

VAI's Admin Guide

Let's Get Real: Implementing District/School-Wide Project-Based Learning

- Understand the benefits of PBL.
- Establish a vision for authentic learning experiences.
- Explore a plan for helping teachers embrace and implement PBL.
- Discover specific projects to get started.

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"A peacock that rests on his tail feathers is just another turkey."



Individual teachers have always had to be adaptable; but school systems have been much harder to change. Yet, 2020 showed us that we can. Schools converted to virtual learning practically overnight. And as the hurdles of equity, quarantine protocols, curriculum disputes, mask mandates, and more, kept coming into the mix, schools kept adapting, kept doing whatever was necessary to move students forward in their learning journey.

Now that we know we can change, many schools are using this time to do so, and this time not as a reaction to external stimuli, but on purpose, of their own initiative, and toward a larger goal. Administrators are embracing the opportunity for an educational reset and reimagining what teaching and learning can look like in their schools and districts. It's time our schools function less as factories that churn out pupils laden with decontextualized content knowledge, and more as innovation zones that develop the next generation of problem solvers. What if schools were beacons of curiosity, creativity, and critical thinking? There's never been a better time to create classrooms that matter, to make project-based learning a reality.

With cross-curricular instruction, purposeful collaboration, and real-world connections, our research shows project-based learning (PBL) can solve some of schools' most pressing issues, specifically by increasing engagement, accelerating learning, and developing social-emotional skills. This guide is intended to help administrators:

- Understand the benefits of PBL,
- Establish a vision for authentic learning experiences,
- Explore a plan for helping teachers embrace and implement PBL, and
- Discover specific projects to get started.

PBL Increases Student Performance

The George Lucas Foundation released <u>four studies</u> at the beginning of 2021 linking project-based learning to student performance. These studies show the positive outcomes of PBL across content areas, including social-emotional learning, and across grade levels.

- Researchers from the University of Southern California conducted a <u>2-year</u> study of PBL in AP U.S. Government and Politics and AP Environmental Science in primarily urban districts. They found in the first year of the study that the likelihood of these PBL students to receive a 3 or above on their respective AP test was 8 percentage points higher than their peers. In year two, this percentage increased by 10 points compared to students who did not receive PBL instruction.
- During the 2018-19 school year, Michigan State University researchers studied the impact of PBL on third-grade science performance. On average, the third grade students receiving PBL instruction performed 8 percentage points higher on the science assessment than their counterparts in the control group schools, regardless of their reading level. They also found that PBL had a positive effect on the value students placed on reflection and collaboration, two social-emotional skills critical to science.
- In <u>another study</u> out of Michigan, researchers from the University of Michigan and Michigan State University found that project-based learning led to a 63 percent gain in social studies for 2nd graders from predominantly low-income families. This equates to roughly a learning increase of 5 to 6 months.
- Researchers from Stanford University studied the impact of a PBL science curriculum on academic achievement and student engagement for sixth-grade students over a three-year period. They found a significant improvement in engagement from both teacher reports and student assessments. Additionally, students receiving PBL science curriculum made gains in all assessment areas (science, math, ELA) with an 8 to 28 percentile point increase, depending on the assessment.

PBL Accelerates Learning and Increases Engagement

When introducing the idea of PBL to educators, the biggest obstacle to overcome is most often time. Teachers' plates are already impossibly full, so the idea of adding on anything is untenable. It's essential that we are clear about using PBL, not as an additional element, but as a way to actually save time, accelerate learning, and increase engagement. The authentic context, cross-curricular nature, sustained inquiry, and level of student direction all work together to help teachers cover more content in a shorter amount of time while keeping their students motivated and engaged.

Authentic Context: When content is taught in abstraction, without connection to an authentic context, there is little motivation to learn, much less retain the information, resulting in significant class time allocated to behavior issues, reteaching, and reestablishing prior knowledge. When content instruction is woven into a larger, more authentic context, however, students find purpose in the learning. This often results in higher engagement, deeper learning, and higher retention.

Cross-Curricular: A surprising number of concepts are taught across disciplines as if the concept was brand new each time. Consider comprehension strategies often taught in elementary reading: cause and effect, sequencing, making predictions, main idea and details, etc. These concepts are also found in science, social studies, and math, so instead of teaching them by discipline, we can save time by teaching them through a PBL unit and then applying them as needed in content-area learning.

