The Challenge of ASSESSING Project-Based LEARNING

BY SUZIE BOSS

On the heels of Common Core State Standards, administrators begin assessing critical thinking and content mastery.
Mesquite Elementary School students in the Vail (Ariz.) School District collaborate on a project as part of the school’s Media Center Enrichment Program. In anticipation of the new Common Core State Standards, the district is introducing projects at all grade levels to increase rigor and relevancy.

Ask high school juniors at Da Vinci Charter Academy in the Davis (Calif.) Joint Unified School District, to explain the causes and consequences of war in American history, and you won’t get a rote recitation of dates and places. Instead, these students are able to demonstrate their learning by screening the preview for a feature film they produced on the conflict in Afghanistan through the eyes of a young American soldier. They can offer highlights of their interviews with Vietnam veterans, which they contributed to the Library of Congress as primary source material.

For their ambitious project, called America at War, students didn’t just study history. They became historians. Their project offers compelling evidence of what students can accomplish through project-based learning (PBL), an instructional approach that emphasizes authentic assessment.

The project earned top honors at last summer’s annual conference of the New Technology Network, a group of 120 all-PBL public high schools, including charters and magnet schools in 19 states. For Rody Boonchouy, principal of Da Vinci Charter Academy, the project was worth doing because of the deep learning it produced. “Students had a transformational learning experience by diving deep into all the dynamic implications of war,” he says. “Their preexisting beliefs and opinions were challenged through exploration of conflicts and interactions with veterans who were there.”
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PBL as Driver of Change
Although PBL has a long history in American education, dating to John Dewey and other early advocates of learning by doing, the project approach has gotten a second wind over the past decade as a strategy to engage diverse learners in rigorous learning.

Early adopters include several public school networks, such as the New Tech schools, that leverage technology-infused PBL as a driver of school change. High Tech High, which has a deliberate focus on preparing high-poverty students for college, began with one school in Southern California and has expanded to 11 public charter schools, elementary through high school, across San Diego County. Expeditionary Learning, another national network, reaches approximately 50,000 students in a variety of K-12 public school settings. Its model emphasizes service-learning and place-based projects that have strong connections to communities.

PBL is expanding beyond these early adopters as districts consider strategies to help students meet the Common Core State Standards. In projects such as America at War, students are assessed based on what they produce or demonstrate rather than what they can recall for a test. "That application of learning is a higher need as we transition to the Common Core," says Superintendent Calvin Baker of the Vail School District in Arizona. In anticipation of the new standards, his district is introducing projects at all grade levels, with the dual goals of increasing "rigor and relevancy."

And Holly Bremerkamp, Acuity product manager at CTB/McGraw-Hill, adds that project-based learning and assessments are becoming increasingly important as there is a need to measure students' abilities to think critically and collaborate with peers. Acuity is a comprehensive assessment-as-learning support system. "We've found that project-based learning methods—and the performance-based assessments that accompany them—are valuable in pushing students to demonstrate what they have learned in meaningful ways and valuable for teachers to understand how well students can apply their knowledge," Bremerkamp says.

Beyond the Bubble
For administrators accustomed to the bubble tests of No Child Left Behind, the decision to implement PBL across a school system raises a challenging question: How should districts assess more open-ended learning that likely involves critical thinking and collaboration as well as content mastery? Rather than testing for recall of information, projects are better suited to performance-based assessments that ask students to demonstrate, apply and reflect on what they have learned.

"When assessment changes, it's a whole new game!"
—Calvin Baker, superintendent, Vail (Ariz.) School District

Performance assessments like the ones Federal Hocking uses are still relatively rare in public schools, but they could soon become more commonplace. Two organizations have won federal contracts to develop next-generation assessment systems for English language arts and math. The Partnership for Assessment of Readiness for College and Career (PARCC) and the Smarter Balanced Assessment Consortium are developing measurement tools, with implementation expected by the 2014-2015 school year.

Many observers are predicting parallels between the new assessments and the authentic assessment called for in PBL. PARCC describes its forthcoming assessments, for grades 3 through high school, as "rich performance tasks" that will measure students' readiness for entry-level college courses. Smarter Balanced recently released a sample of a pilot assessment task that asks students in grade 11 to "engage strategically in collaborative and independent inquiry to investigate/research topics, pose questions, and gather and present information."

