

ThinkCentre A55 **lenovo** Provides multitasking performance **\$499.99** CDW Exclusive [Learn More ▶](#) **CDW-G**

Please visit our other Web sites: [21st Century Connections](#) [SchoolCIO](#) [K12 Blueprint](#)



Search TechLearning with

Databases -->

[Teachers](#) [Tech Coordinators](#) [Administrators](#)

- [Home](#)
- [Publications ▶](#)
- [eBooks ▶](#)
- [Resources ▶](#)
- [Events ▶](#)
- [Hot Topics ▶](#)
- [About Us ▶](#)
- [Subscribe ▶](#)

[Home](#) > [Magazine](#) > [Archives](#) > [January 2003](#) > [Feature](#) > PBL

[Sign up for newsletter](#) [Send this article](#)

January 15, 2003

## Project-Based Learning: a Primer

By *Gwen Solomon*

When students are challenged to get to work solving real-life problems, the whole world becomes a classroom. Here we offer a guide for getting started.

Walk into team teachers Mike Smith and David Ross's interdisciplinary classroom at Napa New Technology High School in California and you will see students at work-writing in online journals, doing research on the Internet, meeting in groups to plan and create Web sites and digital media presentations, and evaluating their peers for collaboration and presentation skills. This setting and these types of activities have a name and a purpose. It's called project-based learning, and it's designed to engage students and empower them with responsibility for their own education in ways unheard of in traditional classrooms.

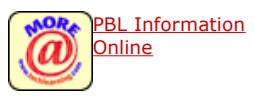
### What is Project-Based Learning?

In project-based learning, students work in groups to solve challenging problems that are authentic, curriculum-based, and often interdisciplinary. Learners decide how to approach a problem and what activities to pursue. They gather information from a variety of sources and synthesize, analyze, and derive knowledge from it. Their learning is inherently valuable because it's connected to something real and involves adult skills such as collaboration and reflection. At the end, students demonstrate their newly acquired knowledge and are judged by how much they've learned and how well they communicate it. Throughout this process, the teacher's role is to guide and advise, rather than to direct and manage, student work.

- [Getting Started with Project-Based Learning](#)
- [Criteria for PBL](#)
- [Elements of a Great PBL Project](#)
- [How to Pick a Project](#)
- [Steps to Creating a PBL Project](#)
- [Advice to Teachers, Technology Coordinators, and Administrators](#)

### What It Looks Like

PBL means learning through experiences. For example, high school students design a school for the future and learn advanced math concepts and engineering along the way. Elementary students study single-cell organisms in order to provide data to researchers in a lab. Others build and race electric cars and learn about energy efficiency. Many projects focus on environmental concerns, such as testing pollution levels in local waters and researching methods for cleanup



**true portability.**

VT700 Portable Projector

Connect with your students. Anywhere. Everywhere.

**NEC**  
necdisplay.com

- New!** [Discussion Forums](#)
- [Write for Educators' eZine](#)
- [Sign up for newsletter](#)

**XML** RSS Feed: [Learn more](#)



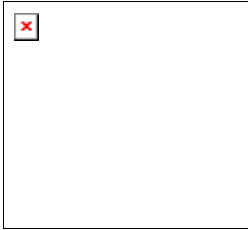
[TL Blogs](#)  
[TL Podcasts](#)

[TechLearning's Roadmap to Second Life](#)

advertisement

[IT Education and Training](#)  
Find University of Phoenix programs designed for today's working professional. Start

### Please Visit Our Other Web Sites



Discover how the rising cost of tech support is changing the landscape of today's education.

Learn how one school enhanced collaboration and productivity with paperless digital drop boxes. Click here to learn more and for a FREE demo

Try AceReader Pro for FREE! Award winning software that is helping students become proficient readers. [www.acereader.com](http://www.acereader.com)

and then reporting findings and strategies for improvement to community officials. What do these projects have in common? All engage students through hands-on, serious, authentic experiences. They also allow for alternative approaches that address students' individual differences, variations in learning styles, intelligences, abilities, and disabilities.

