **Determining and/or refining a pathway theme** that is broad enough to appeal to and engage any student, includes a direct connection for business partners, and provides a context within which teachers can design lessons and projects while still covering state standards and curriculum.
- **Developing pathway-level college and career ready student learning outcomes** that will empower students to reach their goals after high school; facilitate teacher collaboration and quality assessment; and create a learning environment of high achievement and personalized connection with every student. Ideally the outcomes are based on or aligned with a graduate profile created at the school district and community levels.
- **Forming a business and community Advisory Committee** that will provide input into the theme and long-term support for the pathway.

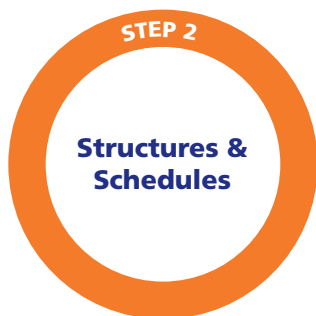
Outcomes when Step 1 is complete: *a diverse group of committed participants, including local business leaders, have a shared vision for the pathway, are clear about the theme, and are ready to take to take collective responsibility for helping students make progress toward achieving a clearly defined set of college and career ready student learning outcomes upon graduation.*



STEP 1

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.1 Pathway theme
- 1.1.2 Student learning outcomes
- 1.1.6. Staff collaboration
- 1.2.1. Advisory board with broad representation



STEP 2: Structures and Schedules

The Program of Study lies at the very heart of a pathway design. It serves as the map outlining the road that students will travel toward a college and career destination. It should include the Core Components of a Linked Learning Pathway in grades 9–12.

Emanating from the Design Team’s vision, mission, and pathway student learning outcomes, the Program of Study provides a blueprint for the master schedule, staffing, and budgeting. It also provides the concrete expression of the pathway vision that will help to attract students and parents who see the pathway as an attractive high school option.

Included in this step are:

- **Designing the Program of Study**, perhaps the most critical part of the pathway planning process and an effort that reflects and emanates from the pathway vision, mission, and student learning outcomes.
- **Beginning student recruitment and selection**, a process that ideally is formalized and part of regular articulation between middle and high school.
- **Creating a master schedule**, a process that is directly informed by the Program of Study, is based on cohort scheduling for students, and provides common planning time for pathway teachers.
- **Making staff assignments** that support student needs and encourage the creation of professional learning communities or Communities of Practice.

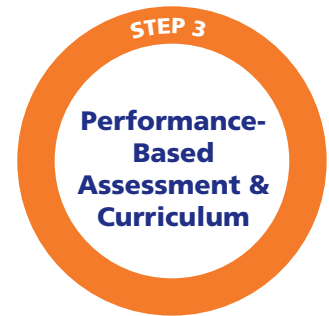
STEP 2

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.3. Program of study
- 1.1.4. Student recruitment, selection, and placement
- 1.1.5. Cohort scheduling
- 1.1.8. Postsecondary articulation
- 2.1.1. Academic core
- 2.1.2. Technical core
- 2.6.1. Coordinated, sequenced, and scaled
- 3.1.1. Pathway equity, access, and choice
- 3.4.1. Skilled teachers
- 3.4.2. Pathway leadership

Outcomes when Step 2 is complete: *the Design Team has defined the Program of Study, shared it widely, and conducted a formal and well-designed student recruitment process. The school’s master schedule supports pathway students’ needs. Staffing assignments and scheduling support collaboration within and among grade-level pathway teams.*

STEP 3: Community of Practice, Performance-Based Assessments, and Curriculum



Once the master schedule for the pathway has been created and staffing assignments at each grade level have been completed, pathway teachers form a team or “Community of Practice” (COP) within which many key decisions are made. The COP is typically, but not always, a grade-level interdisciplinary team.

This COP works together, first by clearly translating district- and school-level student learning outcomes into pathway outcomes. The COP articulates these outcomes down into grade-level benchmarks describing what students must know and be able to do at each grade level of the pathway. Through this process, COP members decide what and how they will assess student progress in meeting the specified pathway student learning outcomes. They then develop the curriculum and instruction that will guide students in attaining these outcomes.

