



PROJECT-BASED LEARNING:

Transforming the “Standard” Classroom Experience

By Kim M. Smithgall

On a recent fall day in the Adirondacks, a New York State Department of Environmental Conservation (DEC) officer, local business owners, and a police officer listened intently as a group of activists presented a case for bringing wolves back into the Adirondack Park. Another group argued against reintroducing the animals into the park’s habitat. The presenters discussed how wolves might impact the environment, as well as the human population in the area; they also detailed Yellowstone National Park’s 1985 wolf reintroduction program, which they learned about by Skyping with a Yellowstone park ranger and through extended research.

The arguments were powerful, well researched, and professionally presented, and the activists were perfectly comfortable answering follow-up questions and engaging in persuasive conversations.

Lobbyists? Hired professional speakers? Nope. They were sixth-graders from Northville Central School District.

The students – from Jayme Bevington’s English class – were participating in the culmination of a project-based learning (PBL) activity. These types of real-world presentations characterize the final step in many, if not all, PBL projects.

REAL-WORLD LEARNING

“If I was giving an explanation of project-based learning to someone not familiar with the concept, I might say it’s a way of teaching where students do projects that are complex, in-depth, and take time in order to solve a real-world problem or answer some kind of interesting question,” said John Larmer, editor in chief at the Buck Institute for Education, which provides PBL training for educators, instructional coaches, and school leaders.

In other words, with PBL, students are gaining knowledge and skills while they investigate, study, and respond to a problem, challenge, or open-ended question. It’s an approach where students take the lead in their learning, while teachers guide them. PBL projects can last anywhere from a few days for mini-projects to several weeks or more.

For Bevington’s students, the wolf theme seemed to be a natural fit for a PBL project.

“I was really looking for something to get the kids engaged and a topic that would be familiar to them. Our district is in the Adirondacks and the students were excited about the idea of studying wolves,” she said. “We studied multiple perspectives – for example, how Native Americans felt about wolves and the symbolism of wolves in their culture, along with the ecosystem of the Adirondacks. We also looked at scientific data related to the Adirondacks, researched incidences of wolf attacks on humans, and examined the finances of what it would cost to bring wolves

back to the Adirondacks.”

Integrating multiple content areas is a common approach in PBL projects, not only allowing different academic standards to be covered, but also appealing to students’ differing interests. It certainly worked out well in Northville, even with PBL being fairly new in the district. “This project really meant something to the students. They’re familiar with the area and the Adirondacks and reintroducing wolves is something that could happen right in their backyards,” Bevington commented. “They took ownership of the project because it was so close to home for them. They became the experts – much more so than if they researched some random topic.”

INCREASED STUDENT ENGAGEMENT

A significant increase in student engagement seems to be the universal first answer when asking educators about the advantages of incorporating project-based learning into today’s educational settings.

This has certainly been the case at Sloatsburg Elementary School, which is part of the Suffern Central School District. Stakeholders participating in strategic planning for the district indicated that they wanted students to have more authentic learning opportunities, so Sloatsburg Principal Joe Lloyd and teacher Ken Wojehowski embarked on a very interesting journey to make that happen by introducing PBL (read about their adventures in a blog post at <https://bit.ly/2zAxf5C>).

The two visited PBL schools and invested countless hours in professional learning. Wojehowski, who had been well known for bringing innovative activities into his classes, went from a 21-year career as a physical education teacher to the newly created position of project-based learning specialist. He worked closely with fifth-grade teacher Brad Sahlstrom on the school’s first PBL project, which incorporated geometry standards and argumentative writing. Within that project, Wojehowski and Sahlstrom created a storyline that prompted students to improve the economy in the Sloatsburg community.

“The students worked in small groups and, within our storyline,

were tasked by the Sloatsburg mayor to develop plans to revitalize the community,” Wojehowski explained. “They had to gather statistics and discuss the kinds of businesses and jobs that might work well for the area.”

At the start of the project, the class also traveled to a construction site to talk with a local developer. “He brought us around a building site, discussed the advantages of being located near a train station, and answered students’ questions. The kids brought their journals and made notes. They were really excited about the experience,” Wojehowski recalled, adding that other guest speakers came into Sahlstrom’s class to work with students, including an architect and an engineer. “They came in at just the right time in the project for students to benefit the most.”

The students built 2D and 3D models showing their revitalization plans and made presentations about the plans. The geometry came into play when students had to review blueprints with the local builder and get a building permit for their projects.

