LINKED LEARNING

Learning and Teaching Framework

What is the Framework?

The Linked Learning *Learning and Teaching Framework* ("Framework") defines key characteristics of student and adult learning and teaching practice within Linked Learning pathways and illustrates how these characteristics might be observed in the behaviors of teachers and learners, both inside and beyond the classroom. The Framework includes two key documents and associated tools:

- The ***Behaviors of Learning and Teaching (BLT) Continuum*** describes the **progress of students**, teachers and industry and community partners in developing the Linked Learning behaviors for learning and teaching (BLTs) that dramatically improve student motivation, engagement and empowerment, understanding, and achievement.
- The ***Communities of Practice (COP) Continuum*** describes the **progress of pathway teacher teams** developing the practices necessary for creating high quality, outcome-aligned assessments and units of instruction, and for building a collaborative and accountable pathway culture.

How will we use the Framework?

The *Framework's* primary purpose is to **support teachers** in Linked Learning pathways to **engage all students** in rigorous and relevant **learning** that taps their intrinsic **motivation** and interests, and improves their **achievement**.

The *Framework* also:

- supports ***pathway communities of practice*** to engage in dialogue around instruction and assessment, and to guide the selection of practices for shared inquiry;
- assists ***pathway and site leaders*** to foster shared instructional and assessment practices and norms that help to create the pathway's unique culture and outcomes-aligned assessment system;
- guides ***pathway and site leaders, coaches, and district instructional staff*** in identifying and addressing teacher professional development needs; and
- supports ***industry, family, and other partners*** to understand and engage with learners, and to participate in the design and assessment process.

How can the Framework help teachers improve student achievement?

If Linked Learning pathway teachers have a **common language**, **quality indicators**, and **relevant support** materials that describe effective learning and teaching practices within Linked Learning pathways, and if these teachers receive coaching and professional development support to understand and implement those practices and forge effective business and community partnerships for student learning, then teachers will effectively engage all students in rigorous and relevant learning that motivates and prepares them to achieve and succeed in college, career, and life.

Find the Framework on ConnectEd Studios at www.ConnectEdCalifornia.org

Behaviors for Learning and Teaching (BLTs)

Linked Learning is…

COLLABORATIVE — STUDENT-DIRECTED — OUTCOME-FOCUSED — RELEVANT — RIGOROUS & INTEGRATED

COLLABORATIVE	*Students can be seen…*
 **Work with Others**	▪ Regularly working with industry partners as learning resources and project clients. ▪ Experiencing a variety of collaborative teams and settings. ▪ Practicing industry-specific norms and strategies to make their teamwork efficient and effective. ▪ Using industry-specific technology and social media tools to foster collaboration.
STUDENT-DIRECTED	*Students can be seen…*
 **Work Students Lead**	▪ Designing their interdisciplinary learning experiences. ▪ Organizing, revising, and self-monitoring a learning plan. ▪ Learning through an inquiry approach where their questions, choices, insights, and solutions lead the way. ▪ Self-selecting from a variety of resources across disciplines to support learning and inquiry ▪ Pursuing mastery through feedback, revision, and defense of work.
OUTCOME-FOCUSED	*Students can be seen…*
 **Work with a Goal**	▪ Creating, using, and revising plans for project work and for their college and career goals. ▪ Seeking, offering, and using feedback on their project and personal plans. ▪ Explaining how their daily work helps them master project, course, and pathway outcomes. ▪ Reflecting daily on their choices, insights, and growth.
RELEVANT	*Students can be seen…*
 **Work that Matters**	▪ Working on problems of genuine personal interest. ▪ Engaging in complex projects authentic to the industry sector. ▪ Producing work that reflects standards of the workplace. ▪ Using state-of-the-art tools and industry-specific technology. ▪ Participating in a sequence of work-based learning experiences.
RIGOROUS & INTEGRATED	*Students can be seen…*
 **Work that Challenges**	▪ Engaging in deep critical thinking using challenging material and industry-specific problem-solving tools. ▪ Designing and publicly defending high quality project solutions. ▪ Articulating how they are mastering the Common Core State Standards. ▪ Pointing out connections across subjects in theme-based interdisciplinary projects.

