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Want to boost student engagement? Implement Gold Standard PBL.

The **driving question** for this brief is designed to explore one of the most common concerns we hear from educators seeking our support. ***How does PBL positively impact student engagement, and does engagement lead to better student outcomes?***

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K-12 education post-COVID remains a complex and challenging endeavor. Student academic recovery has stalled, not yet returning to pre-pandemic levels.^{1,2} Academic declines have been a significant focus of the conversation; however, multiple indicators of student engagement continue to lag and demonstrate limited recovery, as well.³ Lower student engagement contributes to learning loss, poor academic development, and lower college and workforce readiness rates. These impacts are even more pronounced in typically underserved student populations.⁴

The discussion on student engagement is not a new one. For the last few decades, student engagement has been a primary topic in the K-12 landscape. A survey of over 81,000 high school students revealed significant concerns regarding student engagement. More than two-thirds of the students reported being bored in class every day or in every class. Students indicated that they were bored because the material was not interesting (75%) or not relevant (39%).⁵ To address the issue of student engagement, we must first understand how it is defined.

What is student engagement?

The literature on student engagement is vast, encompassing multiple constructs and interrelated concepts, including academic engagement, school engagement, attendance, school reform, motivation, classroom engagement, social engagement, cognitive engagement, and affective engagement. Dimensions of student engagement often fall into three categories: behavioral (participation), emotional (attitudes, belonging), and cognitive (metacognition), which often overlap.⁶

In this brief, we focus primarily on student engagement with academic work, described as “constructive, enthusiastic, willing, emotionally positive, and cognitively focused participation with learning activities in school.”⁷ In other words, student engagement is “the active verb between the curriculum and actual learning.”⁸

Teachers describe student engagement or disengagement based on observable classroom behaviors that align with behavioral and cognitive constructs, e.g., students quietly completing worksheets. However, it is important to distinguish between students who are merely busy or compliant and those who are genuinely cognitively engaged in deeper learning. Berry⁹ developed a continuum to describe student engagement behaviors in the classroom. Asking questions, sharing ideas, seeking feedback, and collaborating with others are all representative of active student engagement.

Figure 1. Three levels of active engagement (Berry 2023).¹⁰

Participating	Investing	Driving
Following instructions Getting work done Responding to questions Interacting with teacher	Asking questions Being curious Being interested Sharing learning with others	Setting learning goals Seeking feedback Collaborating

Student engagement positively impacts student learning outcomes

Student engagement is more than just “fun” in the classroom. It’s not the end goal, but a means to an end: student engagement is necessary for students to learn and contributes to their overall academic development. For example, students who are more academically engaged are more likely to persist and graduate on time.¹¹ Historically, many school reform initiatives have been designed specifically to address student engagement as a means to increase attendance, graduation, and post-secondary success.¹²

Student engagement has a significant relationship with multiple additional factors associated with positive student outcomes, including achievement, grades, motivation, critical thinking, and future college success. To put it simply, students must be engaged for learning to take place. As students feel connected to the content through choice, autonomy, and peer interactions, they become more motivated and persist through learning challenges, which results in better learning outcomes.^{13,14,15,16,17,18,20}

Increasing student engagement with Gold Standard PBL

Given its connection to student outcomes, the importance of student engagement can not be underestimated. The good news is that student engagement is considered both malleable and contextual.^{21,22} Therefore, classroom teachers can positively affect student engagement through their instructional approaches.²³ Creating a welcoming classroom environment and deploying student-centered instructional approaches can make a difference.

At PBLWorks, our school and district partners frequently report immediate positive changes in student engagement as teachers begin to implement Gold Standard Project Based Learning (PBL) in their classrooms. This is not surprising feedback! PBL fosters active engagement; students are not merely following instructions, but driving their learning. The PBLWorks [Gold Standard Project Design Elements](#) and [Project Based Teaching Practices](#) are designed to help teachers create and implement high-quality and engaging learning experiences for students. We highlight several ways in which Gold Standard PBL fosters student engagement below.

