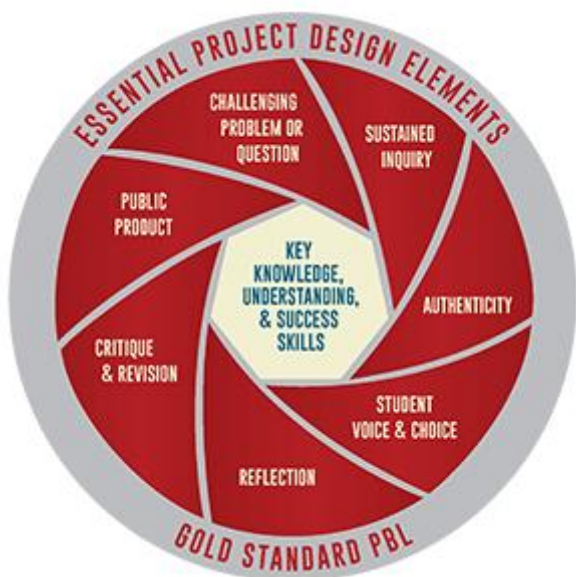# Project Based Learning – Some Essential Principles

Gold Standard PBL: Essential Project Design Elements

Adapted from *Setting the Standard for Project Based Learning: A Proven Approach to Rigorous Classroom Instruction*, by John Larmer, John Mergendoller, Suzie Boss (ASCD 2015).

It's nice that Project Based Learning is becoming popular, but popularity can bring problems. Here at the Buck Institute for Education, we're concerned that the recent upsurge of interest in PBL will lead to wide variation in the quality of project design and classroom implementation.

If done well, PBL yields great results. But if PBL is not done well, two problems are likely to arise. First, we will see a lot of assignments and activities that are labeled as "projects" but which are not rigorous PBL, and student learning will suffer. Or, we will see projects backfire on underprepared teachers and result in wasted time, frustration, and failure to understand the possibilities of PBL. Then PBL runs the risk of becoming another one of yesterday's educational fads – vaguely remembered and rarely practiced.

Essential Project Design Elements

A Challenging Problem or Question
The heart of a project – what it is "about," if one were to sum it up – is a problem to investigate and solve, or a question to explore and answer. It could be concrete (the school needs to do a better job of recycling waste) or abstract (deciding if and when war is justified). An engaging problem or question makes learning more meaningful for students. They are not just gaining knowledge to remember it; they are learning because they have a real need to know something, so they can use this knowledge to solve a problem or answer a question that matters to them. The problem or question should challenge students without being intimidating.

Authenticity

When people say something is authentic, they generally mean it is real or genuine, not fake. In education, the concept has to do with how "real-world" the learning or the task is. Authenticity increases student motivation and learning. A project can be authentic in several ways, often in combination. It can have an authentic context, such as when students solve problems like those faced by people in the world outside of school (e.g., entrepreneurs developing a business plan, engineers designing a bridge, or advisors to the President recommending policy). It can involve the use of real-world processes, tasks and tools, and performance standards, such as when students plan an experimental investigation or use digital editing software to produce videos approaching professional quality. It can have a real impact on others, such as when students address a need in their school or community (e.g., designing and building a school garden, improving a community park, helping local immigrants) or create something that will be used or experienced by others. Finally, a project can have personal authenticity when it speaks to students' own concerns, interests, cultures, identities, and issues in their lives.

Student Voice & Choice

Having a say in a project creates a sense of ownership in students; they care more about the project and work harder. If students aren't able to use their judgment when solving a problem and answering a driving question, the project just feels like doing an exercise or following a set of directions. Students can have input and (some) control over many aspects of a project, from the questions they generate, to the resources they will use to find answers to their questions, to the tasks and roles they will take on as team members, to the products they will create. More advanced students may go even further and select the topic and nature of the project itself; they can write their own driving question and decide how they want to investigate it, demonstrate what they have learned, and how they will share their work.