That description prompted David Ross, director of teacher professional development for the Buck Institute for Education (BIE), a nonprofit resource for project-based learning, to remark in a blog post, "Sounds like PBL to me."

Foot in Both Worlds
Until the new assessments are rolled out, districts remain accountable to traditional state assessments, even if they're shifting
A third-grade class in Robious Elementary School in the Chesterfield County (Va.) Public Schools planted seeds and sprouts in the school community garden as a lesson in the plant unit.

On the research side, evidence of the value of PBL for rigorous coursework is emerging from an ongoing multiyear study called Knowledge in Action, designed by University of Washington researchers and implemented by Advanced Placement teachers in three states. Funded by an alliance that includes the George Lucas Educational Foundation and the Bill & Melinda Gates Foundation, the study shows that AP pass rates increased by as much as 30 percent during the 2011-2012 school year when students engaged in a project-based curriculum rather than more traditional instruction. Researchers emphasize that projects need to be the “spine” of the curriculum rather than add-ons. (Read more at education.washington.edu/research/rtm_11/knowledge-in-action.html.)

Rethinking Assessments
To paint a clearer picture of assessment in PBL, 20 teachers (still being selected as of early August) from New Tech schools in several states are starting a yearlong research project on performance assessment.

Their instructional model to PBL. “We’re trying to stand with a foot in both worlds,” Baker says. “Everyone’s talking about what the new assessments will be like, but no one has shown them to us yet. When assessment changes, it’s a whole new game.”

“We know that students can do more than what’s assessed by current state tests,” adds Allison Rowland, a former principal in California who is now an assessment specialist for New Tech Network. She welcomes the new generation of assessments, calling them “a means to drive students toward deeper learning and stronger preparation for college.” As administrators, she says, “we pay attention to what we measure. If we can shift the measurement so that students are better prepared and more engaged learners, then let’s do it.”

Overcoming Anxiety
Not all administrators are so eager for the changes ahead. “Leaders at the district and state levels are feeling some anxiety about moving to an assessment system that’s more open-ended,” acknowledges Rosanna Muccetti. A former principal, Muccetti is the director of district and state initiatives for BIE, which has been promoting best practices in PBL for 25 years.

Under No Child Left Behind, districts across the country have kept a laserlike focus on standardized test results. “Administrators have spent a decade getting up in front of their organizations, emphasizing data and meeting targets,” Muccetti says. “We’ve all been conditioned to pay close attention to that. The future horizon is not as crystal clear in terms of assessment. People are wondering, ‘What’s coming? And in the interim, what evidence should we focus on?’ There’s this tension.”

Answers with One Model
Answers are emerging from both practice and research. On the practice side, BIE emphasizes effective assessment strategies during its popular three-day professional development workshop, PBL 101, which it offers to teachers and instructional leaders in participating districts across the country. During the workshop, teachers develop rubrics to assess students’ final projects according to multiple measures. Students are assessed on mastery of significant academic content plus development of specific 21st-century skills, such as collaboration or critical thinking. The BIE model also emphasizes using formative assessment strategies throughout a project to check on student understanding and to make just-in-time adjustments in instruction. (Samples of summative and formative tools are available at www.bie.org/tools/freebies.)

Robious Middle School students in the Chesterfield County schools work with volunteers from the nearby James River Park system to learn about geocaching. During this activity, students incorporate multiple skills, like map reading and learning concepts of interconnectedness to the watershed.
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Funded by the Hewlett Foundation's Deeper Learning initiative, the national study will take place throughout the 2012-2013 school year, with results expected by next summer. "We're piloting performance assessments that are aligned to the Common Core and that will demonstrate students' readiness for college," says New Tech Network's Rowland.

PBL emphasizes student choice and open-ended questions. "There's an infinite number of projects you could do," Rowland points out, "We want to make sure that PBL adds up to students actually being ready for college."

The Stanford University Center for Assessment, Learning and Equity researchers are consulting on the Deeper Learning research to determine which competencies to assess to ensure that high school graduates are indeed college-ready. Rowland says that assessments will be systematic and common across schools.