- **Authenticity promotes sustained student engagement throughout the learning experience.**^{24,25,26}
Gold Standard PBL is designed around an authentic and challenging problem or question, which gives student learning a purpose as they work towards a product to share with a public audience. PBL features real-world context, tasks, and tools that connect to students' interests or communities.²⁷
- **Student voice & choice increases autonomy, ownership, and motivation, which all contribute to increased engagement.**^{28,29} In PBL, students have the opportunity to make choices, guided by teachers, about what they investigate, the products they create, how they use their time, and how they work together throughout the project. Choice helps students feel connected to their learning, increasing ownership and motivation.^{30,31}
- **Sustained inquiry, combined with teacher support, contributes to cognitive challenge (environmental complexity) and facilitates meaningful student engagement for deeper learning.**^{32,33}
In PBL, the teacher carefully structures learning activities to foster student inquiry, focusing on the driving question that leads to the creation of an authentic product. Students generating questions and identifying what they know and need to know encourages critical thinking and metacognition, which is linked to increased engagement.^{34,35,36}

- **Critique & Revision in Gold Standard PBL provides students with opportunities to give, receive, and apply feedback on their work.** The Critique and Revision design element is a powerful component of PBL. There are multiple milestones within a project where students receive feedback from the teacher, peers, or external experts. Research has shown that specific, actionable, and clear feedback has a significant positive impact on student learning. Teacher feedback has also been linked to increased student engagement.^{37,38}
- **Using Project Based Teaching Practices, teachers “Build the Culture” to create a supportive classroom environment.** Teachers explicitly and implicitly promote student independence and growth, open-ended inquiry, team spirit, and attention to quality.³⁹ The creation of classroom norms, team collaborative structures, and teacher support all contribute to a supportive classroom environment. Teacher support and peer collaboration have both demonstrated increased student engagement.^{40,41}
- **PBL produces strong student outcomes.** There is strong evidence that PBL positively impacts a variety of student outcomes. Research in PBL spans decades and includes core content areas and grade levels.^{42,43} Results from two recent rigorous research studies supported by Lucas Education research demonstrate strong evidence that PBL can have on student outcomes across grade levels, racial/ethnic groups, and socioeconomic groups. **In both studies, students engaged in PBL outperformed students in traditional instruction.** In summary:
 - **Knowledge In Action Study:**
In a randomized controlled trial (RCT) of 3,645 students in five large urban districts engaged in both AP Environmental Science and AP U.S. Government and Politics PBL courses and traditional courses, researchers from the University of Southern California (USC) found that **students in AP PBL courses outperformed students in traditional AP courses by 8 percentage points.** Results for students from low-socioeconomic backgrounds were comparable to their peers from higher socioeconomic backgrounds. For teachers who taught AP PBL for a second year, students in the AP PBL courses outperformed peers in traditional classrooms by 10 percentage points. PBLWorks designed and facilitated professional development for this study.⁴⁴ You can read more [here](#).
 - **Multiple-Literacies (M-L) PBL:**
This randomized controlled trial (RCT) of 2,371 third-grade students in 46 schools utilized interdisciplinary PBL units emphasizing science, mathematics, and literacy as well as social emotional learning (SEL) and traditional instruction. Of the schools in the study, 62% of students qualified for free and reduced-price lunch, and 58% were **students of color. Researchers from Michigan State University and the University of Michigan found that students in the ML-PBL program significantly outperformed their peers in traditional instruction in science by 8 percentage points on average.** Students engaged in M-L PBL units also reported the value of reflection and collaboration more frequently than their peers in traditional instruction. These results held across socioeconomic levels and reading levels.⁴⁵ You can read more about this study [here](#).

Next Steps for Your PBL Journey

When engaged in Project Based Learning, students demonstrate increased academic engagement in cognitively demanding, rigorous, and authentic tasks.⁴⁶ Students describe their work as “more challenging, interesting, worthwhile, and enjoyable,” which is a much-needed first step to academic outcomes.⁴⁷

The research is clear: Embracing Gold Standard Project Based Learning (PBL) can increase student engagement, which is essential for student learning. To learn more about how we can support your PBL Journey, visit us at www.pblworks.org.

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