

Lowering Classroom Walls

Engaging students for deeper learning

2-3

**Increasing Student
Engagement/Tips from
Teachers**

4-5

**Community
Connections/Project
Management**

6-7

**Building Authenticity/
County Work-Based
Learning Network**

8

**Resources and
Connections**



A student at Cloverdale High School unveils to the public an art project that she and her classmates worked on all year.

Authentic Learning Experiences



Casa Grande Junior Gabrielle S. gives a tour of the United Anglers Fish Hatchery.

Gabrielle S., a junior at Casa Grande High School in Petaluma, wasn't looking forward to meeting her A-G science requirements. Chemistry and anatomy just didn't seem relevant to her life. Then she learned that a popular elective in fish hatcheries was now available as a University of California-approved science lab. She signed up for the class, which teaches environmental science and biology through hands-on work in the United Anglers Fish Hatchery. The program, run by the students as a nonprofit business, was created 35 years ago in response to student demand for more relevant coursework. Gabrielle and her peers monitor and care for Steelhead hatchlings, help restore the local watershed, and conduct fundraisers. "It's very scientific, very hands on," says Gabrielle. Her favorite aspects of the class are working in the creek and learning through internships. Through this work, she has learned that she wants to be a zoologist.

Gabrielle's story is just one example of how Sonoma County educators are engaging students by connecting what happens in the classroom to their lives, their communities, and their futures. This SCOE Bulletin highlights local examples of this work in action. From projects that engage elementary students in their communities to student-run businesses designed around academic content, these initiatives are moving beyond classroom walls—both literally and figuratively—to deepen student learning.



Engaging Students Through Relevance

Promoting Student Engagement

“Students work harder and dream bigger if education is relevant to them.”

—James Irvine Foundation

Student engagement is now one of the key measures of school success under the California School Dashboard. School leaders have recognized that students must find class relevant to their lives if they are to stay in school and succeed. A proven way to accomplish student engagement is through relevance—connecting what students are learning in school to their lives outside of school and plans for the future. “It is imperative that we connect students to work that matters to them,” says Jessica Progulske, SCOE program coordinator for student supports. Methodologies for increasing relevance include:

Project-Based Learning (PBL)

Student-centered instruction that occurs over an extended time period, during which students select, plan, investigate, and produce a product, presentation, or performance that answers a real-world question or responds to an authentic challenge. Teachers generally serve as facilitators, providing scaffolding, guidance, and strategic instruction as the process unfolds. (Margaret Holm, 2011) Projects are: Content-based, built around driving questions, and student-centered.

Linked Learning

A proven approach to education that combines rigorous academics, sequenced technical training, work-based learning, and integrated student supports. (James Irvine Foundation)

Work-Based Learning (WBL)

Designed to expose students to future options and provide opportunities for skill development and mastery over time through interactions with industry or community professionals that are linked to school-based instruction. 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 or standard project-based learning alone. (connectedstudios.org)

Tips from Teachers: How to Succeed with Project-Based Learning



“The most important and essential thing is organization and backwards planning. Keep it focused on learning objectives. Be sure to set clear benchmarks with dates and check-ins for students. Kids can get lost, find it overwhelming, and not know how to manage time effectively. It’s essential to have defined roles and have those roles outlined and have rubrics and expectations prepared and given to students in advance.”

—Allison Frenzel, Windsor High WBL Coordinator/ Integrated Pathway Coach



“It’s kind of nerve-wracking to let go, but you know what you have to teach: your standards. If you know the end goal, you know which questions are applicable to the standards. You can follow the interest and standards while still empowering kids.”

—Ryan Kurada, University Elementary Teacher



“You have to be patient with not knowing exactly what’s happening. Trust that the process has inherent value even when there are growing pains along the way. Also, have fun—it’s exciting to see this different kind of learning happen.”

—Christi Calson, Cloverdale High WBL Coordinator/ Integrated Pathway Coach



Civic Engagement, K-12



Mr. Kurada's door is decorated with documentation of his class's model city project, including a project-driving question based on content standards, a letter from the city manager, and student work.

Engaging Young Citizens Through PBL

"We want to teach kids the standards, but in a fresh and engaging way."

—University Elem. Teacher Ryan Kurada

Teacher Ryan Kurada sees his first-grade students at University Elementary as "citizens of the world" who have valuable thoughts and insights about the communities they call home. In that spirit, he organizes his instruction of the content standards around community-minded projects. Recently, he invited Darrin Jenkins, city manager of Rohnert Park, to visit and challenge students to brainstorm ideas for improving aspects of their community—including homes, transportation, wildlife, natural spaces, and play. Mr. Jenkins presented Mr. Kurada's students a project proposal letter requesting their help gathering ideas for the city's next General Plan. Their ideas would be shared with the city in a public exhibit.

