

Pump Yourself Up with PBL Learning



When you read about project-based learning using technology it sounds great in theory, doesn't it? When you read about specific projects like the Robot League and the City of the Future (see the October and November PBL columns) it sounds wonderful. You know, as a teacher, that doing a major project, or trying something new, is not all that easy. There will be many stumbling blocks, ranging from technology that doesn't work to parents who wonder about test results, to skills you are not sure you have, to planning and management challenges.

This month I examine some ways to look more seriously into both the reasoning about technology-infused PBL and the practical matters of planning and managing such a classroom. I accomplish that by suggesting resources from which you can get the kind of depth of understanding that you need to work successfully in this type of learning environment.

There are lots of ways you can learn more about technology-infused PBL without taking a traditional university course. Each of the resources I suggest provides more in-depth learning opportunities for teachers than this short column could hope to provide. (*Editor's note:* See Resources on p. 35.) I divide the opportunities into types of material: books and Web sites, multimedia, conferences, and coaching/tutoring. Each resource is annotated so that you will have some idea whether it is one you would like to pursue. In fact, because most of these resources are free, you can mix and match segments of the various opportunities to build your own course of self-study. Also be aware that some resources focus on PBL, whether or not it involves technology, and others focus on PBL spe-

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Subject: Professional development resources

Audience: Teachers, teacher educators, library media specialists, technology coordinators

Grade Level: K–12 (Ages 5–18)

Technology: Internet/Web

Standards: *NETS•TII* (<http://www.iste.org/standards>)

cifically using technology. I think you will find both kinds extremely useful.

Books & Web Sites

Dave Moursund, founder of the International Council for Computers in Education, which later became ISTE, has been teaching about educational computing for more years than most of us have even been aware of the subject. Check out his book, *Project-Based Learning Using Information Technology*, and Web site for a workshop or self-guided study on the subject.

Moursund's book is now in its second edition. In it, he provides an in-depth look at PBL, including examples; an overview of PBL from both the teacher's and students' points of view; an understanding of the theory supporting PBL as a teaching and learning strategy; and the details of how to plan, create, and assess a classroom project. His view of using technology in a PBL context is, like many of the other resources you will find here, based solidly in a constructivist theory about learning; that is, students create their own understand-

ings, and this process is heavily influenced by their previous experience and knowledge.

The Web PBL+ICT workshop is a set of links, resources, and discussion topics that may be studied and used in a number of different ways. Moursund's eight sessions include the future of IT in education, PBL learning goals, planning a PBL lesson, authoring a hypermedia document (as an example of a PBL lesson), the importance of a timeline and milestones, and assessment. Annotations and links to many articles are available online. I was particularly excited by the usefulness of the timelines and milestones session.

Because I am discussing your own self-initiated professional development in this column, I suggest that if you decide to learn more by working through this workshop, you get a group of teachers (at least two of you!) together to do this as a self-guided study, engaging each other in the discussion questions that Moursund raises.

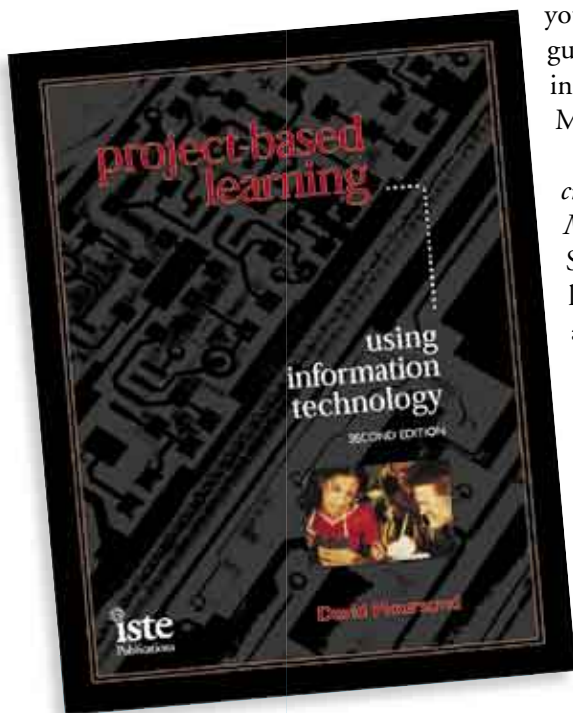
Another good resource is *Increasing Student Learning Through Multimedia Projects*, by Michael Simkins, Karen Cole, Fern Tavalin, and Barbara Means, and its accompanying Web site, which provides an online workshop for teachers. The authors cover some of the critical issues in PBL using multimedia, for example, how to make a real-world connection, how to define and plan a project, assessment, roles of teacher and students, and dealing with school and school system politics. The book is brief and easy



to read, and will give you some important things to think about.

The site focuses on features critical to your project design: standards and assessment, real-world connections, extended time frames, student input in the decisions, and collaboration. Because the focus of the PBL + MM Challenge grant, upon which this set of resources is built, was on multimedia (the MM part), both the book and the online workshop include information on how to use multimedia in your projects. The workshop also gives lots of links to other resources on multimedia.

Sylvia Chard's *Project Approach in Early Childhood and Elementary Education* is a Web site that teaches about project-based learning and provides information about many readings and even an online certificate course for teachers. Although the *Project Approach* is not directly focused on the use of technology for the target group of PK-2 children, this site gives you a good background on doing PBL with these youngsters, and you can add the appropriate uses of technology into your own projects.