Sustained Inquiry: When content is taught in finite blocks, students must grasp the instruction within that time or be left behind. And if a student is absent or has an off day, there is a discrete gap in learning that leaves an instructional burden on the teacher. With PBL, instructional units are sustained over longer periods of time, allowing teachers and students to allocate instructional time more flexibly across the duration of the project.

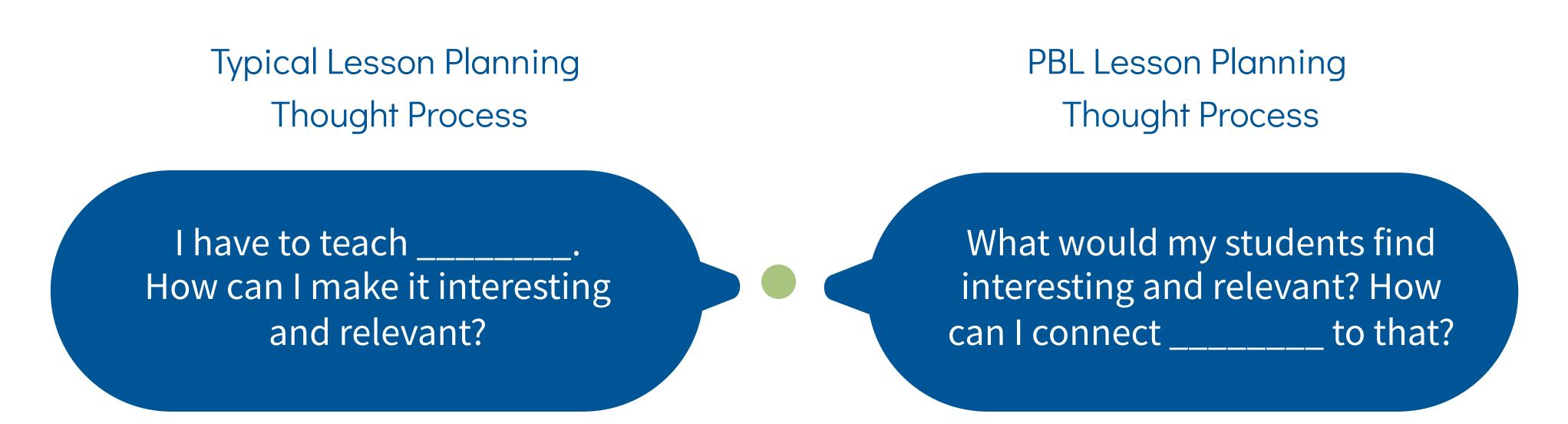
Student-Directed: Teachers can quickly become bogged down when student activities are reliant upon teacher direction. The more of the learning process teachers can offload to the students, they'll not only increase student self-direction skills, but also save valuable time. PBL units are designed to establish a big-picture goal with lots of avenues for student choice so that students direct a good portion of the learning process, freeing the teacher to provide more differentiated instruction and scaffolds as needed.

The secret to making PBL a time-saver is to align the project with as many content standards as the teacher feels comfortable with. In the beginning, some teachers may feel more comfortable tackling fewer content standards at a time, but once they are comfortable with

the flow of a project, they are usually surprised by how much content they can integrate into the project. The more content standards a teacher addresses within a project, the more students make connections across the various learning objectives and the less time teachers spend transitioning to a new piece of learning and establishing a whole new purpose for learning each time.

The secret to making PBL a time-saver is to align the project with as many content standards as the teacher feels comfortable with.

Successfully aligning content standards to PBL units requires educators to flip the order they typically think about lesson planning in:



Encourage teachers to consider engagement and relevance first. Sometimes this requires a bit of creativity, but with a little effort, most content can be connected to a meaningful, relevant project. Consider a popular project called, Moments to Remember. In this project, students are partnered with a senior citizen and produce a biography of their partner's life. In order to weave in some science standards into an otherwise ELA/Social Studies heavy project, teachers paired students with a senior friend who was born in the same month. They could then discuss patterns of the night sky — how even though the two may have been born decades apart, the night sky looked the same on each of their birthdays!

Here are a few project examples to illustrate the wide range of content standards that can be aligned to any given PBL unit.



In the Blue Apple project, <u>Food for Thought</u>, students create, test, and revise healthy recipes using a Top Chef Competition format. They present their dishes to a live audience and create a cookbook to sell for charity. Here is an overview of the learning targets by lesson for the project and a select set of Grade 4 content standards this project could align to.

