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Start Me Up: Project-Learning Primers
Plan your first lesson with these online resources.
by Bernice Yeung

The days of summer are slowly winding down, and you've been thinking ahead to the new school year -- and how to add some luster to your lesson plans. Project learning, which has generated plenty of buzz, could do just the trick.

Project learning is becoming increasingly de rigueur, from district wide initiatives coordinated by organizations such as Project Lead the Way to schools across the nation, such as those started by the New Technology Foundation, where hands-on experiential learning is fully integrated into the curriculum.

But getting started can seem daunting: How do you design a good project? What kind of projects work? How can you teach to the standards and use hands-on projects? Here are three free online resources -- and some tips from an education expert -- about how to get going with project learning in your classroom, even if you've never used it before:

PBL Online

This site, originally funded by the U.S. Department of Education, with contributions from The George Lucas Educational Foundation and various universities, is produced by the Buck Institute for Education. It serves as a solid primer on how to design standards-based, hands-on projects using a clear but detailed five-step method. The site also offers planning resources, including a project-planning form and assessment rubrics, all of which you can easily download. (Check the site's PBL Planning Resources menu.)

The site's PBL Co-Laboratory, a popular database of about one hundred sample projects, can be searched by grade level, subject area, and the time needed to complete a project. Projects found in the database tackle everything from Greek architecture to infectious diseases to marketing and economics. Access to the database is free after signing up for a log-in and password.

"The one concern I hear most is the time it takes to plan and gather things to make PL work," says Susan Moon, a fifth-grade teacher at West Pelzer Elementary School, in West Pelzer, South Carolina. "I think PBL Online is great, because it already has so much of that in place, so there shouldn't be as much difficulty in making this work. I have told teachers in the past that once you plan a major lesson and gather things, it's not nearly as time consuming the next time. And the process itself, as the students grow into it, becomes less cumbersome anyway."

ThinkQuest

This project library serves as a portal to 7,000 student-created Web sites collected over the course of a decade from the international participants of the Oracle Education Foundation's annual ThinkQuest project competition. This year, one group of student winners created an interactive site aimed at engaging young students in math through movies. Another team's site discussed forests and ways to address deforestation.

Some teachers use the sites directly as project-learning tools, while others use them as a jumping-off point for creating new projects. Dee Dee Thompson, a science teacher in Beaufort, South Carolina, says her students have especially enjoyed a project called Life on the Rocky Shore, which provides information and online activities about ocean tidepools. "We are a coastal town, so it was great to bring relevance to my students' lessons with content to which they could relate," Thompson observes.

She also used a lesson called Human's Playground to teach her students about genetic engineering. "It is an action-packed and engaging look at the how's and why's of genetic engineering," Thompson says. "My honors biology students loved it. It was a great conversation and debate starter."

CIESE

The Stevens Institute of Technology's Center for Innovation in Engineering and Science Education (CIESE) specializes in standards-based, real-world projects that range from math and science lessons that teach students how pilots fly airplanes to social studies and language arts projects that ask them to examine archival letters and diaries as a way of understanding history.

The curriculum centers on projects that use real-time data available online while harnessing the Internet's power to encourage student collaborations across continents. CIESE projects also raise the stakes by asking students to publish their completed work online so that a global community of students can reference it.

"Kids want to do a project that's real and engaging," says Donna Cole, a middle school science teacher at Edison Elementary School, in Bow, Washington, who uses a CIESE curriculum about earthquakes and plate tectonics called Musical Plates. "Students are so used to having just their teacher read their work. What's great about PBL and these units is that there is a real audience for their work. When it's real life, it makes such a huge difference for my students."

Irene Ornovitz, who teaches biology and botany at Jonathan Dayton High School, in Springfield, New Jersey, has used a number of CIESE units, including ones on air pollution and population growth, as well as a collaborative project on human genetics. "I enjoyed hearing students talk about contributing their data to a global project and about looking at where in the world other student contributors live," she reflects. "Since most teenagers are so comfortable using technology, this is a great extension of our classroom lessons into the real world."

Other Online Project-Learning Resources

Here are more Web sites to help you get started on project learning:

> Novel Approach PBL: Projects on topics such as forensic science and the information sciences, in addition to the standard core subject areas.
> Ohio Resource Center: Project learning for career and technical education.
> Project Exchange: High school project-learning curriculum for visual and performing arts, digital media, and world languages in addition to the standard core subject areas.
> PBLnet.org Exemplary Projects: A well-edited library of projects, research, and assessment tools.
> WebExhibits: An Internet-based interactive museum exploring science and culture you can use for project-learning activities.

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How To: Implement Project Learning, Even If You've Never Done It Before

Here are some tips from Kerry Rice, assistant professor at Boise State University's Department of Educational Technology, who helped develop the Buck Institute for Education's PBL Online site.

Think big, but start small. There's a tendency to get excited about the possibilities of implementing a project, but developing a high-quality project takes an incredible amount of time and can quickly become overwhelming. Teachers need time and practice to acquire the skills, knowledge, and confidence in what is often a very different kind of instructional model.
Start with what you know. Take one big idea or concept you are very familiar with and begin there. It's difficult to develop a project in an unfamiliar discipline. You can always add more elements once you've developed the foundational idea.
Gradually turn over control. One of the primary advantages inherent in project learning is the development of student autonomy. However, don't expect that your students are going to know how to take control of their

own learning without instruction and guidance. On the flip side, teachers are often reluctant to give up the control typical of instructor-led teaching environments. It takes conscious and thoughtful planning, as well as experience and practice, to make the transition to a more student-centered learning environment.

Plan, plan, and plan again. Of course, you can't plan for every contingency, but you can try. Preparations you complete ahead of time make project implementation that much easier. Anticipate the needs of your students. If you are going to ask them to brainstorm, create a guide or a plan an instructional intervention to teach them how to brainstorm. If you plan to invite a subject-matter expert to speak, prepare the invitation letter in advance. Forms and planning tools are available on PBL Online that will meet most of these needs.

Involve others in the process. As with any great idea, two heads are better than one, and even more are better than two. Involving other stakeholders in the process not only increases the likelihood of buy-in but also makes the project better, increases motivation, and ultimately improves the chances for success.