

Powerful Project-Based Learning Practices



Teacher Behaviors

Student Behaviors

Artifacts

1. Plan Authentic, Intellectually Demanding Project-Based Learning Units Where Students Master Significant Content and Skills

The teacher:

- Designs an intellectually demanding PBL unit around a driving question that challenges students to solve a complex problem, think critically and master course content, concepts and skills over an extended time period
- Develops a challenging problem that “reflects what happens in the world outside of school”*
- Ensures students’ interests are reflected in the PBL design
- Embeds literacy, math and science where appropriate

The students:

- Investigate challenging problems, questions and issues over an extended time period
- Help develop the focus of the project
- Develop and plan questions about the project and project management plan and determine role responsibilities based on the project launch
- Engage in productive struggle and express an eagerness to solve the challenge or answer the driving question
- Connect course content to real-world issues and concepts

Artifacts:

- Course content standards, concepts and skills like 21st-century skills or college- and career-readiness skills
- Map of Learning including daily learning activities, scaffolding strategies and assessments of and for learning
- Student research required to solve the project
- Student written products including professional notebooks, management plans and written proposals that demonstrate students’ mastery of the standards

2. Utilize Sustained, In-Depth Inquiry

The teacher:

- Ignites student curiosity through the launch of the PBL unit
- Uses intellectually demanding questioning techniques to promote and deepen student thinking
- Creates a classroom culture that develops students’ questioning skills and ability to use questions to drive research
- Provides just-in-time direct instruction for students when needed to advance the project

The students:

- Engage in a cycle of inquiry that includes questioning, research and further questioning
- Conduct research and engage in intellectually demanding assignments that help them learn content, develop skills and satisfy the goals of the PBL unit

Artifacts:

- Map of Learning including strategies for sustained inquiry and questioning
- Student professional notebooks and other work documenting the use of a cycle of inquiry

3. Engage Students in a Collaborative Problem-Solving/Design Process

The teacher:

- Facilitates student learning to understand the whys and hows of the problem-solving/design process
- Scaffolds opportunities for students to work in collaborative teams using various project management tools
- Monitors and checks for understanding of the process and effectiveness of teams’ work

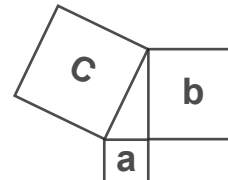
The students:

- Connect the problem-solving/design process to the purpose of the PBL unit
- Apply the problem-solving/design process to accomplish the goals of the PBL unit
- Collaborate with each other like professionals do in a high-functioning authentic workplace
- Use project management tools similar to those used in the workplace, like group contracts, scrum boards or group roles

Artifacts:

- Map of Learning using a problem-solving/design process to guide learning
- Student professional notebooks, team notes and other artifacts documenting the application of the problem-solving/design process
- Project management tools documentation
- Final product(s) reflecting the contribution of “individual voices, talents and skills... to a shared piece of work”*

* Framework for High Quality Project Based Learning — <https://hqpbl.org/>





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Teacher Behaviors	Student Behaviors	Artifacts
<p>4. Foster a Classroom Environment That Supports Student Ownership of Learning</p> <p>The teacher:</p> <ul style="list-style-type: none"> • Provides scaffolding experiences for students that allow them to receive feedback and revise their work • Incorporates student-centered instructional practices like questioning, collaboration, and reading and writing for learning 	<p>The students:</p> <ul style="list-style-type: none"> • Explain the standards and purpose of their learning • Explore, create and experiment with confidence individually and within teams • Engage in reflection and revision regularly and without teacher prompting • Create a hum of productivity and excitement in the classroom 	<p>Artifacts:</p> <ul style="list-style-type: none"> • Daily plans with pre-developed probing questions • Individual and team notes including discussions of suggestions for revising work • Revised student work • Detailed student professional notebooks
<p>5. Engage in Ongoing and Purposeful Feedback, Revision and Reflection</p> <p>The teacher:</p> <ul style="list-style-type: none"> • Plans and delivers a variety of formative and summative assessments that align with standards throughout the PBL unit; assessments are used to adjust instruction and gauge student mastery of standards and skills • Differentiates and scaffolds the instruction based on formative and summative assessments • Collaborates with colleagues to reflect on student work and adapt instruction to best meet the needs of students • Facilitates student reflections and uses those reflections to revise the PBL unit 	<p>The students:</p> <ul style="list-style-type: none"> • Collaborate using data and feedback to identify possible misconceptions and formulate a plan — with their teammates and/or the teacher — to move their learning forward and satisfy the goals of the PBL unit • Participate in peer feedback sessions • Continuously reflect on their learning and incorporate feedback through a PBL unit • Participate in or lead a final reflection of the PBL unit 	<p>Artifacts:</p> <ul style="list-style-type: none"> • Map of Learning including formative and summative assessments to measure mastery; options for scaffolding and differentiation • Teacher reflection notes or plans showing adjustments to instruction and assessments • Professional student notebooks containing students' reflections on their learning • Documentation of team progress through the PBL unit showing adjustments made based on feedback
<p>6. Include Community Partners in Project Planning, Implementation and Reflection</p> <p>The teacher:</p> <ul style="list-style-type: none"> • Collaborates with community partners** to brainstorm, co-plan and provide feedback on unit plans • Engages partners in mentoring, co-facilitating instruction, observing and providing feedback to students 	<p>The students:</p> <ul style="list-style-type: none"> • Contact experts to seek information or assistance • Revise their work based on their community partner's feedback • Participate in field experiences with partners • Present final solutions and products to a panel of community partners 	<p>Artifacts:</p> <ul style="list-style-type: none"> • PBL unit plan including purposeful inclusion of community partners • Student and team notes from meetings with partners including actionable items • Partner feedback during project development and final presentations

** Community partners may include business, industry and postsecondary professionals, school and district representatives, parents or others in the community.

