

Understanding the Six Elements for Planning a PBL Framework

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Project Based Learning is a vehicle for powerful authentic learning experiences. With many structures available to use the application of quality PBL can sometimes be confusing as to how to ensure our practices lead to the intended outcomes: Student academic achievement and agency of their learning. The elements used in this PBL structure adapts work from “The Framework for High Quality Project Based Learning”ⁱ. Our approach to PBL units places an emphasis on authentic learning experiences that promote development of Global Professional Skills (GPS) and student voice and agency. The six elements include:

- Intellectual Challenge and Accomplishment
- Authenticity
- Public Product
- Collaboration
- Project Management
- Reflection

Intellectual Challenge and Accomplishment

At the heart of any PBL or ALE is students learning content, skills, and concepts based on curriculum and standards. However, the potential and intent are for learners to explore and grapple with the complexities inherent in the curriculum. Surface level understanding for knowledge and basic applications can be a starting place that leads to ongoing rigorous experiences that challenge all learners to grow and deepen their understanding.

Based on the core curriculum content, skills, and concepts that students should know, understand, and use, provide the following:

- Establish a Call to Action
Students should take on a Call to Action, which could be a driving question, challenge, or mystery. This Call to Action connects students to the end in mind, which may be a clear and concrete target that students must attain through a synthesis of concepts that leads to shaping a product or solution. Or, the beginning could be murkier, starting with an inquiry-based approach where students must explore and uncover the end in mind. Either path is supported by a foundation of curriculum expectations. The Call to Action is answered and/or resolved by what the students craft or present at the end of the PBL unit.
- Pay attention to the learning journey
It is during the unit that students learn curriculum in context of the project. Each week should include multiple opportunities for students to build knowledge and explore concepts through PBL experiences, so that they see the value and purpose of curriculum in the world beyond the school environment. Use the other elements listed here during this journey to provide the rich experiences that make PBL units worth doing: Student Agency and Voice.



- Finish strong with the Curriculum in Mind
Have students share prototypes, products, and/or presentations for their target authentic audience. Just make sure that whatever students provide demonstrates the focused curriculum content, skills, and concepts at the expected rigorous level. Not only does the work need to be aligned to the focused curriculum, students need to be assessed individually. There should be no group grades for curriculum mastery. This is why a traditional assessment is sometimes included with the performance task or presentation if needed.

Authenticity

One way to differentiate the good and great PBL from the rest is the level of real-world context that is incorporated. Authentic learning experiences gives learners meaningful connections of curriculum skills and concepts to applications by professionals in the world outside of school. For example, measurements and shapes relate to architectural designs, informational writing used to publish how-to guides for games and household tasks, and conducting environmental lab experiments for water quality in the community. Students practice the curriculum skills as one does in the various working professions. This PBL approach is what separates itself from traditional units. Students have a community platform to contribute their voice. They practice global professional skills that are important for post-secondary college, jobs-training, or career. The results of their efforts hold value to the expectant adult world.

A first step is to identify a target audience, preferably beyond the school world, who students will provide a service.

- **Raise Awareness or Inform**
Provide information and/or evaluation about a topic that concerns others or addresses a need. Some examples include, how to grow an indoor garden, explain the pros and cons of propositions to be voted on, and recommending habitats for new animals in zoos.
- **Advocate for an idea or cause**
Research and take a stand about a topic. The intent is to get others to rally support for and take action about the topic. Some examples include, raise money for cancer research, improve heart healthy practices by running a week-long event of group walks, and running a farmers' market to provide fresh organic vegetables to the families.
- **Solve a Problem or Provide for a Need**
Identify a problem or need that a business, organization, or community member could benefit from a solution. Research and explore ideas and prototypes that could be a possible solution. Some examples include, creating a social media campaign for local restaurants who lack presence on food marketing apps, help local communities evaluate water quality of their wells to ensure safety, and present plans for a skate park to the township for approval.

When the focus of the work is to meet the needs of an audience other than the teacher or classroom peers, students are more likely to step up the quality of their efforts. Their reasoning may be because they do not want to disappoint or embarrassed their teacher or themselves. Another possibility is accepting the genuine responsibility to meet the needs of the target authentic audience. Or it can be any combination.