Learning Targets

Lesson 1: Students understand that nutrition is really, really important.

Lesson 2: Students evaluate whether foods are healthy or not.

Lesson 3: Students discuss and debate perspectives on nutrition.

Lesson 4: Students think mathematically to analyze nutrition labels.

Lesson 5: Students use creative thinking to generate multiple recipes.

Lesson 6: Students collaborate to make their healthy recipes.

Lesson 7: Students use data to improve their recipes.

Lesson 8: Students present their food with poise, polish, pizzazz, and also panache.

Possible Content Alignment (Grade 4)



Math

- Equivalent Fractions
- Graphing
- Multiplication
- Measurement



English/Language Arts

- Writing Explanatory Texts
- Literature
- Publishing with Technology
- Collaboration



Science

- Sensory Information
- Data Analysis
- Comparing MultipleSolutions
- Constraints



Social Studies

- Role of Science and Technology
- Comparisons with History
- EconomicInterdependence
- Group Decision-Making



In the Blue Apple project, Moments to Remember, students make friends with a resident of a retirement home, listen to their story, and craft a biography that they share with their new senior friend and their friend's family. Here is an overview of the learning targets by lesson for the project and a select set of Grade 5 content standards this project could align to.

Learning Targets

Lesson 1: Students learn the importance of sensitivity in relation to aging.

Lesson 2: Students make connections between young and old, then and now.

Lesson 3: Students relate to cross-generational audiences through play.

Lesson 4: Students craft hand-written letters to learn more about their senior friend.

Lesson 5: Students learn the characteristics of biographies by examining models.

Lesson 6: Students use graphic organizers to prepare their thoughts for writing.

Lesson 7: Students accurately describe the memories of their senior friend.

Lesson 8: Students think iteratively to refine their biographies.

Lesson 9: Students present biography books to their friends.

Possible Content Alignment (Grade 5)



Math

- Number Sense
- Using Parentheses
- Powers of Ten
- Whole-Number Division



Science

- Patterns of the Night Sky
- Matter and its Interactions
- Protecting Earth's Resources
- Needs of Plants and Animals



English/Language Arts

- Determining the Theme
- Discuss with Diverse Partners
- Comparing Stories within a Genre
- Integrate Informational Texts



Social Studies

- Life in Different Eras
- Questions about Historical
 Figures
- Cultural Influences on Perspective
- Differing Points of View

PBL Develops Social-Emotional Skills

The pandemic and resulting educational upheaval brought as much havoc on students socially and emotionally as it did academically. And if we treat social-emotional learning (SEL) as another thing to put on teachers' plates, we risk furthering the already tenuous levels of burnout. But PBL often provides an authentic context to develop those much needed social and emotional skills.

Project Example: The Dirty Truth



- Relationship Skills
- Social Awareness

In the Blue Apple project, <u>The Dirty Truth</u>, students choose to support environmental protection of Earth or colonization of Mars. They research, investigate soil fertility, and use their findings to create a commercial that will raise money for their cause. Teachers can seamlessly integrate SEL by discussing how students will need to collaborate effectively to successfully complete their project. They can discuss how both negative and positive interactions are contagious, and use this understanding to build relationship skills and social awareness.

Project Example: Prevent the Spread



- Responsible
 Decision-Making
- Self-Awareness

In the Blue Apple project, <u>Prevent the Spread</u>, students test the effectiveness of disinfectants in fighting germs and create a public service announcement to help fight back against these microbes. Teachers can share the story of how Dr. Jenner tested the first vaccine on his gardener's son. Using this controversial moment in human history, students can explore and discuss how we make responsible decisions and what they consider morally right or wrong.

In both of these examples, having the backdrop of an authentic PBL unit provided an easy pathway for teachers to highlight SEL skills without taking extensive prep time or class time.

A Vision for Authentic Learning Experiences

Before implementing project-based learning across a school or district, administrators should have a clear vision for what they are looking for. What does an authentic learning experience look like in the classroom? Establishing your vision helps align expectations and lets everyone know what success looks like. Use a staff meeting or your own contemplation time to consider the question, "What are the characteristics of an authentic learning experience?"

Here's a good list to start with, but feel free to use as is or modify as you see fit, so that it's a vision you and your staff can all get behind.