Linked Learning is	**Collaborative**	
Emerging – 1	**Developing – 2**	**Sustaining – 3**
Students can be seen:	*Students can be seen:*	*Students can be seen:*
a) Occasionally interacting with a guest speaker or advisory board member when they visit the classroom.	a) Working with an industry or community partner on a major pathway project and beginning to use some industry terms as they collaborate.	a) Regularly working with industry, postsecondary and community partners: •as learning resources; •as project clients. Using the language and communication styles of industry professionals.
b) Working closely with classroom peers on a few occasions each semester, usually in the same group size and structure.	b) Experiencing a few different collaborative scenarios (pairs, small groups) in classrooms where collaboration is used at least weekly.	b) Experiencing a wide variety of collaborative scenarios and project teams (*pairs, small project teams, study groups*) in flexible and culturally diverse learning settings where collaboration is the norm and solitary work is rare.
c) Attempting to follow specific group roles and processes outlined by the teacher for a collaborative assignment, but not necessarily understanding how these strategies align to the work of industry-specific collaborative teams or to the work of students in college settings.	c) Beginning to practice norms, roles, and strategies used by project teams in their pathway industry or by students in college settings, and reflecting on the quality of their collaboration.	c) Building expertise in collaboration by: •Explicitly applying the same norms, roles and strategies used by professionals in the pathway industry or by students in college settings. •Focusing on the quality of their collaborative relationships (respectful communication, fairness, individual and group accountability and conflict management).
d) Using one technology tool to collaborate within their group.	d) Using one technology tool to collaborate with each other and with partners.	d) Using industry-specific and emerging technologies *(webinars, CRM software)* and social media tools to deepen relationships and foster collaboration with each other and with industry partners.

MOVING PRACTICE FROM 1 TO 2

Teachers can be seen…

- Connecting students to industry partners during pathway project work.
- Using collaboration regularly, varying the type and size of groups, and making the classroom a safe and equitable place to work together.
- Demonstrating how specific collaboration strategies work and how they function in the professional world and in college.
- Providing students with the technology tools and techniques necessary to collaborate with each other and with partners.

MOVING PRACTICE FROM 2 TO 3

Teachers can be seen…

- Making student-partner collaboration a fixture of classroom practice.
- Modeling and sharing their pathway team and industry partner collaboration strategies and experiences with students as a model for professional collaboration.
- Using feedback and evaluation tools (like rubrics) that explicitly call out industry-specific collaboration strategies and qualities.
- Converting all classroom communication and collaboration processes to use the technological tools used in the pathway's industry.

FOUNDATIONAL STEPS FOR TEACHERS

- Treating all students with genuine respect and care.
- Involving students in the creation of classroom behavioral norms that contribute to a safe and respectful learning environment.
- Ensuring that classroom structures, assignments, and behavioral norms promote collaboration—not competition—between students in the pathway.
- Modeling collaboration skills in their interactions with students.

LINKED LEARNING: Getting Started With…

Collaborative Learning

Reflect on Your Practice

- What has effective collaboration looked like in my own life and work?
- Looking back over the past two weeks of activities in one of my classes, what percentage of student class time was spent on independent work versus collaborating with fellow students? Do my students need more frequent opportunities to work with others?
- How do I typically structure and facilitate group work in my classroom? What has worked? What has not?
- What 2–3 new skills would most help my students work effectively with others?

Starting Points With Students

- Before you begin the next group activity with your students, spend a few minutes explicitly discussing working agreements ("norms") for collaboration. Write them down, review them each time the group meets, and ask students to reflect on how well they followed the norms when the group finishes their work together.
- Invite an employer partner to come to your class to view students during a group activity, and have the partner report out what they saw and how it is similar or different than collaboration at their workplace.
- The next time you have students co-create a document in a group setting, have them use a web-based online sharing platform.

Starting Points With Colleagues

- Discuss collaboration with your teacher colleagues. Use the ConnectEd "Community of Practice Continuum" to guide your conversation.
- Work with colleagues to identify promising practices for group work and try to develop a team, department, or school-wide rubric for effective student collaboration.
- Have a conversation with someone who works in your pathway industry. Ask them about their collaboration with colleagues. What are expectations for collaboration in their job? How is collaboration structured? What roles are used? What are the implications for the classroom?