Good PBL units are based on at least a strong scenario that addresses an authentic need. The target audience might be a pretend representation; however, the context of the work is aligned with real world



connections. Actual professionals and experts may work with students in the scenarios, which elevates the credibility of the experiences for students. Scenarios can feel like a safe way to launch one's PBL experience. Over time, teachers and students realize that a good scenario is one easy step away from great actual authentic target audiences and needs.

Great PBL units are based on an actual target audience and authentic need. The work that students do leads to actionable steps that will be reviewed, considered, and/or implemented. There is no pretending. The rich experiences of success and failure can lead to deeper understanding and mastery of content and skills for student agency.

Public Product

Make student work public. This is a key goal so that students engage with an authentic audience as described under Authenticity. Publishing student work through live and traditional publication approaches helps students practice their voice in the world beyond school. Their voice has an impact regardless of the effort that they bring forth. This understanding can create a healthy tension for students to work harder and pay more attention to the details of building understanding of needed skills and concepts.

Public work can happen throughout the PBL unit. As students ideate and build prototype designs, these are opportunities for them to share for feedback by peers, professionals in the field, and their target audience. We learn most from uncovering gaps, mistakes, and failures. Students practice critique and revision with internal and external partners helps them to learn how valuable a feedback process can be for any career that they aspire to join. Practicing critique and revision with these different stakeholders provides deeper experiences with global professional skills, such as communication, collaboration, critical thinking, networking, and creativity, needed to successfully navigate any professional setting. Such a process also increases the chances of the final product or presentation being polished and aligned to the focus curriculum skills and concepts.

Public products can be in a variety of forms. Some examples include, live or recorded presentations using Youtube Live or other tool, blog articles and reviews on merchant sites, interviews with professional experts in the field, and participating in community forums based on informed understanding of the issues.

Collaboration

Project Based Learning is about collaboration. Working in teams, communicating needs and supports, problem solving, networking, reflecting about team dynamics, and synthesizing ideas are global professional skills (GPS) that support the collaborative experience. Even when working alone, collaboration plays an important role in getting resources, allies, and help with one's progress and planning. We are familiar with the obvious examples of collaboration: students working in groups or teams around a task or problem. Sometimes the teams are study support groups who review and reflect on the core knowledge, skills and content that everyone must understand and be able to use in their individual assignments and assessments. Other times, individuals seek help from one other, or needs to conduct a focus group or survey with handpicked volunteers. Navigating these experiences requires knowledge and skills that specifically address collaboration.

The collaborative experience deepens in importance when we consider that colleges and employers rank teamwork highly, per the annual survey done by N.A.C.E. (National Association of Colleges and



Employers). As referenced earlier, the Global Professional Skills includes a variety of skills like critical thinking, communication, creativity, and networking. Each of these skills are important in their own right; however, they can be applied under the umbrella of collaboration. Students do not magically have deep understanding and skill with collaboration. It must be directly taught, coached, and assessed in the same way that we do with skills in writing, reading, mathematics, science, and social studies. This necessity is proven every time a student team becomes dysfunctional, unable to work together. Each time the teacher is the first line of defense to “fix” the problem, that is proof that the students do not have the collaboration skills to solve the issue before it is beyond their influence to control. There are examples of students with strong awareness of collaboration skills. They know how to ensure that everyone is involved in the work, has a voice in decisions, mediates conflict before it taints the team, and seeks help from others when needed.

Building collaboration skills can be done through these steps:

1. Define the Global Professional Skills being practiced.
Establish common language. Describe each skill so that the observable behaviors are clear to notice. For example, listening is an important skill. It is evidenced by non-verbal cues of eye contact, nodding agreement, and encouraging head shakes to continue talking. It can be heard when someone restates or paraphrases the last person who spoke instead of talking over them or changing topics without acknowledging what was just said.
2. Post coaching charts of the GPS to practice and reflect
Make coaching chartsⁱⁱ available for each focus GPS. Review the charts formally at least once a week so that the language becomes embedded. Use frequent reflection opportunities for students to evaluate their growth and that of their team.
3. Use protocols that support good teamwork
There are many protocols that structure a group learning experience and empower students to lead the activity. Some examples include: Fishbowls, Socratic Seminars, Save the Last Word for Me, Say Something (see Collaboration as Learningⁱⁱⁱ). Such protocols are structure for all participants to run it themselves without teacher involvement. When the protocol ends, have students reflect on their participation and the group’s successes and challenges. Use the coaching charts as a guide to the discussions.
4. Coach students on their collaboration practice
Work with students in context of the activities that they are doing. Use the coaching charts as a reference for conversation about their work with others. Help them think through evidence of success and areas for improvement. Keep it positive: Everyone can always improve. Encourage them to show agency in their support of their team members.