The initial work of the Community of Practice, which revolves around performance-based assessments and curriculum, involves:

- **Building a collaborative, results-oriented culture** in which every team member shares leadership and is committed to preparing all pathway students for college and career and to improving their individual and collective practice as educators.
- **Mapping student learning outcomes to the Program of Study** in alignment with district graduation requirements and state standards.
- **Creating benchmarks and assessments based on the outcomes**, in part by working together to develop benchmarks and adopt common rubrics to judge the quality of student work.
- **Developing a curriculum sequence and courses, including single- and multi-disciplinary integrated projects.**

***Outcomes when Step 3 is complete:** a collaborative, high-functioning pathway Community of Practice regularly assesses student progress toward meeting the pathway student learning outcomes using performance assessments and common rubrics mapped to grade-level benchmarks. They have created and/or adapted course curriculum and projects to be aligned with the rubrics and to ensure success on the assessments.*

STEP 3

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.1 Pathway theme
- 1.1.2 Student learning outcomes
- 1.1.6. Staff collaboration
- 2.4.1. Multidisciplinary integrated curriculum
- 2.4.2. Curricular alignment
- 2.5.1. Project-/Problem-based approach
- 2.5.2. Authentic assessment
- 2.6.2. Connected to coursework
- 2.7.1. Culture of high expectations and support
- 3.3.1. Teacher professional development



STEP 4: Engaged Learning and Teaching

Linked Learning pathway students are more engaged, motivated, and academically successful when pathway teams design standards-based, student-centered, and career-themed lessons and projects. This engagement comes from the real-world relevance and authentic nature of the work. When projects are authentic, students will see the cross-curricular connections and appreciate the importance of mastering academic skills. This, combined with work-based learning experiences, can engage students in new ways.

The use of course-level performance maps to find cross-disciplinary connections aligned with the pathway and district graduate outcomes is a critical skill for collaborating pathway teams. Individually and collectively, pathway teachers consciously and consistently work to connect learning (both in and out of the school setting) with students' interests in order to increase their motivation and the depth of their learning. All pathway students also have regular opportunities to set goals, make decisions, and reflect on learning.

Creating learning and teaching experiences that engage students and teachers involves:

- **Aligning daily classroom instruction with the pathway experience** using project-based learning and other instructional methodologies that promote inquiry, are student-centered, and align with the desired learning outcomes.
- **Developing and strengthening instruction and assessment** practices that engage and motivate all students.
- **Functioning as a Community of Practice, pathway teachers agree to common and high expectations** for students' work and behavior, fostering strong relationships in support of those goals.
- **Engaging students through the integration of work-based learning** that encompasses a continuum of experiences and reconnects to what students are doing in school.
- **Looking regularly at student work** and other forms of data to inform instruction.

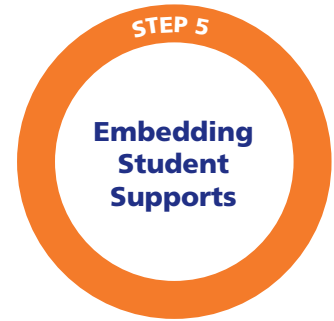
STEP 4

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.6. Staff collaboration
- 2.3.1. Real-world relevance
- 2.4.1. Multidisciplinary integrated curriculum
- 2.4.2. Curricular alignment
- 2.5.1. Project-/Problem-based approach
- 2.5.2. Authentic assessment
- 2.6.2. Connected to coursework
- 2.7.1. Culture of high expectations and support
- 2.7.2. Student motivation and engagement
- 2.7.3. Differentiated instruction
- 2.7.4. Academic interventions
- 2.7.5. Guidance and counseling
- 4.1.1. Data collection
- 4.1.2. Use of data
- 4.2.1. Evidence of impact

Outcomes when Step 4 is operational: *the pathway teachers engage, motivate, and challenge all students to develop effective learning behaviors as described in the Learning and Teaching Framework, by using research-based instructional practices. Through regular examination of student behavior, work, and assessment data, pathway teachers make adjustments to improve instruction.*

STEP 5: Embedding Student Supports and Personalization



Linked Learning pathways create a more engaging learning experience for all students, with huge potential for positive academic results, regardless of background or prior preparation. At the same time, demanding equity and reaching for high achievement by all students can present challenges for learning and teaching.

Students often come to high school with academic assets that have not been nurtured. As a result, student supports and personalization are essential foundations of a high-quality pathway. Pathway teachers must assume responsibility for student success. To do so, they may have to take on advising and guidance functions, especially in schools where counseling services are limited.

Pathways can and should incorporate these elements formally into the overall design, creating an integrated system of support for students.

The process of embedding student supports and personalization into the pathway involves:

- **Creating an atmosphere where support and engagement occur naturally** as an outgrowth of the school's structure, curriculum, strong relationships, and staff commitment.
- **Planning to provide academic interventions** that are incorporated into daily practice.
- **Providing counseling and guidance, plus career and college planning** through a designated counselor if possible or through support of the pathway teachers if necessary.