High Tech High teachers, for example, use a protocol for examining student work together. "We do it to have a narrative of quality work," High Tech High founder Larry Rosenstock explained during a recent conference presentation.

"We've all been conditioned to pay close attention to that."
—Rosanna Mucetti, director of district and state initiatives, Buck Institute for Education

Considering the Deeper Learning research project, a Web-based platform is being developed that will allow teachers from different states to upload student work samples. That means teachers at different locations "can assess student work together and calibrate around it," Rowland says. "We'll be looking not just within a school but across schools in our network." The result, she continues, should be a sharper picture "of what it means to have high-quality, proficient student work."

Insights from these PBL early adopters "could create proof points of success" for the hundreds more school systems that are just starting to shift to projects, says BIE's Mucetti. "They need to see how this would be replicable to their system."

Bold Leadership

One district to watch is Chesterfield County (Va.) Public Schools, which serves 60,000 students. To update its strategic plan, the district spent the last two years conducting a series of community forums that engaged parents, students, teachers and business leaders, and that included guests such as an astronaut, an entrepreneur, a peace activist and a futurist. "They help us paint a vision of what our students need for the future," says Donna Dalton, the district's chief
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academic officer.

Chesterfield County's strategic planning process pointed to PBL as the way to realize that vision, and now the district is preparing to introduce PBL across the entire system. It will start with six "trailblazer" schools that will become demonstration sites for PBL. The first wave of professional development will be provided by BIE next summer. The district plans to grow its own teacher-leaders for professional development by 2015 when PBL will reach all 62 schools. As the initiative expands, teachers will be involved in developing common rubrics and other assessment tools.

Costs and Timeline

The costs of shifting to project-based instruction and assessment are hard to quantify, but they primarily involve time and resources for professional development. "This requires a shift in focus in teaching," says Rowland. "That involves teacher learning, which takes time."

If teachers are new to performance assessment, many need to learn how to write rubrics and help students understand what high-quality project work looks like. To ensure that similar standards are applied from one classroom to the next, teachers also need time to examine student work together. "If you're measuring something that's not a bubble-in answer, it takes more conversation and calibration," Rowland explains.

Research presented at the American Educational Research Association's annual meeting in April 2012 underscores the need for professional development to help teachers gain confidence with PBL methods. Using Project Based Learning to Teach 21st-Century Skills: Findings from a Statewide Initiative reported results from a pioneering West Virginia initiative in which teachers became peer leaders in a statewide PBL rollout. The study found that teachers who engaged in extended professional development have been able to implement projects "as a way to teach and assess 21st-century skills without sacrificing academic rigor."

In the Vail School District, common grade-level projects are being developed by lead teachers from all 17 schools. "Having common projects gives teachers a model of expectations [for quality work] and templates for project design they can use in their classroom," explains Deborah Hedgepeth, assistant superintendent for instruction. Rather than bringing in outside experts, the Vail district is growing its own capacity to do PBL. The 20-plus teachers developing grade-level projects "are the experts who can work with their fellow teachers," Hedgepeth says. She estimates that the cost of bringing her teachers together to spend four days intensively poring over the curriculum is about $60,000. "But that's just a small piece of it," she explains, adding that follow-up work at the local school level makes it difficult to put a price tag on the whole effort.

For smaller districts, the challenge of developing new assessment systems can be traumatic, says Vail's Baker, especially in tight budget times. His district digitizes its curricula and assessment materials and shares them for a fee on an award-winning site called Beyond Textbooks (beyond-textbooks.org). The site is used by 70 districts and individual charter schools across Arizona. "Our goal isn't to make a profit," Baker says. "It's to help other districts improve the academic achievement of their students and be ready for the sweeping changes ahead."

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Students at Da Vinci Charter Academy take part in a WWI project whereby each student team represents one nation in the war with role playing.

Students in the New Tech @ Ruston school, part of the New Technology Network, in the Lincoln Parish School Board in Louisiana take part in a Recyclable Roller Coasters project. They created a roller coaster from recyclable materials that could roll a marble unassisted for 20 seconds. In doing so, they learned about potential energy, kinetic energy, work and the law of conservation of energy.