Chard's site offers sections on foundational theory behind doing PBL, strategic planning (major events in a project, curriculum issues, and examples), a listserv to join, an online university course and a certificate course to join, and the option for self-study in which you have access to the more formal coursework but are not registered in the course. In this case, you wouldn't have access to interaction with the other students either, but joining the listserv or working in a study group could help make up for the lack of interaction with the instructor and class.

Through this Web site you also have access to CD-ROMs, books, and links to other resources by Sylvia Chard and her colleagues. Finally, I should mention that this Web site also has a Chinese version.

A good balance to Chard's Web site for teachers of younger children is the Buck Institute for Education's (BIE) site and accompanying print handbook for middle school and high school teachers.

BIE offers online professional development, including articles on the

research and theory behind PBL, planning guide, project ideas, and tips for implementing your projects. Many of the projects and ideas discussed are projects that use technology in some important way, and there are links to articles on PBL and technology.

BIE just released *Project Based Learning: A Handbook for Middle and High School Teachers*.

According to BIE, "The project is the curriculum." The book contains a six-step planning guide, project-planning sheets, ideas, a toolbox of forms and rubrics, and tips to a successful project.

Multimedia

WestEd's Project-Based Learning with Multimedia Web site supports the distributor's CD-ROM based on an award-winning PBL+MM Challenge 2000 grant project. On the CD you can see movies of teachers' stories, watch them work with their students, and learn about the seven important features of PBL emphasized in this project: curriculum content, assessment, real-world connections, collaboration, student decision making, extended time, and multimedia. The CD also contains templates and forms for teachers. It is an excellent tool for

learning more and guiding you during your early multimedia projects.

The site of the George Lucas Educational Foundation now has an archive of more than 50 QuickTime (5.0 and above) video documentaries and interviews, generally two to eight minutes in length. Most of these videos are about PBL, showing teachers' and kids' descriptions of their experiences, youngsters doing different kinds of projects, assessment methods, and so on.

Conferences

Teachers will feel at home at both of these conferences, and they will find a lot of other teachers, both novices at PBL and long-time practitioners, to talk to about the process. Each conference will also have sessions about the how and why as well as projects whose finished artifacts you can see for yourself. If you are an experienced PBLer, or if your students have done a really fine project, you might consider presenting at one of these conferences as part of your professional development—the part in which you show your artifact (your student's project, your plans and supporting materials, or whatever idea-in-practice that you have) to an authentic audience!

Co-Necting to Kids, featuring Kids Who Know and Do and Project-Based Learning, according to the Web site, is the "largest national conference for K-12 project-based learning." Co-Nect has incorporated what was formerly a conference called Kids Who Know and Do into Co-Nect's own conference, Co-Necting to Kids. This is an exciting conference with keynote speakers, smaller sessions on more specific topics, exhibits,



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and a student gallery. The student presence in this conference is strong. Check their Web site for 2004 dates.

ISTE's National Educational Computing Conference (NECC, June 21–23, 2004, New Orleans) always has PBL events, whether presentations of research, teachers' practices, or the actual work of young people. NECC, of course, focuses on the important ways technology can improve the learning environment, so it is a particularly important conference to attend if you want to learn more about PBL with technology.

Coaching and Tutoring

My eCoach Online gives an interesting new twist to the many online resources for professional development. At this site you can get advice from an online mentor teacher as well as use online planning tools, including guides and standards-based resources, a brainstorming interactive tool, a reflection journal, storage space, an eLibrary of projects, management tools, and a number of tools and possibilities under development.

My eCoach also offers an assessment of your schools' professional development needs and on-site professional development designed to meet those needs.

Co-nect is heavily involved in professional development for schools and districts, much of which is focused directly on technology and on PBL. One section of their Web site, however, is for individual teachers (under the Faculty tab). This portion of Co-nect's work provides online databases, online professional development workshops, an on-call expert on technology and PBL, projects to join, a project builder, a project

library, instructional and authentic assessment strategies, Web-based learning modules, and online support.

Conclusion

There are many paths to becoming more confident and more skilled in using technology in a project-based learning context. Think about the time and resources you have, your own learning style, and the specific areas you lack confidence in, and then choose one of these methods to learn more.

Of course there's nothing like leaping in feet first and trying it!

Resources

Diane McGrath's PBL Web site (<http://coe.ksu.edu/PBL/>) will take you directly to the Web resources discussed in this column, as well as resources that have been mentioned in other columns. So check in early, and check in often.

Books

- Buck Institute for Education. (2003). *Project based learning: A handbook for middle and high school teachers*. Novato, CA: Author.
- Moursund, D. (2003). *Project-based learning using information technology*. Eugene, OR: ISTE.



Simkins, M., Cole, K., Tavalin, F., & Means, B. (2002). *Increasing student learning through multimedia projects*. Alexandria, VA: Association for Supervision and Curriculum Development.

Web Sites

- Buck Institute for Education: <http://www.bie.org>
- Chard's Project Approach: <http://www.project-approach.com/default.htm>
- Co-Nect: <http://www.co-nect.net>
- Co-necting to Kids conference: <http://www.co-nectingtokids.net>
- George Lucas Educational Foundation: <http://www.gleef.org>
- Moursund's PBL site: <http://www.uoregon.edu/~moursund/PBL/>
- My eCoach: <http://www.my-ecoach.com>
- NECC: <http://www.neccsite.org>
- Simkins' online workshop: <http://www.smcoe.k12.ca.us/pblmm/>
- WestEd: <http://www.wested.org/cs/wew/view/rs/608>



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