“We even disguised one of our geometry tests as a building permit test with the local building inspector,” Wojehowski said. “The inspector checked all of the student work to ensure they could get a building permit. The students who didn’t get the permit were told they couldn’t advance in the project until they did – just like the real world.”

“We’re looking for those natural opportunities to bring experts in from the field and make learning come to life,” Lloyd said. “It’s pretty cool stuff. Imagine as a kid being able to talk to an expert in the field you’re studying.”

As students work through their PBL projects, they’re gaining such 21st-century skills as collaboration and communication – skills that will help them be successful throughout their lives. PBL’s open-ended questions also allow for multiple “right” answers, thus encouraging students to think critically and creatively. And, of course, having one or more community members assessing a final project or presentation adds to the authentic nature of the work.

LEARNING EXPEDITIONS

For schools like World of Inquiry (WOI) in the Rochester City School District, the advantages of PBL go even further. The K-12 school is using a form of project-based learning described as expeditionary learning, now referred to as EL.

“Our project-based work is not just about giving kids hands-on opportunities. Our project-based work is more hearts-on and hands-on,” said World of Inquiry Principal Sheelarani Webster. “Our mode of instruction is through learning expeditions.”

The expeditions are in-depth studies of a particular theme or content area; they promote self-discovery and allow students to create authentic projects, do rigorous field work, and offer service to the community. “For the elementary grades, we do two learning expeditions per year,” Webster explained. “From September to January, the students work on

THE GOLD STANDARD FOR PBL

The Buck Institute for Education, which works with schools to implement project-based learning (PBL), has created what it calls the gold standard for PBL. This includes a set of essential project design elements that should be part of every high-quality PBL project. They are:

- A challenging problem or question.
- Sustained inquiry.
- Authenticity.
- Student voice and choice.
- Reflection.
- Critique and revision.
- Public product.

social studies-based expeditions. In the spring, the focus is on science standards and reading and writing.”

WOI teacher Lisa Zeller describes EL projects as “problem-based” in that they may be directly relevant to students’ lives and, if set in the local community, can be culturally responsive to students.

Webster would likely concur, stressing that the expeditions include a focus on and commitment to social justice. “Expeditions are intended to help kids understand problems and understand inequities,” she said.

As an example, Webster discussed a recent science expedition with fifth-grade students involving, coincidentally, wolves. “There’s a lot of biology in the fifth-grade science curriculum and we had a teacher who was very fond of wolves and she brings that passion to work,” Webster said. “The kids and the teacher were talking about wolves and thinking about wolves and they started to realize that people don’t think wolves are very kind or very friendly in any way. They have a bad reputation. So, the kids began wondering why. They started to examine stories – fables and fairy tales – and they saw that wolves were always depicted as evil. Then they studied facts and realized that there’s this wolf extinction that has happened. And then they looked at the wolves in terms of their true biology: what are these creatures like? How do they fit into the environment and what makes a wolf a wolf?”

The pupils moved on to study cultures that are accepting of wolves, such as Native Americans. By the end of the expedition, the students were compelled to make a change in the world. “They wanted teachers and kids and community members to think differently about wolves,” Webster said. “They created written products, visuals, and display boards that encouraged people to think of wolves as friends, not foes.”

The students held teaching sessions at the school and even set up a “wolf day” at Seneca Park Zoo. In effect, the students were encouraging others to think about assumptions and stereotypes. “This sparked emotions and a love for learning. It compelled

the students to think about if this can happen with wolves, who else is this happening to?” Webster commented.

An expedition for eighth-graders had even more powerful results. Pupils in a science class were studying genetics and began examining this through the lens of skin. “Students started to realize that skin isn’t just a genetic notion,” Webster said. “It’s a social notion and it’s connected to race and race relations. This led to the kids thinking very deeply about why we have this racial divide when, really, the biology of everyone’s skin is so similar – that much of skin color has to do with biology versus what is often deemed to be opinions about what is beautiful/not beautiful, smart/not smart, wanted/not wanted. With the expeditions, students are starting to make those bigger connections.”

CREATIVE – BUT STILL STANDARDS-DRIVEN

In both EL and PBL experiences, students are making connections and learning academic content, but it’s happening in a more in-depth and personally meaningful way compared to traditional, lecture-focused teaching. This is especially significant because when PBL is done correctly, it’s the standards that are driving the projects, even if those standards aren’t always front and center for students to recognize.