Students formed community improvement groups based on the area they would like to improve. They spent the year learning about various areas of city planning and crafting their own ideas for a model city. One day, Mr. Kurada invited a company called Play-Well Teknologies to help students explore one community improvement area—transportation—by building electric cars out of Legos.

Students followed along intently as Justin from Play-Well talked about the difference between internal combustion engines and electric cars as well as the environmental benefits of electric cars. A diagram on the wall showed a previous day's work brainstorming why electric cars are good for the future. When it was students' turn to build, they dove into the project, remembering an impressive number of steps. When challenged by a certain step, they would ask a peer for help or try a different approach before asking their teacher for assistance. One boy happily watched his car zoom around after it was completed. "My battery pack didn't work at first, so then I got a new one," he observed. Every time something doesn't work, I'll try again—just like a real engineer!"

Mr. Kurada noted that he often sees the positive effects of self-motivation, information retention, and team work as a result of project-based learning. "It's not all about me," he said. "It's about what do we know together? You can do a project alone, but it's so much better to learn together."



Students in Mr. Kurada's class find the right wheels for their solar cars.





Cloverdale High School students stand by one of the art installations they conceived, proposed, created, and installed in downtown Cloverdale.

Mastering Project Management

A year-long initiative at Cloverdale High School to engage the entire junior and senior class in a community-based art project began when the teachers themselves got out of the classroom and began learning how to manage a large-scale project. Last summer, photography teacher and Work-Based Learning Coordinator Christi Calson attended a teacher externship along with English teacher Joe Dobbins. Summer teacher externships, organized by SCOE, place teachers in local businesses with the goal of increasing ability to connect theory and practice and bring an understanding of the workplace into the classroom. The externships also allow teachers to see how classroom content is applied in the workplace.

Calson and her colleagues had a seed of an idea for a community-based art installation. They worked with a local architecture firm to learn how to make such a large-scale project a reality. “They helped us frame the entire project in a real-world context,” Calson said. “We were able to ask a lot of questions about the process they go through when they do a big project.” They developed the idea to create a community arts consortium consisting of members of local arts agencies as well as a city council member. This group then issued a request for proposals for installations to the high school. Working in

classroom-based teams, students proposed works of art based around the timely political concept of “walls” and the philosophical questions, “How do we know what is true?” and “What are the obstacles to truth, and how do we overcome them?” Students studied these concepts and developed their projects as the year unfolded.

Managing such a complex, large-scale project was a learning experience, said Calson. Teachers leaned heavily on technology, setting up a Google Classroom for the project and sharing Google Documents across classrooms. Project-based learning was new to most of the students, and the teachers quickly learned the importance of establishing milestones, clearly defined expectations, and concrete roles for the students. “Some who usually aren’t very involved became leaders, which was really neat to see,” said Calson. Other, typically high-achieving students who were more focused on grades were really uncomfortable with the more ambiguous activity.

“I’ve heard about the power of teamwork all the time but I didn’t really understand it until this year.”

—Cloverdale High School Student

She reflected that, in the future, teachers would try to do a better job of showing these students the connection between soft skills such as teamwork and time management and their success in college and career.

In April, the project culminated in a public unveiling of the artworks, which were spaced throughout the downtown. Students, excited to show off their work, described the process as a learning experience. “I think in the beginning we were really confused since we had to figure out what to do and a lot of us didn’t know how to handle that,” acknowledged one student who became the classroom manager for her project. “But we figured out a way we all agreed on, and everyone had a job. I’m proud of what we were able to accomplish.”



Creating Authentic Projects

“I have a lot of students who struggle in a classroom. I love the authenticity that these projects, where other peoples’ money is on the line, bring to education. It shows students the real world stakes.”

—Cole Smith,
Rancho Cotate High
Teacher



Rancho Cotate students consult with Dan Blake from SCOE on development of the Mobile Learning Lab.

A Classroom on Wheels, Built by Students

This spring, students from Rancho Cotate High School’s Engineering and Design program were hard at work building a classroom on wheels from a basic 8-by-21-foot cargo trailer. The Mobile Learning Lab, when finished, will serve as an outdoor learning venue for students on a field trip or as a pop-up lab for STEAM and maker activities at a school site. The lab can host professional learning experiences and allow teachers to meet in a variety of unique settings. Sonoma County teachers conceived the idea in 2015 as part of a project to re-imagine professional development, called The Teacher’s Guild. Now, students are getting a chance to make it a reality.

“Over and over again, teachers emphasized the power of an inspiring space and the need to get outside or off-site to engage in relevant, real-world applications of learning,” said SCOE Director of Teacher Development Sarah Lundy, who coordinated the Teacher’s Guild project.