Working With Standards

Common Core State Standards
Collaboration is an essential part of the ELA Speaking and Listening standards. Specifically, students should be able to *"Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively."*

Career and Technical Education Standards
Collaboration features prominently in many state CTE frameworks and applies across all industry sectors. See your state CTE website for more specifics on your industry sector.

Resources

- ConnectEd *Communities of Practice Continuum*
- P21 Skills Framework (www.p21.org/overview/skills-framework/261)
- "Best Online Collaboration Tools 2012" (www.mindmeister.com/12213323/best-online-collaboration-tools-2012-robin)-good-s-collaborative-map

Getting Started: Think Big. Start Small. Move Fast.

Linked Learning is	**Student-Directed**	
Emerging – 1	**Developing – 2**	**Sustaining – 3**
Students can be seen:	*Students can be seen:*	*Students can be seen:*
a) Occasionally reflecting on completed learning experiences.	a) Selecting the instructional topics and activities that best fit their interests and learning style from a list of options provided by their teacher	a) Designing interdisciplinary learning experiences including self selection of: •research topics or problems, •investigation questions, •work-based learning experiences.
b) Making task lists and filling in calendars for their project work.	b) Creating, updating and reflecting on project-specific learning plans.	b) Organizing, revising and self-monitoring a learning plan with focus on: •Progress toward project outcomes •Mastering Common Core and CTE standards •Effective use of learning time
c) Taking a role in questioning, research, and reflection when prompted.	c) Learning through inquiry and taking an active role in questioning, research, and reflection.	c) Learning through inquiry as they take initiative to guide the process of asking deep questions, analyzing evidence, revising solution choices based on deep evaluation of new evidence, creating thoughtful conclusions, making connections, and reflecting on insights.
d) Selecting resources they need to complete assignments and projects from options provided by their teacher.	d) Determining what resources they need to complete assignments and projects.	d) Self-selecting from a variety of resources (academic, industry, community) across disciplines as needed to support learning and inquiry.
e) Revising their work based on feedback from teachers and peers.	e) Improving their work quality to a level of mastery by asking teachers, peers, and industry partners for feedback and using that feedback to make improvements.	e) Demonstrating mastery and quality through: •Pursuing feedback from industry partners, teachers, students, and community members •Revising theories, conclusions, and products •Defending and justifying their conclusions/products as well as articulating their improvement process

MOVING PRACTICE FROM 1 TO 2

Teachers can be seen…

- Allowing students to make important choices about what they learn and how they demonstrate mastery.
- Making explicit connections between the learning choices students make now and the opportunities they will have in college to continue directing their own learning.
- Helping students create learning plans, adjust them based on feedback, and persist through difficulties in the learning process.
- Planning class time for peer collaboration, industry partner interaction, and project revision.

MOVING PRACTICE FROM 2 TO 3

Teachers can be seen…

- Framing engaging, relevant learning experiences that feature regular opportunities for independent student inquiry.
- Providing students with individual assessment data and coaching that helps them to monitor and revise their learning plans.
- Readjusting their course calendars to respond to student interests and learning needs.
- Supporting the flexible use of class time so students can collaborate with peers, interact with industry partners, and revise their project work.

FOUNDATIONAL STEPS FOR TEACHERS

- Regularly connecting academic instruction to the pathway industry theme.
- Getting to know students and their interests at the beginning of the term and using that knowledge to personalize instruction.
- Asking students to set learning goals at the start of a new unit or project.
- Asking students for feedback on the effectiveness of different instructional strategies and making adjustments to their teaching based on that feedback.

LINKED LEARNING: Getting Started With…

Student-Directed Learning

Reflect on Your Practice

- How does autonomy affect my own engagement and learning during professional development events?
- How often do I allow students to choose what they are learning or how they demonstrate mastery?
- How could I begin to have students set learning goals or take more initiative for their learning in my classes?
- Which assignments in my courses could be altered to allow for more feedback and revision?

Starting Points With Students

- Rewrite an upcoming assignment to provide students with one additional choice for either what they learn or how they demonstrate understanding.
- Design an assignment that requires students to research a topic on their own and select information sources that they think are credible and useful. As part of the assignment, have students reflect on and defend the choices they made.
- Start a new unit by asking students to set 2-3 learning goals. Have them evaluate their progress at the midpoint and end of the unit.
- Evaluate an assignment with a rubric and give students the option of revising and resubmitting their work for a higher grade.