### Raising Student Awareness

The real-world focus of PBL activities is central to the process. When students understand that their work is ultimately valuable as a real problem that needs solving, or a project that will impact others, they're motivated to work hard.

Ed Gragert, director of iEARN, which offers PBL projects that address local, national, and global issues, believes that collaboration, interactivity, and a clear outcome that "improves the quality of life on the planet" really speaks to kids.

"By demonstrating that they can make a difference in even a single life, students are motivated and empowered to carry their experiences into lifelong community and global service," he says.

In addition to teaching core content and raising awareness, PBL projects train students to take complex global issues and break them down into specific local action steps. For example, the Schools Outfitting Schools program contributes to international efforts to make education available to girls worldwide. By working to provide supplies to one school in Afghanistan, students see how they directly affect the lives of individuals. And Afghan students contribute as well by helping kids in the United States become aware of their culture.

### The Role of Technology

Technology enables PBL. Students use tools such as word processors, spreadsheets, and databases to perform tasks like outlining, drafting essays, analyzing numerical data, and keeping track of collected information. E-mail, electronic mailing lists, forums, and other online applications facilitate communication and collaboration with the world outside the classroom. The Web provides access to museums, libraries, and remote physical locations for research. Students can create electronic compositions of art, music, or text collaboratively; participate in a simulation or virtual world; and work together to accomplish a real task or to improve global understanding. And all work can be published on the Web for review by real audiences, not just a single teacher, class, or school.

Technology plays a role in assessment and evaluation too. For example, students in schools such as Napa New Technology High compile their work electronically for an ongoing portfolio of their creations. At given points, they cull the best from this collection for adult and peer review to demonstrate their learning over time.

### PBL and School Reform

Introducing and implementing PBL in a traditional school setting can be a complex challenge, requiring a significant change in teachers' approaches to teaching and students' approaches to learning. Communication, teamwork, and time management join math, language, and other subject-area content as new essentials for students. And the teacher's role no longer includes just delivering instruction or expecting students to repeat facts on tests. Instead, it is to offer resources that help students investigate and develop content purposefully and creatively.

According to Al Weis, founder of the ThinkQuest student Web design programs, "When a project promotes serious academic skills, evaluation, assessment, information structuring, and other elements of PBL, students end up working hundreds of hours. With the multiple demands of curriculum and standardized testing, it is hard to fit in work that develops and models a real-world working environment and the skills needed there."

Because of these challenges, many schools that actively promote PBL also support a culture of school reform. Bob Pearlman, director of strategic planning at the New Technology Foundation, says that because PBL requires both a commitment and a clear understanding of exactly what it is, a broad

Today!

#### [IT Technology Degree Online](#)

Offers free information about getting an IT technology degree from accredited online schools such as AIU, University of Phoenix, and more.

#### [Web Based Microsoft Certification Training](#)

44 course topics study for MCSE, MCDDBA, MCSA, and MCP. Get \$2,600.00 worth of Microsoft Certification training for only \$149.95. 100% Guarantee.

restructuring of policy decisions, leadership, and professional development are essential. A tall order for institutions traditionally resistant to change? Yes. But national projects and models are available as support for schools and districts interested in taking the first steps toward integrating PBL into the curriculum.

*Gwen Solomon is director of TechLearning.com and co-author of Connect Online: Web Learning Adventures (Glencoe McGraw-Hill).*

---

Read other articles from the [January Issue](#)

Send a [letter to the Editor](#) in response to this article.

	<p><b>Guide to Mobile Computing</b> Creating Innovative Wireless Learning Environments</p>	<p>Produced by <b>Technology &amp; Learning</b></p>	<p>Sponsored By <b>TOSHIBA</b> Leading Innovation ▶▶▶</p>
---	--	---	---

TechLEARNING is brought to you by [NewBay Media LLC](#)  
[Copyright © 2008](#) - [Privacy Statement](#) - [Terms of Service](#)