Public Product

The creation of a "public product" (which can be a tangible thing, or it can be a presentation of a solution to a problem or answer to a driving) question adds greatly to PBL's motivating power and encourages high-quality work. Think of what often happens when students make presentations to their classmates and teacher. The stakes are not high, so they may slack off, not take it seriously, and not care as much about the quality of their work. But when students have to present or display their work to an audience beyond the classroom, the performance bar raises, since no one wants to look bad in public.

http://bie.org/blog/gold_standard_pbl_essential_project_design_elements

Project Based Learning – Some Essential Principles

The project is learner-driven and gives learners choice

It is vital that teachers trust in their learners' ability to complete the project and that they provide positive reinforcement and support to learners. Giving up a measure of control is essential if the learners are to fully benefit from the experience and claim ownership of the project. Learner-choice does not imply total learner freedom as the project operates within the expectations of set outcomes and standards of work. Within these parameters learners are encouraged to explore their own solutions and ways of working. The choice of overall topic, i.e. the driving question, may be set by the teacher, yet the answer will be determined by the learners' specific interests and approach to addressing the question. As a result, different teams will answer the question with different solutions.

The project is realistic

The project and the methods employed to reach its resolution should relate to authentic, real-life scenarios. The problem or question may be directly relevant to the learners' life, that of their wider community or their potential future lives. Our driving question was one that was relevant to the learners' academic and future professional lives. The method of obtaining and communicating the information, a research project leading to a public poster presentation, was based around real-life scenarios that the learners will encounter in their upcoming undergraduate studies. Establishing links and emphasising the current or future utility of the knowledge, skills, competencies and attitudes developed through the project are likely to increase learner engagement and motivation.

The project embraces teamwork and collaboration

PBL is a team-centred activity which encourages learners to form communities of enquiry to answer their question or solve their problem. Successful teamwork requires many skills and attitudes and implicit in the nature of teamwork is that different members bring different attributes to the team and the project leading to its success. The team-based nature of the project and its outcome need not stop the individual assessment of learners and certainly some will bring more to the project than others. It therefore needs to be considered how the information will be captured to make these assessments and the rubrics produced should reflect this.

The project requires high quality work

There is an expectation in PBL, reinforcing the message of the growth mindset, that learners expand effort and apply themselves to produce work that leads to high quality outcomes. Teachers should positively reinforce these virtues and acknowledge the positive outcomes

that result and should trust in learners' abilities to achieve them. The public, real-life nature of the outcomes is another driving factor encouraging high quality work. Project rubrics should emphasise the expected quality of the work, teamwork and crucially the public nature of the outcome.

The project provides a public forum for the project outcome
Learners are asked to apply themselves to the project over an extended period of time, to produce an authentic, high quality outcome. It is only fitting, and motivating, that their work and application be acknowledged and celebrated publicly and the learners are able to present work that they can take pride in. This is the authentic outcome of an authentic task. The public display and recognition of the work also shares the message that the teachers and the institution value the principles of learner-centredness embedded in the project.

Bosson & Dean "**Promoting learner development through project based learning**"

Project Based Learning – Some Essential Principles

Value Beautiful Work

In the work world, quality results matter. Many jobs require an understanding of the cycle of quality improvement and excellence. Allowing students to reflect and revise their work teaches this approach and leads to improved results.

• **Review the rubrics.** Well-written rubrics constitute the best guide for quality. Carry the rubrics with you as you work with teams; constantly bring students back to the expectations and standards contained in the rubrics. Use the rubrics as a coaching tool to improve products.

• **Grade drafts and prototypes.** In the Project Schedule, establish clear due dates for drafts, prototypes, or any other products that give you a clear view of progress. Grade these products, with extensive feedback.

• **Allow time for practice for exhibitions or presentations.** The bigger the audience for the final presentation, the more practice students need. Allot time in the last week for peer-to-peer practice and final run-throughs under conditions as close as possible to the real event. Many students find that practicing their presentation in the hall or auditorium helps make the final product sharper.

• **Make the work public.** If the project does not include presentations, make sure that the core product will be posted in a public place or be viewed outside of class—or school.

Markham, T. (2012). *Project based learning: Design and coaching guide—expert tools for innovation and inquiry for k–12 educators*. San Rafael, California: Heart IQ Press.