Starting Points With Colleagues

- Discuss the notion of student-directed learning with your team or department. Share ideas on how students are encouraged to make important choices in their learning and how the practice can grow.
- Ask someone who works in your pathway industry to come to one of your team meetings and discuss what self-direction looks like in their workplace. Are employees expected to direct and lead projects? In what situations do they need to take initiative, set goals, and monitor progress? Discuss possible implications for your classroom.
- Work with someone who teaches the same class you do and analyze the course curriculum and standards. Determine which standards are essential and which are optional for students to master.

Working With Standards

Common Core State Standards
The ELA standards describe literate students who are college and career ready as those who can *"demonstrate independence"* as *"self-directed learners, effectively seeking out and using resources to assist them, including teachers, peers, and print and digital reference materials."*

Career and Technical Education Standards
Self-directed learning is a key element of many state CTE frameworks and applies across all industry sectors. See your state CTE website for more specifics on your industry sector.

Resources

- P21 Skills Framework (www.p21.org/overview/skills-framework/266)
- Self-Directed Learning website (http://selfdirectedlearning.com/becoming-self-directed.html)

Getting Started: Think Big. Start Small. Move Fast.

Linked Learning is	**Outcome-Focused**	
Emerging – 1	**Developing – 2**	**Sustaining – 3**
Students can be seen:	*Students can be seen:*	*Students can be seen:*
a) Developing a plan for school or work beyond high school as part of a required pathway assignment.	a) Creating strategic personal learning plans, using those plans to guide their course choices and work-based learning activities, and revising their plans at least annually.	a) Creating and regularly revising project and personal learning plans that guide their daily work, course choices, and work-based learning experiences.
b) Describing the purpose of planning and plans.	b) Seeking and using feedback from parents and teachers on personal learning plans and long-term college and career goals.	b) Seeking and using feedback from parents, peers, teachers, and employer partners on personal learning plans, project plans, and long-term college and career goals.
c) Using teacher feedback on their post-high school plan to revise it as needed.	c) Reflecting on their learning and pathway progress at the end of each quarter or semester.	c) Reflecting regularly on their individual and group choices, insights, and learning.
d) Reflecting on whether or not they met learning targets at the end of a project or performance task.	d) Explaining how their daily work contributes to project and course outcomes.	d) Explaining how their daily work contributes to project, course, pathway, district, Common Core, and CTE outcomes as well as college and career goals.
e) Explaining why a current task is important.	e) Describing their growth towards outcomes as part of their project presentations and product reflections.	e) Using rubrics to self-assess their progress on pathway outcomes as a part of public exhibition and defense of their work.
f) Describing the outcomes for their pathway, and why they are important.		

MOVING PRACTICE FROM 1 TO 2

Teachers can be seen…

- Regularly building goal setting and learning plan development into assignments and projects.
- Facilitating structured feedback sessions that allow students to share their learning plans and receive feedback on the plans from parents and peers.
- Modeling planning and reflection by sharing their own professional learning plans, reflections, and revisions.
- Explaining how daily lessons and assignments align with project and pathway outcomes.
- Creating periodic opportunities for students to publicly exhibit products and performances.

MOVING PRACTICE FROM 2 TO 3

Teachers can be seen…

- Explicitly teaching students strategies for creating, monitoring, measuring, and adjusting goals.
- Connecting students with industry partners and providing opportunities for them to share and receive feedback on their college and career goals.
- Creating regular opportunities for students to publicly articulate and defend their work in relation to pathway outcomes.
- Restructuring their grade books and grading systems to provide students with continual feedback on their progress toward meeting project, course, pathway, district, and Common Core outcomes.

FOUNDATIONAL STEPS FOR TEACHERS

- Working with colleagues and industry partners to write pathway outcomes that align with site and district graduate profiles and CTE/Common Core standards.
- Developing rubrics for their pathway outcomes that describe what it looks like to master each outcome at each grade level.
- Creating performance tasks that provide students with opportunities to demonstrate mastery of pathway outcomes.
- Helping students develop a clear picture of future possibilities for college and career through assignments, college visits, and work-based learning.

