



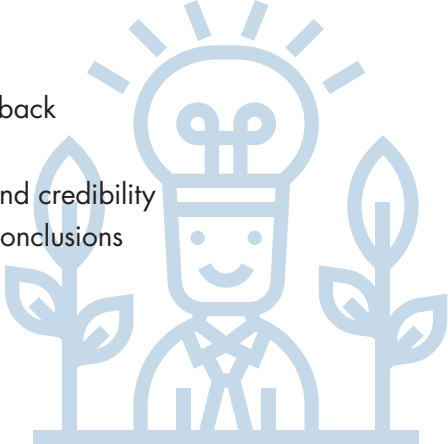




## THE CASE FOR PROJECT-BASED LEARNING

Project-based learning (PBL) is an active student-centered form of instruction characterized by students' autonomy, constructive investigations, goal-setting, collaboration, communication, and reflection within real-world practices. Some advocates for PBL make it sound like a cure-all for what ails a dreary classroom. They suggest that PBL will inspire and motivate passive students, restore the joy of teaching, rebuild communities, help solve world problems, and dramatically raise test scores. Although PBL is not answer to all the world's problems, there is some truth behind these claims! The research demonstrates that PBL is a powerful teaching method.

			
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
PBL motivates students in unprecedented ways.	PBL prepares student for college, work, and citizenship.	PBL helps educators to teach in a more satisfying way.	PBL provides schools and districts reasons to communicate and connect students, teachers, schools, and the local community.

THE CASE FOR PBL	WHAT THE RESEARCH SAYS
<p><b>1 Motivates students in unprecedented ways.</b></p>	<p><b>More Motivated, Better Behaved</b></p> <p>Experienced teachers know that when students are deeply engaged by a topic or task, a lot of classroom management issues fade away.</p>
<p><b>2 Prepares students for college, work, and citizenship.</b></p>	<p><b>21st Century “Success” Skills</b></p> <p>The research is clear. Students need more than basic subject-area knowledge. Effective PBL is designed to develop real-world transferable skills:</p> <ul style="list-style-type: none"> <li>• Critical- and analytical-thinking</li> <li>• Problem-solving</li> <li>• Receiving and utilizing critical feedback</li> <li>• Learning from mistakes</li> <li>• Weighing sources for importance and credibility</li> <li>• Drawing inferences and reaching conclusions independently</li> <li>• Time management</li> <li>• Innovation and creativity</li> <li>• Teamwork</li> </ul> 
<p><b>3 Helps educators to teach in a more satisfying way.</b></p>	<p><b>Is PBL for Everybody?</b></p> <p>Some teachers might not prefer to use PBL. Some are concerned about controlling the classroom and planning every minute, so conducting a hands-on project with student voice and choice may seem too chaotic. If you’re this kind of teacher, we respect and admire you. We also have two thoughts for you to consider:</p> <ul style="list-style-type: none"> <li>• You can still have structure and use traditional instructional tools in a project-based approach.</li> <li>• Try it! You might like it!</li> </ul>
<p><b>4 Provides schools and districts reasons to communicate and connect students, teachers, schools, and the local community.</b></p>	<p><b>Celebrate Learning</b></p> <p>PBL lends itself to tangible results and actual projects. Is there a better way to bring together your community of learners? Invite all the stakeholders to an event that celebrates the learning process—teachers, parents, building and district leaders, local civic and business leaders, local reporters. Ask students to share what they learned, how they struggled, how they learned from mistakes and false starts, and encourage them to demonstrate the results of their work.</p>

## SELECTING A PBL PROGRAM

While educators overwhelmingly support PBL, they often identify obstacles to using it with their students. For example, in a survey of teachers, 70 percent reported that it was hard to find well-designed projects aligned to course content (Lucas Education Research). The majority of those same teachers said that using PBL with their students would have a positive impact on student learning. Teachers reported that obstacles to implementing PBL included a lack of access to resources; a lack of planning and instructional time; and the need for meaningful, sustained professional learning.

### Identifying core design principles of rigorous PBL can help educators evaluate and select suitable programs.



# PBL IS EFFECTIVE

PBL is an educational approach in which students explore real-world problems through individual and group projects. When done well, it allows students to make sense of why content is useful and how it might be applied.

**A series of rigorous studies show that authentic, student-driven approaches to project-based learning improve student outcomes.**

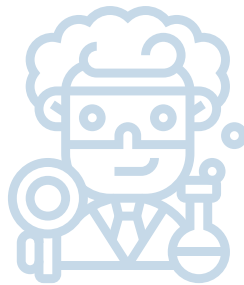
**Second-grade students in Michigan** who used a project-based social studies and literacy curriculum demonstrated:

**5–6**  
more months  
of learning in  
social studies

- AND -

**2–3**  
more months  
in informational  
reading

than a comparison group.  
(Duke et al., 2020)



**Third-grade students in Michigan** who used an interdisciplinary project-based science curriculum performed:

**8**  
percentage points  
better than  
peers

in traditional classes  
on a key science  
assessment.  
(Krajcik et al., 2021)

**Middle school students in California**

who learned science with a project-based curriculum outperformed their peers by:

**11**  
percentage points  
on a science  
assessment

- AND ALSO -

**DID BETTER**  
on the state's  
end-of-year math  
and  
English language  
arts assessments

(Deutscher et al., 2021)

Taken together, these studies provide clear evidence that rigorous project-based learning has a strong effect on student achievement. The research also found that PBL improved certain aspects of social and emotional learning, and these effects were consistent across racial and socio-economic groups.

## Review the Research

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## About TinkRworks

TinkRworks is a K-8 STEAM curriculum designed to complement core instruction in a variety of settings—science class, STEM lab, after school, summer school. Using project-based learning theory and a combination of standards-rich instruction with easy-to-implement project kits, TinkRworks promotes cross-curricular connections to science, math, engineering, coding, art, design, and data analysis. Our goal is to help educators spark creativity, increase persistence, encourage self-expression, and improve critical thinking and problem solving skills.

[STEAM@tinkrworks.com](mailto:STEAM@tinkrworks.com) / [888-998-4657](tel:888-998-4657) / [TinkRworks.com](https://TinkRworks.com)