- Sustained Inquiry: Today's scientists are working on problems for years, decades even. Yet so often our student projects are relegated to a one-hour class period. What are we doing to build perseverance fueled by genuine inquiry to help students solve the world's most complex problems?
- Engagement: What can we do to activate our students' heads, hearts, and hands to ensure they are engaged cognitively, emotionally, and physically?
- Collaboration: Most professionals must work together, utilizing different perspectives and areas of expertise to create solutions. How can we provide opportunities for students to construct meaning together?
- Student Choice/Ownership: The easiest way to instill intrinsic motivation is to offer student choice. What parts of a project can students direct?
- Cross-curricular: Save time and establish a more rich context for learning by incorporating multiple disciplines. What other content areas can we connect to our projects?
- Authentic Audience: Students are more motivated to improve their final products when they know their product will be used or seen by someone who knows about the topic or is impacted by the topic. Who might be an authentic audience for my students' hard work?

- Iterative Thinking: Most learning happens not during initial instruction, but during reflection and iteration. How can we ensure there is adequate time to reflect, get feedback, and level up each student's work?
- Real-world Application: When students ask, "Why should they learn this?" let's make sure we have a good answer. How can this learning benefit the students, their school, or their community?

It might also be helpful to show a video of these characteristics in action. In the Blue Apple project, <u>Take a Stand</u>, students learn to debate respectfully as they research all sides of relevant issues and take a position on a topic of their choice. Then, they share their position with an inspirational podcast. This <u>video for Take a Stand</u> highlights several authentic learning characteristics.



According to a recent <u>article from Phi Delta Kappan</u>, one of the biggest challenges to PBL is defining what PBL really is. In order to successfully implement PBL into your schools, you and your teachers must be on the same page with a foundational understanding of what PBL is and what it is not. This is a critical step since some educators think that because they do fun, engaging projects with their students, that they are doing PBL, when that isn't always the case. Here are 3 pairs of scenarios to help teachers see PBL as a continuum, such that projects can always be enhanced to offer more authentic learning characteristics, and thus deeper learning experiences.







 After learning about nutrition, students design and create chef hats. Students learn about nutrition, create healthy recipes, and hold a family feast day with the community.

Students learn about all the planets and create a travel poster advertising the planet of their choice. ♣ Students investigate what it takes to preserve Earth and what it takes to live on Mars. They choose which cause they want to support and create a commercial to solicit donations for their selected cause.

Students learn about energy conservation and hold a poster session for parents to share what they have learned. ♣ Students conduct an energy audit of their school and petition the school board to make changes based on their learning.

If you find teachers are struggling to see the difference between a simple, culminating project and a project-based learning unit, you might try the <u>Project vs. Project-Based</u>

<u>Learning Sorting Activity</u> with them. Once you have completed the sorting activity, consider having them test their understanding of PBL with this quick <u>Projects v Project-Based</u>

<u>Learning quiz</u>.

3-Part Plan to Set Teachers Up for Success with PBL

As with any instructional initiative, you will have some teachers eager to bring it to life and take it further than you dreamed; some teachers who will stubbornly resist; and a large number of teachers who fall in-between, not disgruntled enough to outright object, but not

According to research completed by the U.S. Department of Education's Institute of Education Sciences, student achievement can improve by as much as 21 percentile points if teachers receive substantial professional development.

motivated enough to champion the initiative themselves. Getting all teachers feeling not only confident and competent, but invigorated and inspired, is key to making PBL a reality in your school or district.

To ensure all teachers are successful, you'll want to equip them with:



Professional Development: PD builds teacher capacity to create and deliver PBL units. It focuses on why PBL is worth their time and how they can implement it successfully. PD is most effective when it honors the teaching profession and all the amazing instruction teachers are already bringing to their students.



Instructional Resources: Providing PBL resources increases the likelihood of implementation. It provides a model of what PBL lessons should look like for teachers who are new to the concept, and it saves teachers valuable preparation time, so they can do what they do best — teach!

Ongoing Support: The real challenges rarely present themselves within the PD workshops, so offering teachers ongoing support in real-time maximizes your investment in PD. Instructional coaches can provide differentiated PBL supports based on teacher experience and comfort level. They can also help administrators ensure accountability and efficacy in a supportive environment.

