Student reflection is a key ingredient in project-based learning, and for good reason. As John Dewey reminded us nearly a century ago, "We do not learn from experience . . . we learn from reflecting on experience."

Reflection not only makes learning stick at the end of a project but also helps students think about what's working well and what's not during PBL. When students take time to reflect on their progress, they can make revisions or course corrections so that they can achieve better results. (For a look at student reflection strategies, read High Tech Reflection Strategies Make Learning Stick.)

The same holds true for teachers.

Admittedly, making time for teacher reflection during PBL can be a challenge. If you've spent the fall term immersed in projects with your students, you may be up to your elbows in project assessments right now. Perhaps you're scrambling to coordinate project showcase events before the holiday break. But it's well worth your time, while your memory's fresh, to make some notes and gather information about how things went this time around. You'll build on the investment you've already made in project planning by setting the stage for improvements.

Here are some strategies to help you make the most of PBL reflection.

**Invite Student Feedback**

Don't rely on your own impressions. Ask students to share their insights about the strengths and weaknesses of a project. My colleagues at the Buck Institute for Education point out that this is a way to remind students they are active partners in the PBL journey. By inviting student feedback, you demonstrate respect for their opinions and underscore the value of student voice.

Using surveys, Google docs, journal prompts, video interviews, or class discussions, ask students to share honest but helpful feedback. What did they think of the project focus, workload, or value of specific assignments? Be sure to ask open-ended questions, too, such as:

What will you remember about this project? How would you suggest improving it next time around? What would you tell next year's students to get ready for this project?

**Make Reflection a Habit**

Some PBL teachers make reflection a habit by blogging about projects as they unfold. In the process, they create an archive of observations that they can refer back to later. They also make their own learning
public, modeling what it means to be a reflective teacher who welcomes comments and suggestions from colleagues (as well as students).

Here are a few examples of edubloggers who describe their warts-and-all experiences with PBL:

Paul Bogush, middle-school teacher, regularly shares his classroom insights on Blogush. In Shake Like They Shake, he describes a poetry slam project about the textile workers known as the Lowell Mill Girls. He explains the value of doing a project like this alongside your students:

"Everyone should do the assignment you give the kids along with them. You will learn so much about your teaching. For example, my directions were useless, we never looked at them again after the first day. Some of the sources were just not appealing and I never even looked at them. The timeline! We started on a Tuesday and we were supposed to be done on Friday. On Thursday I had two lines written...we extended the dues date to the following Tuesday. I also felt the same fear they were, I felt the same confusion they felt trying to figure out how to do this from a Lowell Mill Girl perspective, and I struggled with doing this in Poetry Slam style. Each day when we started off class I told them what they needed to hear because it was what I needed to hear. I said the words that comforted me, and comforted them. I talked about the thought process that I was going through, and it helped because we were all going through it... When I found something in the documents I talked about it out loud and had kids help me understand it, and when they found something confusing they asked me to help out—not as the teacher, but as a member of their learning community."

Bianca Hewes is an Australian high school teacher who has blogged about her PBL journey since shifting to this instructional approach three years ago. In an earlier post, I described how she had to overcome initial student resistance to projects. This year, she's experiencing success as she continues to fine-tune PBL. Read her recent post, "Today was an Awesome Day."

Voices from the Learning Revolution, a group blog published by Powerful Learning Network, is another good place to listen for reflective teacher voices. Jenny Luca discusses teaching Shakespeare via projects in a recent post, "Venturing into Project-Based Learning." She describes in detail what's happening with students throughout the project, such as this gem:

"One of the most memorable things this experience has shown me is the way some students power the group. Quite often, they are NOT the students who have been the shining lights in other classroom tasks. I'm getting insights into students that I wouldn't have gleaned unless we were doing a task designed this way."

Reflect with Colleagues

While individual teacher reflection is valuable, reflecting with colleagues can be even better. That's another insight Dewey understood when he encouraged reflection "in community."
Many schools that put PBL at the center of instruction have processes in place to encourage collaborative teacher debrief after projects. If this sounds a bit like conducting a post-mortem on a patient, that's a fair comparison. Think of yourselves as doctors on rounds, suggests the Coalition of Essential Schools, as you look closely for evidence of student learning.

Schools in the High Tech High network, for example, have a protocol in place for examining student work together. Based on their examination of project artifacts, teachers look for "bright spots," or strengths in the student work. They talk about opportunities for growth, discussing questions such as, "What would happen if...?" And they extract lessons to apply to their own projects. As a result, project plans get better with each iteration.

*Unboxed*, a journal published by High Tech High, often features teachers' reflections about what they have learned from projects. In "Wild About Cramlington," teacher Darren Mead describes the challenge of giving his students an experience with "just enough failure to act and think in a way different from the normal school day." He admits his own frustration when students don't at first engage with the project the way he expects. He also describes the challenge of building a community of learners who feel safe enough to criticize one another's work.

In the end, though, his students take pride in learning in a new way. It's all part of a day's work for a reflective PBL teacher.