Outcomes when Step 5 is operational: *the pathway provides a system of interventions, accelerations, and enrichment that guarantees all pathway students meet or exceed the expected student learning outcomes and have a plan to graduate and to meet their goals after high school.*

STEP 5

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.6. Staff collaboration
- 2.7.1. Culture of high expectations and support
- 2.7.2. Student motivation and engagement
- 2.7.3. Differentiated instruction
- 2.7.4. Academic interventions
- 2.7.5. Guidance and counseling



STEP 6: Continuous Improvement

Excellence in pathway design and delivery depends upon the persistent pursuit of improvement. Pathway teams, site leadership, and the pathway advisory committee all play key roles in fostering a culture of continuous improvement within the pathway. The shared goal is to ensure that all of the elements of a high-quality pathway are in place and student achievement is improving as a result.

Important to this process of continuous improvement is an annual convening of the pathway team and advisory board to examine available student and teacher data and to revisit the pathway vision, mission, and student learning outcomes as described in Step 1. Doing so can also help provide long-term stability and commitment for the pathway as the composition of the school staff, student population, and interested community members change over time.

The process of continuous improvement involves:

- **Establishing indicators to facilitate data-driven decisions** and having a plan for regularly collecting and analyzing these data.
- **Making ongoing review and reflection part of practice.**
- **Conducting periodic reviews to plan for improvement**, including formal reviews based on the Linked Learning pathway quality review process and resulting in an Action Plan for improvement of the pathway.

STEP 6

Aligns With the Following Pathway Quality and Certification Criteria:

- 1.1.6. Staff collaboration
- 4.1.1. Data collection
- 4.1.2. Use of data
- 4.2.1. Evidence of impact
- 4.2.2. Periodic review and improvement plan
- 4.2.3. Postsecondary tracking

Outcomes when Step 6 is complete: *the pathway community uses multiple forms of data to inform a continuous improvement cycle, create and monitor an action plan for improvement, and seek formal pathway certification and/or re-certification.*

Outcomes of the Pathway-Building Process

When Step 1 is complete, a diverse group of committed participants, including local business leaders, have a shared vision for the pathway, are clear about the theme, and are ready to take to take collective responsibility for helping students make progress toward achieving a clearly defined set of college and career ready student learning outcomes upon graduation.

When Step 2 is complete, the Design Team has defined the Program of Study, shared it widely, and conducted a formal and well-designed student recruitment process. The school's master schedule supports pathway students' needs. Staffing assignments and scheduling support collaboration within and among grade-level pathway teams.

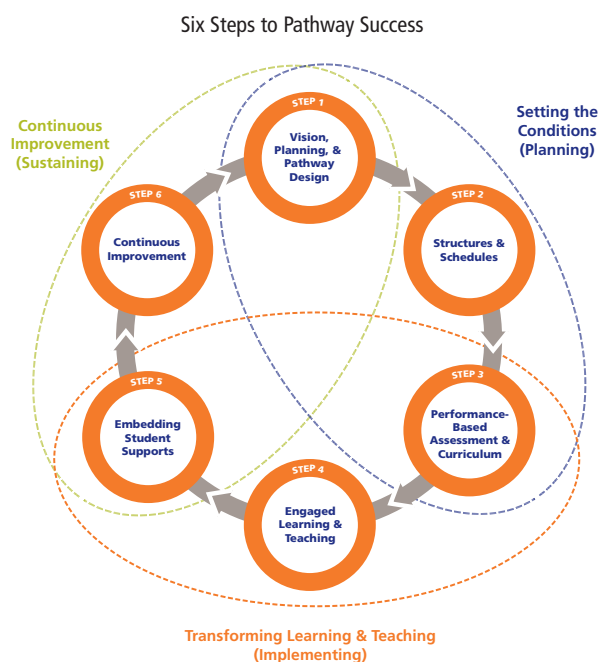
When Step 3 is complete, a collaborative, high-functioning pathway Community of Practice regularly assesses student progress toward meeting the pathway student learning outcomes using performance assessments and common rubrics mapped to grade-level benchmarks. They have created and/or adapted course curriculum and projects to be aligned with the rubrics and to ensure success on the assessments.

When Step 4 is operational, the pathway teachers engage, motivate, and challenge all students to develop effective learning behaviors as described in the Learning and Teaching Framework, by using research-based instructional practices. Through regular examination of student behavior, work, and assessment data, pathway teachers make adjustments to improve instruction.

When Step 5 is operational, the pathway provides a system of interventions, accelerations, and enrichment that guarantees all pathway students meet or exceed the expected student learning outcomes and have a plan to graduate and to meet their goals after high school.

When Step 6 is complete, the pathway community uses multiple forms of data to inform a continuous improvement cycle, create and monitor an action plan for improvement, and seek formal pathway certification and/or re-certification.

As is clear from this multi-step process, creating and sustaining a high-quality pathway is demanding work. The transformational nature of Linked Learning requires open-mindedness, careful planning, and broad-based participation. But pathway teams, schools, and districts are finding that the effort is worth the reward as teachers strengthen their practice, business communities increasingly support local schools, and—most importantly—students' engagement and achievement steadily rise.





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