Rancho Cotate Engineering and Design teacher, Cole Smith, said that ambitious and authentic projects like the Mobile Learning Lab motivate his students to really buy in

and engage in something larger than themselves. Smith said that the learning his students take away from these large-scale team efforts tends to stick with them because the experience models real life.

On a recent March day, Smith’s students met with Dan Blake, SCOE director of innovation and partnerships, to update him on the project’s progress and discuss the placement of a big-screen TV. Students Gianni G., Manny G., and Rogelio C. helped measure the space and listened to Mr. Blake’s preferences.

“I like getting to interact with real people. It gets you ready for the real world,” said Rogelio. After he graduates, he wants to enter the construction industry and help with the effort to rebuild after the fires.

In addition to the Mobile Learning Lab, Mr. Smith’s students have built other structures for real-world clients—including a tiny house recently purchased by someone who lost her home in the fires. “It feels good to know we built something useful,” said Gianni.

Learn more about the Mobile Learning Lab at scoe.org/MLL.





Gabrielle S., a junior, explains the history of the Casa Grande High School United Anglers program while giving a tour of the facility.

Connecting Students' Passions to College

The United Anglers program at Casa Grande for decades drew students passionate about ecology and conservation as first a club and later an elective. Now, thanks to a successful effort to make a version of the class an approved A-G science lab, even more students can pursue their interests while also preparing for college.

"Students can get the hands-on experience of the extracurricular course, but now the curriculum has been broadened from our local fishery to include conservation and restoration of ecosystems," says Dan Hubacker, a teacher and director of the United Anglers program. "This is great for the student who doesn't have extra time to take an elective." He added that they can discuss big ideas in class—extinction, policy, etc. — then make it real through the very hands-on work of monitoring fish, conducting public fundraisers, and clearing trash from the local watershed.

Students are given distinct jobs that foster personal responsibility and are expected to collaborate in self-guided projects. Hubacker says this can be a challenge for some students who are used to traditional, college-track work. "It's not just about a grade anymore, it's about a job. That's a challenge for some," he observed. "I go right for that—that's where we start. Teamwork is something so many take for granted, but talk about job readiness—it's as important as reading and writing."

"It is really valuable to have input from industry partners to create the most engaging possible transformative learning experiences for students."

—**Chuck Wade, SCOE Program Coordinator for Instructional Support**

Coordinating Industry Engagement

Work-based learning can involve a lot of coordination. SCOE and the Career Technical Education (CTE) Foundation have teamed up to create a county-wide work-based learning system in secondary schools. Fifteen of the county's comprehensive high schools now have work-based learning coordinators who work with teachers to enhance their curriculum through relevant engagement with local industry.

"Industry connections should be relevant to the student, the curriculum, and the careers available to them," says Brandon Jewell, director of industry engagement at the CTE Foundation. The CTE Foundation has created a database of industry partners willing to work with schools. Industry connections can take place in or out of the classroom and can include: being a speaker, participating in an industry panel, advising the teacher, worksite tours, job shadows, internships, and mentorships. The common thread is that students gain relevant life and career skills from the work they're doing in school.

Allison Frenzel, WBL coordinator and integrated pathway coach at Windsor High, shared an example of what this looks like at her school. "Our Vineyard Academy worked with CTE Foundation to do a tour of Gallo. Students saw the microbiology lab, talked to a biologist, chemist, and lead engineer, and saw mechanics fixing the bottling plant when it broke down. Kids got to see how there's so many career possibilities in the wine industry and learn about the intersections of science, agriculture, and hospitality that opened their eyes to all kinds of opportunities."



Learn More



Online Resources

Learn about Career Pathways at the CTE Foundation of Sonoma County: ctesonomacounty.org

Explore Linked Learning: irvine.org/linked-learning

Learn about and utilize SCOE's Mobile Learning Lab: scoe.org/MLL

Learn about Project-Based Learning through the Buck Institute for Education: bie.org



Professional Development Opportunities at SCOE

CA3: Integrated Project-Based Learning Institute

CTE and core academic teachers deepen integrated project-based learning, collaborating with industry partners to design experiences that will engage and prepare students.

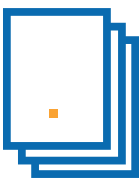
Integrated Coaching Community of Practice

A group of like-minded educators in coaching roles meet six times a year to support one another in building skill and capacity around transformational coaching.

Teacher Externships

Each summer, SCOE offers this opportunity to observe, investigate, and develop connections between academic content standards and daily operations of a local business.

To learn more about these opportunities, contact Jessica Progulskse at jprogulkse@scoe.org or Chuck Wade at cwade@scoe.org.



Questions about this publication?

Contact the Editor

Jamie Hansen, SCOE Communications Specialist
jhansen@scoe.org | 707-524-2620