LINKED LEARNING: Getting Started With…

Outcome-Focused Learning

Reflect on Your Practice

- How do my career goals influence what I read, the trainings I attend, and the work opportunities I pursue?
- How strong is the "future orientation" of my students? How many are focused on college and career goals?
- Do I have clear outcomes for my pathway? How do I use these outcomes with students?
- What can I get my students to see the connections between their work today and their options tomorrow?

Starting Points With Students

- Have students create a timeline of their life that extends into their elderly years. Ask them to include aspirational but realistic college and career events on their timeline. Use the activity to discuss career preparation and implications for their current studies.
- Invite an industry partner to come to class and tell the story of the choices they made about their learning and how those choices led to their current role. Debrief the visit and ask students to reflect on where their learning choices are leading them.
- Share your pathway outcomes with students and begin each lesson by connecting it to the specific outcomes it addresses.

Starting Points With Colleagues

- If you haven't developed pathway outcomes yet, collaborate with others on your team to draft some. Begin by reviewing sample outcomes (see resources below) and outcomes development tools. Make sure the draft pathway outcomes align with the demands of the Common Core and state or national CTE standards as well as with your district's graduate profile.
- Do your students create formal postsecondary plans? If not, pull together a group of teachers, administrators, counselors, special education instructors, and support staff to discuss how everyone can work together to help students write and use a college and career plan that guides their choices, learning, and involvement during high school.
- Work with colleagues to develop your own personal career plan, and use what you learn from the process to help students with their planning.

Working With Standards

Common Core State Standards
While the Common Core Standards do not directly address outcome-focused learning, the thinking, writing, reflecting, and revising that students demonstrate as they develop college and career plans and connect their learning to future goals is very much aligned with the overall skill development and cognitive challenge represented in the Common Core.

Career and Technical Education Standards
Outcome-focused learning is featured in many state CTE frameworks and applies across all industry sectors. See your state CTE website for more specifics on your industry sector.

Resources

- ConnectEd Studios Toolkit resources: Sample pathway outcomes, "Big Six" outcomes springboard tool
- The College Board's "My Road" online college and career planning tool (https://myroad.collegeboard.com/myroad/navigator.jsp)

Getting Started: Think Big. Start Small. Move Fast.

Linked Learning is	**Relevant**	
Emerging – 1	**Developing – 2**	**Sustaining – 3**
Students can be seen:	*Students can be seen:*	*Students can be seen:*
a) Learning academic skills as they work on topics that relate to adult roles and career options.	a) Practicing academic skills and language in problems and projects of personal interest including using complex industry texts with confidence, recognizing how these experiences relate to their college and career goals.	a) Applying academic skills and language to problems and projects of genuine personal interest that explicitly prepare students to achieve their college and career goals.
b) Engaging in standards-based lessons and projects relevant to sector theme.	b) Engaging in projects related to the products, services and solutions within the industry sector, interacting with adults modeling the occupational and social expectations of the workplace.	b) Engaging in long-term, complex projects authentic to the industry sector, interacting with industry partners, mentors and community members, and creating products, services and solutions consistent with the occupational and social expectations of the workplace.
c) Using some of the technology and skills specific to industry.	c) Building the technical skills specific to an industry and connecting talents and interests to increasing expertise with occupational techniques and practices.	c) Using state-of-the-art tools and technology requiring skills specific to the industry, aligned to intrinsic interests and personal goals.
d) Interacting with adults with similar interest and articulating how success in the pathway will increase their options for college and for a rewarding career.	d) Participating in work-based learning experiences that enable them to connect their abilities to their college aspirations and career goals.	d) Participating in a coordinated sequence of work-based learning experiences that connect to the classroom, advance their personal goals, and prepare them for postsecondary education and career advancement.

MOVING PRACTICE FROM 1 TO 2

Teachers can be seen…

- Inviting industry professionals to provide feedback on project plans and student work.
- Providing students with rubrics and work samples that paint a clear picture of the quality levels expected on project work.
- Explicitly teaching students how to communicate and collaborate like professionals.
- Pioneering the use of one new industry-specific technological tool in the pathway each year.
- Working to build work-based learning opportunities into major pathway projects.