Professional Development

The quality of your PBL implementation is directly proportional to the quality of the PBL professional development. When PD is done right, it can be a significant driver in increasing student performance. According to research completed by the U.S. Department of Education's Institute of Education Sciences, student achievement can improve by as much as 21 percentile-points if teachers receive substantial professional development.

To successfully equip teachers with the tools to transform instruction into PBL units, you'll look for professional development that meets both administrator and teacher needs.



- Clear, measurable learning objectives that successfully improve teaching and learning
- Current, customizable content that is complementary to existing initiatives
- Specific suggestions for how admins can provide support
- Ongoing support with practical applications and built-in accountability.
- Teacher buy-in
- Flexible delivery methods and pacing models
- Minimal sub time
- Affordability



- Practical, classroom-proven strategies
- Options for choice
- Time to digest, apply, reflect, and iterate
- Differentiation for different levels of experience
- Self-directed implementation of content
- Personalized action plan and support
- Models of successful strategies
- Clear evidence it is a valuable use of their time

PD doesn't have to be something teachers dread. It should be fun, informative, and most of all, respectful of teacher expertise, experience, and time.

Preparing teachers for PBL doesn't need to be overly time consuming or complicated. Once you've established a vision for what PBL looks like, here's a 4-step process you can use with teachers. It provides some specific scaffolds and supports to take some of the mystery out of the process.



1. Select an Idea

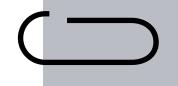
There are no shortages of PBL ideas on the internet, but I like to look at lists that include about a paragraph of information. That's just enough to get a good idea of whether or not my students will like it or not, but not so much that it takes hours of reading just to understand the project. Check out these Blue Apple Project Ideas and select one that you think will resonate with your students (or come up with your own).



2. Answer these Three Questions

To begin fleshing out your project, use these three questions to ensure it engages students' hearts, hands, and heads.

- How will this idea engage students emotionally?
- What will students do or make (big picture)?
- What will students learn (big picture)?



3. Complete Storyboard

Fill out the front side of the <u>storyboard</u> to flesh out the project outline. In this step, you focus on what real-world connections you can make, what content standards you want to address, and what opportunities there might be for collaboration.

- **Real-World Connection:** First think about ways you can bring the world to your students. What industry experts might be able to share their knowledge with your class? Then think about how you can bring your students to the world. Where can you display their work so that it can be viewed well beyond the classroom, ideally by an audience authentic to the topic?
- **Content Standards:** When you have an engaging project to start with, you can usually connect it to a large number of content standards. You don't have to hit all content areas, but the more you do, the better the context will be for learning, and the more instructional bang you can get for the time spent on the project.
- **Collaboration:** Look beyond simple cooperation to complete a task. Explore opportunities for students to make meaning together. How can one group within the class support the understanding of another? How might student understanding be improved if they worked with another group outside their classroom, perhaps in another part of the country?

4. Build Lesson Plans

Use the back side of the <u>storyboard</u> to develop lesson plans and identify resources that complete the project path:

- Start with Why: Motivate students with a compelling question and engaging hook.
- Think it Through: Guide students in exploration and discovery.
- Work it Out: Support collaborative teams as they apply critical and creative thinking to real-world problems.
- Fix it Up: Encourage iterative thinking with purposeful feedback and revision.
- Share your Awesome: Give work relevance and meaning by presenting it to authentic audiences.

Here's a <u>sample completed storyboard for the project: Take a Stand</u>.

Instructional Resources

Using PBL as a teaching methodology can save time, but planning PBL units can be extremely time-consuming. Teachers don't have time to convince experts to visit the class, create lessons that integrate content across the curriculum, scour the web for the best online resources, and find partner classrooms to collaborate with. If you can provide them with instructional resources that do the heavy lifting in planning, you'll dramatically increase their buy-in to making PBL a reality in their classrooms.

Now more than ever, curricular resources need to provide the greatest bang for the buck by genuinely helping teachers create authentic learning experiences that are memorable, meaningful, and fun. Use this checklist to help evaluate whether a supplemental curriculum resource is right for your teachers.