Project Management

PBL units includes multiple tasks and timelines. It can feel overwhelming when looking at a glance the many steps and tasks that must be accomplished before the end of the authentic learning experiences. We need to empower students to lead their learning. This concept might be challenging for some or many of your students if their school experience has mostly placed them in the role of passive participant.



In kindergarten classes, students are working all over the learning spaces. They may be at stations or centers or designated areas for choice board activities. They work in small groups or individually. The teacher is the conductor who is aware of where everyone is and what they are doing, while she works with small groups. Kindergarteners are inherently active. In many schools, students' career through grade levels eventually teaches them to stay still in their designated assigned seating and wait for the teacher to give the next task before starting. The point of this observation is not a critique on education, such results is a by-product of establishing classroom management for a variety of reasons. Instead, it is a recognition that if we want students to take the lead of their learning, we need to recondition them to what they learned in kindergarten. Active learning requires that learners be active.

Some important practices have already been discussed with the previous elements:

- Intellectual Challenge and Accomplishment leads with a Call to Action that provides opportunities for students get the end in mind so that they can plan steps within that context.
- Authenticity uses learning experiences through working with a target audience.
- Public products encourage students to practice critique and revision cycles to give and receive feedback.
- Collaboration is used to develop global professional skills through approaches like protocols.

Just like the Global Professional Skills, students need to be taught, coached, and reflected on managing themselves and team members, time management, and organizing the work into accomplishable groups of tasks. Provide mini-workshops on these topics. Give students models or templates that they complete for time management and organizing the work. Structure time for weekly check-ins with individuals, teams and by team role as ways to track their progress in the work and growth in managing the related tasks. Near the end of the PBL unit have students reflect on their growth in the focus areas of Project Management that you teach and coach them on. Use their reflection as a reference point for further growth in later PBL units.

Reflection

Metacognition, thinking about one's thinking, is an important skill set for students to develop. It helps them to reflect on their actions, both successes and failures, and learn from the experiences. In PBL units, reflections should happen often and for a variety of purposes. We don't know what we don't know. Reflections are ways to uncover the gems of success and the opportunities for improvements. Students can use a variety of ways to practice reflection, such as journaling, video/audio record, and discuss. Areas of practice to consider include:

- Curriculum learning
Have students reflect on what they know, what questions they have, and what areas they feel they may struggle. Spread throughout the PBL unit, these check-in gives students opportunities monitor their learning and support needs.
- Communication and work quality for an authentic target audience
Working with an authentic target audience can be equally fulfilling and frustrating. Mentoring from the teacher can give them a broader perspective of what they are doing well and where they could improve on their practice.



- Global Professional Skills (GPS) for Collaboration
The GPS require students to think about how well they are using the tools and skills for collaboration, both personally and by the team. Open and constructive conversations by the team is a good practice of the tools as they seek to help each other become better skilled. Coaching conversations with the teacher is also valuable when paired with the coaching charts for what the observable behaviors for collaboration looks like.
- Project management
Organizing one’s time and managing the workflow for completion of tasks are important opportunities to reflect. Monitoring progress and personal practices become a bright focus when active opportunities are scheduled for reflection. Otherwise, the practices can become rote and lose awareness that something is being done incorrectly or ineffectively.
- Personal growth with agency
Students need to reflect on being an active participant and decision maker about their actions to lead their learning. An active learner needs to be active. Have students self-evaluate where and how they have taken initiative with tasks and people that moved forward the project and/or their personal growth.

ⁱ The Framework for High Quality Project Based Learning, <https://hqpbll.org/>

ⁱⁱ Coaching Charts provides concrete language of observable behaviors for Global Professional Skills (GPS) such as collaboration and communication. <https://openingpaths.org/blog/collaboration-first-steps/>

ⁱⁱⁱ Collaboration as Learning - provides resources and guidance about effective implementation for teaching and coaching collaboration skills. <https://openingpaths.org/blog/collaboration/>