MOVING PRACTICE FROM 2 TO 3

Teachers can be seen…

- Collaborating with industry professionals and participating in teacher externships to help infuse accurate, industry-specific information and skills into lesson plans, project designs, and rubrics.
- Coaching students to produce work that meets the high bar of the professional world.
- Helping all students access and properly use the same types of technological tools that are used in college and in the pathway industry.
- Coordinating, monitoring, discussing, and trouble-shooting work-based learning experiences, in school and off site, and aligning WBL to classroom learning.

FOUNDATIONAL STEPS FOR TEACHERS

- Asking industry professionals to share the latest industry trends, standards, and expectations with the pathway teaching team.
- Working to decrease lecture-based instruction and increase classroom activities that require students to apply skills and knowledge to real problems and scenarios.
- Learning new industry-specific technological tools so that they can eventually use them with students.
- Learning about what Work-Based Learning is and how it can connect to the classroom to make learning engaging and relevant.

LINKED LEARNING: Getting Started With…

Relevant Learning

Reflect on Your Practice

- How does the relevance and applicability of a topic influence my own learning?
- Who in the real world uses the content I teach?
- How do I answer the student question, "Why do we have to know this?"
- Do students in my classes ever produce work that has a real audience or client beyond the classroom?
- How might I get students to apply what they learn to real world situations?

Starting Points With Students

- Before embarking on your next project, lead your students in a careful review of a high-quality product that is similar to what they will be producing. Discuss in detail the features that make the work strong and effective.
- Invite an industry partner to come to class and watch students work together or make formal presentations. Ask the partner to share observations and comment on how what they saw connects to the skills and work that people demonstrate in their workplace.
- Ask students to research the technology tools, applications, and software used in your pathway industry. Create a list and ask students to indicate which ones they already know and which ones they would like to learn.

Starting Points With Colleagues

- Work with a colleague to brainstorm ways to have students apply their learning from your class in a way that provides a service for someone outside of the classroom.
- Ask someone who works in your pathway industry if you and a colleague can spend a few hours visiting their workplace and watching them work. During the visit, pay attention to the knowledge and skills that are required. Afterwards, debrief with your colleague and brainstorm ways to infuse what you saw into your work with students.
- Work with someone at your school with tech savvy to learn a new technology tool, program, or app that has application in your pathway industry and could be used with students.

Working With Standards

Common Core State Standards
Real-world problems and scenarios are found throughout the Common Core Mathematics standards in all conceptual categories: number and quantity, algebra, functions, modeling, geometry, and statistics/probability. Students are continually asked to apply problem-solving techniques to situations drawn from daily experience. In the Common Core English Language Arts standards, an increased focus on non-fiction and informational text demands that teachers deliver instruction that moves beyond traditional literature and connects to the real world.

Career and Technical Education Standards
Career and Technical Education standards are, by their very nature, relevant. These industry-vetted standards articulate the real-world knowledge and skills needed by students for success in the world of work.

Resources

- "What Kids Can Do" website (www.whatkidscando.org)
- George Lucas Education Foundation's "Edutopia" website (www.edutopia.org)

Getting Started: Think Big. Start Small. Move Fast.

Linked Learning is	**Rigorous & Integrated**	
Emerging – 1	**Developing – 2**	**Sustaining – 3**
Students can be seen:	*Students can be seen:*	*Students can be seen:*
a) Engaging in critical thinking as they: •Read grade-level texts and think about problems that include multiple components; •Support ideas and construct solutions with examples; •Write about their process and solutions; •Discuss important questions that emerge from the pathway industry.	a) Engaging in critical thinking as they: •Read a variety of complex texts and solve problems of increasing challenge and complexity; •Support their ideas and solutions with evidence and commentary; •Write to persuade, inform, and narrate using basic academic vocabulary; •Begin to practice some of the unique ways that the pathway industry approaches problems, asks questions, analyzes information, and arrives at conclusions.	a) Engaging in deep critical thinking as they: •Read demanding, complex texts, solve challenging problems, and grapple with complex dilemmas; •Evaluate and marshal evidence in support of specific claims; •Write argumentative, informative, and narrative texts using advanced academic vocabulary; •Practice and apply industry-specific techniques for: •Data analysis and representation •Questioning of peers and partners •Problem-solving of real-world challenges •Writing in a variety of genres •Speaking to client audiences
b) Designing project solutions as they: •Critique project work; •Share their work with adults; •Complete work that mostly aligns with Common Core State Standards.	b) Designing project solutions as they: •Gather teacher, peer, and industry partner feedback into revisions of project work; •Defend their work to adults, including business or community members; •Demonstrate mastery of the Common Core State Standards.	b) Designing and defending high-quality solutions as they: •Incorporate teacher, peer, and industry partner feedback into multiple revisions of project work; •Defend their work publicly to peers and adults from beyond the classroom, including business and community members; •Explain how they are demonstrating mastery of the Common Core State Standards.
c) Participating in projects that incorporate concepts and skills from at least two subject areas.	c) Pointing out connections as they engage in theme-based interdisciplinary projects that blend knowledge and skills from three or more subject areas.	c) Synthesizing knowledge and ideas as they engage in theme-based interdisciplinary projects that combine three or more subject areas.