PBL Curriculum Checklist

- Engaging lesson plans that are easy to follow
- All supplies included
- Links to curated resources
- Connections to industry experts
- Opportunities to collaborate with other classrooms
- Connections to standardsaligned content

- Social-emotional learning activities included
- Clear learning targets and corresponding assessment rubric
- Modifications included for hybrid or online learning environments
- Embedded professional development
- Access to coach for individualized queries and customization

Ongoing Support

Using an instructional coach to help teachers facilitate your vision can be an effective way to transform your school or district to meet your PBL goals. Some teachers seek this support to level up their instruction; others need this support to keep them accountable; but the right coach can establish a supportive relationship that will move all teachers forward in the PBL journey. This can take the form of ongoing learning sessions where coaches meet with teachers monthly to offer specific strategies on a topic that teachers care about. They can also use that time to trouble-shoot any issues that have come up with PBL implementation.

Sample Learning Session Topics to Support PBL

- Differentiated Instruction
- Engagement Hooks
- Student-Driven Learning
- Alternative Assessments
- Classroom Management



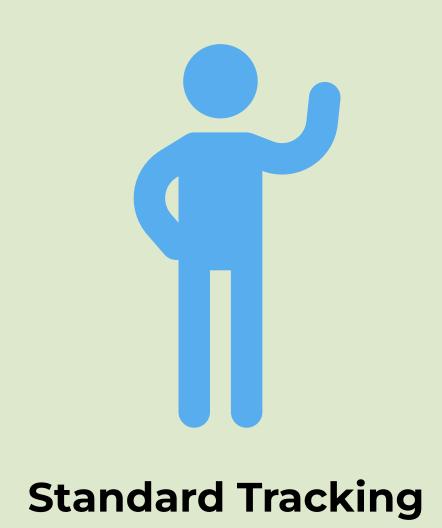
VAI instructional coach models a lesson on finance to Kindergarten students.

It can also take the form of more individualized support, meeting the specific needs of classroom teachers at the time they need it. An affordable model for coaching can be an extension of PD, where the PD facilitator offers a set number of followup hours and teachers can take advantage of those hours as they see fit.

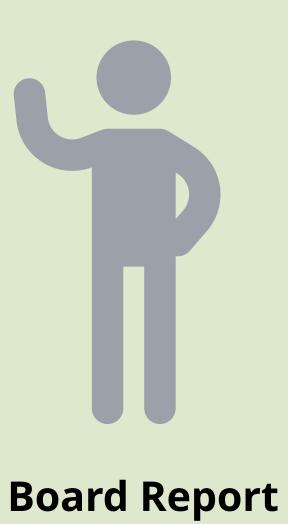
Sample Individualized Coaching Supports for PBL



A fifth-grade teacher at a partner school was in the middle of a project where students were learning Native American history and culture, and she wanted to create a pen pal connection between her students and modern-day Native Americans. Her project coach reached out to dozens of schools on Native American reservations and eventually connected her with a fifth-grade classroom at Fond du Lac Ojibwe School in Minnesota. Students were able to learn about the topic from members of a different culture in order to expand their understanding and to enhance their ability to understand people with a background different than their own!



During a professional development session on formative assessment, a group of high school science teachers were looking for a way to record and analyze their assessment data efficiently and effectively. Their project coach created a simple, yet elegant formative assessment tracking system aligned to NGSS standards. This system allows them to input student data and automatically identifies those students needing Tier 1, Tier 2, and Tier 3 supports. Not only does this tracking tool allow for data collection, it also analyzes the data, and makes differentiation more accessible when teaching multiple classes.



During a year-long PBL coaching engagement, a K-6 partner school wanted to share student progress on the intervention programs they had in place with the school board. They worked alongside their PBL coach to articulate their direct need, which resulted in the creation of a monthly tracking system for data collection and analysis. They were able to communicate very clearly and quantitatively the effectiveness of their intervention programs within their PBL instruction.

Case Studies



Crossroads Charter Academy strives to teach students how to be a force for good, both as individuals and as members of their community. To achieve this goal, CCA sought to implement project-based learning within their classrooms, a move that would integrate academic content into real-world learning experiences. Crossroads partnered with Van Andel Institute for Education (VAI), the makers of Blue Apple™, who

brought a new style of hands-on professional development to their school. By providing teachers with training, resources, and ongoing coaching support, Van Andel Institute for Education helped 24 Crossroads teachers and over 250 students become pioneers of great education and forward-thinking PBL in their local area. For more details on Crossroads Charter Academy and their PBL success story, check it out here.