At Saratoga Springs High School, social studies teacher Leanne Donelan and English teacher Jim Flanders team up to teach what they call a humanities class to ninth- and tenth-grade students. “We have a block schedule at our school, so we have students for two blocks in a row – double the amount of time you have with students in a traditional classroom,” Flanders said.

The longer time period is particularly helpful, as the two teachers team up and frequently use PBL activities. Saratoga Springs Central School District has nearly a decade of experience incorporating PBL into classes; the current PBL program, called Saratoga Pathways Academy (the SPA program) at the high school is available to students in grades 9-12.

And while it’s exciting to talk

about the actual projects that students are doing, Donelan and Flanders stress that the content and learning standards must be the starting point. This focus also helps alleviate some of the wide-ranging misconceptions about PBL – namely that it’s all fluff and fun or, on the other end of the spectrum, that it’s too challenging to implement because it’s just one more thing for educators to do in school days already packed with mandated activities.

“We start with the global history because the content we have to cover is pretty structured in terms of what we have to teach and because global has a Regents exam. Jim and I pair up and align our curriculum; for example, he will choose books that go along with what we’re learning about,” Donelan explained. “So, for instance, we’re about to start studying World War II and students will be reading *Night* by Elie Wiesel, which is about the Holocaust. Once we have the content, then we develop a driving question or an essential question that students can answer through their projects and, in turn, understand why we’re learning this content. The projects for our units aren’t supplementary activities to what we do in the classroom; they frame our entire unit.”

SHIFTING CULTURES AND MINDSET

Donelan and Flanders – and their counterparts throughout the state – can cite countless ways PBL positively impacts students, from creating a sense of community within a classroom, bringing shy students out of their shells, and developing 21st-century skills to connect students to their larger communities outside of classroom walls. And yes, it starts with

the learning standards. But other things must also be in place to ensure PBL is successful.

Most importantly, there has to be a willingness to do long-term planning before implementation and to provide support for the process. Buy-in is needed, as well.

“You need one solid year of planning before you initiate anything – and that’s minimal. And I would say to build a partnership with an entity that knows how to do this work,” Webster advised, also saying that introducing PBL or EL has to be a team process. “You have to have a culture where you’re building this type of thinking and learning with people. You can’t stand up at a faculty meeting and say we’re going to become an EL or we’re going to become a project-based learning school and now go out and do it. It won’t work until you’ve built buy-in. You could say it’s almost like an expedition within an expedition.”

Flanders would agree. “Having the support of administrators is key,” he said. “And you also need other staff on board – like your school counselors, and even custodians have to be part of the process because you’re doing things differently in a PBL classroom.”

Educators also point out the need for a power shift of sorts in the classroom. While teachers may invest a lot of up-front planning time to integrate academic content and projects, they must then relinquish some control and allow students to take charge of their learning.

“In some projects, you won’t be teaching students as much as you’ll be guiding them. And there may not

“...when PBL is done correctly, it’s the standards that are driving the projects, even if those standards aren’t always front and center for students to recognize.”

always be one right answer. That can be a hard thing for students to accept, too,” Flanders said.

The mindset shift for teachers also involves understanding that when students take the time to work collaboratively and thoughtfully on projects rather than rushing to rote memorization, they retain the knowledge and skills they’ve gained far beyond the time they’ll be tested on it. Donelan laughed as she recalled one of her PBL lightbulb moments. “I had this perception that if I said the words aloud – whatever we were learning – the kids knew it. So, I said the words and that meant I’ve covered the content and I could move on. But that didn’t mean the students actually understood the content,” she mused. “I really had to get rid of that mindset and understand, ‘Hey, when I learn something new, I learn it because I’m engaged with it in some way.’”

And that type of engagement is the foundation for PBL and for teaching and learning at the highest levels. That’s what will make a difference in students’ lives.

“It’s the antithesis of opening up a textbook and saying, ‘Okay, turn to chapter two,’” Lloyd commented.

Bevington agreed: “After all, we want our students to be creators...not just containers of random knowledge, right?”

RESOURCES

- Buck Institute for Education (its new brand name is PBLWorks): <https://www.pblworks.org/>
- Advanced Reasoning in Education: <http://www.advancedreasoningined.com/index.html>
- Expeditionary Learning (now known as EL): <https://eleducation.org/>
- Hacking Project Based Learning by Ross Cooper and Erin Murphy

KIM M. SMITHGALL is an award-winning communications specialist and freelance writer, designer, and photographer.