MOVING PRACTICE FROM 1 TO 2

Teachers can be seen…

- Modeling the thinking tools and processes required for good reading, writing, and problem solving.
- Constantly looking for ways to increase the rigor of assignments and projects and to prepare students for college-level academic work.
- Helping students understand the habits of mind used by professionals in their pathway industry.
- Collaborating with colleagues to make connections across classes and with the pathway theme.
- Designing lessons and projects by starting with performance mapping of standards.

MOVING PRACTICE FROM 2 TO 3

Teachers can be seen…

- Explicitly teaching students reading strategies, problem solving techniques, and questioning skills that foster critical thinking.
- Organizing classroom inquiry around demanding questions, texts, and projects that require students to master challenging content and apply new skills that align with the Common Core standards.
- Helping students to think like a scientist, design like an engineer, write like an author, and so on by modeling the unique cognitive skills and strategies from the pathway industry.
- Collaborating with colleagues to design and implement interdisciplinary projects.

FOUNDATIONAL STEPS FOR TEACHERS

- Reviewing course curriculum to look for opportunities to augment content coverage with the development of reading, writing, and thinking skills.
- Working with their pathway colleagues to align pathway instruction with the Common Core standards.
- Meeting with industry professionals to learn about the thinking skills that are demonstrated on the job.
- Taking advantage of natural and easy opportunities to infuse the pathway theme into core academic courses.

LINKED LEARNING: Getting Started With…

Rigorous & Integrated Learning

Reflect on Your Practice

- How do I define rigor? What are key thinking behaviors and habits of mind from my discipline?
- How well does my current instruction align with the rigor demanded by the Common Core Standards?
- How flexible am I in how and when I teach course content in order to promote integration?
- How might my course content best integrate with other subject areas and with the pathway theme?

Starting Points With Students

- The next time you demonstrate a skill or problem-solving technique with your students, make sure you "make your thinking visible" by explaining each step in the thought process that you use.
- Take an existing assignment and rework it to make it more rigorous. Look for ways to move beyond recall of information and instead have students apply their understanding to a new problem or create a unique solution that demonstrates their knowledge.
- For your next in-class presentation, build in a thorough question and answer element to allow time for students to "defend their work" by showing the depth of their understanding and explaining their choices.
- Share a list of "habits of mind" with students and discuss when and where these thinking behaviors are used in the real world.

Starting Points With Colleagues

- Discuss the concept of "rigor" with your team. Have them come up with their own definition, then share and try to reach consensus on what the term means and its implications for instruction.
- Review the Common Core standards with your teaching team. Discuss how the Common Core will change what you teach and how you teach it.
- Share a list of the topics from one of your courses with one colleague who teaches your students a different subject. Discuss possible connections that can be made between your courses.
- Work with your school leadership to secure training for your team in performance mapping and integrated project design.

Working With Standards

Common Core State Standards
The Common Core State Standards provide teachers with a thoughtful blueprint of academic rigor in the areas of English Language Arts and Mathematics. In many districts, implementation of the Common Core will necessitate increased rigor throughout the K-12 system.

Career and Technical Education Standards
State and national CTE standards articulate the knowledge and skills necessary for students to learn in different industry sectors. Pathways wanting to provide rigorous CTE programs should align their instruction to these standards and provide students with opportunities to demonstrate mastery.

Resources

- Institute for the Habits of Mind (www.instituteforhabitsofmind.com/)
- Integrated, rigorous projects from the ConnectEd Studios online library (http://connectedstudios.org)

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