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Northview Field School was looking to grow. They had an ambitious goal: reorient their existing curriculum around project-based learning, create consistency across classrooms, and challenge themselves in areas of education that went

beyond school walls. Some would consider this overly ambitious, but Northview chose to partner with VAI and ultimately planted the seeds for a new kind of professional development. Over 34 hours of PD, 7 teachers and 175 students were introduced to the project-based learning unit State of Sustainability, which fostered

academic principles by connecting classrooms to nature. VAI's project coach supported teachers throughout the process by showing them how to customize their projects to suit their individual classrooms. As a result, Northview Field School teachers were able to successfully demonstrate how small changes could develop a more environmentally friendly society, and empower students through learning that was memorable, meaningful, and fun! For more details on Crossroads Charter Academy and their PBL success story, check it out here.

Blue Apple Projects

Making project-based learning a reality takes time—a teacher's most precious commodity. Blue Apple projects, compatible for grades K–8, include time-saving lesson plans, curated online resources, cross-curicular mini-lessons, real-world experts, and more, so teachers have more time to do what they do best...teach!



Can a cookbook save your life?

Students create, test, and revise healthy recipes using a Top Chef Competition format. They present their dishes to a live audience and create a cookbook to sell for the Action for Healthy Kids charity.



Can a few cents revitalize a community?

Students research microlending stories from around the world and select a loan request to fund. They plan, design, and refine a fundraising event to raise funds for entrepreneurs in a developing nation.



How can we stop germs in their tracks?

Students test the effectiveness of disinfectants in fighting germs and create a public service announcement to help fight back against these microbes!



Can we save our school money while saving the planet?

Students conduct an energy audit of their school. They design, test, and refine solutions to reduce energy consumption. Then, they pitch the cost and benefits of their solutions to school stakeholders.



How can we make a memory live on forever?

Students make friends with a resident of a retirement home, listen to their story, and craft a biography that they share with their new senior friend and their friend's family.



Will our state survive the next 100 years?

Students author a class book about how their state is faring in relation to the UN Sustainable Goals. They publish their book and sell it to support sustainable development.



Can students inspire change in public policy?

Students learn to debate respectfully as they research all sides of relevant issues and take a position on a topic of their choice. Then, they share their position with an inspirational podcast!



Can Earth be saved...or is Mars our only hope?

Students choose to support environmental protection of Earth or colonization of Mars. They research, investigate soil fertility, and use their findings to create a commercial that will raise money for their cause.



Can students improve water quality for our planet?

Students collect, test, and analyze local water samples and determine ways to improve water quality. Then, they create and perform a watershed rap to raise money for improving water quality.



Can students help create a class full of millionaires?

Students discover the power of compound interest (for good and for bad) and then create an engaging lesson that they teach to high school students.

Whether you're an established PBL institution, have a few teachers implementing PBL, or are brand new to the concept, the key is to tap into the elements that drove teachers to choose this profession in the first place. Most teachers want to create memorable, meaningful experiences that give an authentic context for learning. They just don't feel like they have time. Equipping them with the PD, resources, and ongoing support to teach this way will not only help you achieve your goals, but might just reinvigorate their love for teaching as well!



Explore VAI's Flex PD— Professional Development that delivers results and that teachers actually want!



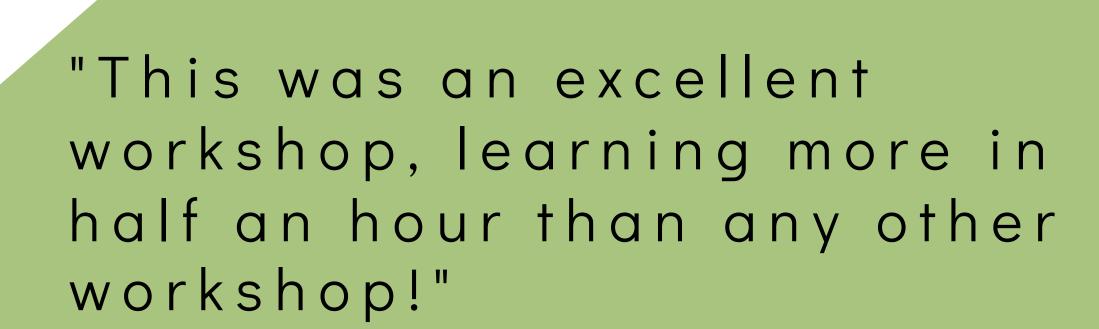
Free Needs Analysis Survey



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- Yolanda Henderson
VAI's Flex PD Attendee

