

THE STATE OF PROJECT-BASED LEARNING:

Engaging and Empowering Our Students for Future Success





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Introduction

Project-based learning is the vehicle for us achieving our mission, which is to empower students to make meaningful contributions to the world.

Ashley Ellis, Ed.D.

Assistant Superintendent, Loudoun County Public Schools (VA)

Over the past few years, a common theme within K-12 education has been an emphasis on ensuring that students develop college and career ready skills which are deemed necessary for future success. Schools and districts have increasingly focused on the integration of specific types of learning experiences within the classroom to support students' development of these future-ready skills. The Speak Up™ Research Project reports that 83% of district leaders and 74% of parents of school-aged children say that providing students with authentic problem-solving experiences where they can tackle real-world issues is an optimum environment for helping students develop the skills they need for future success.

For many school districts, the implementation of project-based learning provides an effective and efficient way for their students to experience authentic problem-solving within their everyday curriculum. Education leaders as well as parents see project-based learning as an important vehicle for helping students develop college and career ready skills. **It is not surprising, therefore, that 68% of school principals report that project-based learning is taking place already in many of their classrooms, including in their remote virtual learning environments.**

But what do we mean by project-based learning (PBL), or what is commonly called PBL? PBLWorks, a national nonprofit organization that builds the capacity of teachers to design and facilitate project-based learning and the capacity of school leaders to set the conditions for teachers to implement high-quality projects with all students, including Black and Brown students defines PBL as:

“Project-based learning is a teaching method in which students work on a project over an extended period of time that engages them in solving a real-world problem or answering a complex question. As a result, students develop deep content knowledge. They demonstrate their knowledge and skills by developing a public product or presentation for a real audience.”

Through the Speak Up Research Project findings, Project Tomorrow® has long documented the increased interest of teachers, school and district leaders, parents and students for new learning models and experiences



that support meaningful ways to connect content knowledge with workplace skill development. Similarly, we have observed the emergence of project-based learning as a new modality within many schools and classrooms. In partnership therefore with PBLWorks, we collected new data about project-based learning through the 2019-20 Speak Up Project to better understand this emerging trend.

Utilizing input from 137,000 K-12 students, teachers, school and district leaders, and parents, this report documents new findings from the Speak Up Research around three key questions:

- 1. What do educators think about the value of project-based learning experiences for students?**
- 2. What do educators say is the impact of project-based learning on student outcomes?**
- 3. What is the future of project-based learning in our classrooms?**

Supplementing the research findings are the additional wisdom and insights of educators who are implementing project-based learning every day in their classrooms and schools currently. As part of the report preparation, Project Tomorrow interviewed teachers, school principals and district leaders from three school districts that have implemented project-based learning within their classrooms: Compton Unified School District, Loudoun County Public Schools in Virginia, and Westmoreland County Public Schools. To inform this examination of project-based learning, we specifically asked them about why this learning modality is more important today than ever before.

Key findings from the analysis of both the Speak Up survey results and the insights of the educators are the following:

- Educators, parents and students agree that project-based learning supports enhanced student outcomes. Specifically, project-based learning:
 - creates a compelling learning environment that closely matches students' preferences for learning today,
 - supports the development of college and career ready skills, and
 - enables students to be more successful academically.
- Teachers across content areas and grade levels consistently agreed that a project-based learning experience would be beneficial for their students.
- Teachers endorse project-based learning because it supports students' ability to have a say in their project and process of learning, projects are focused on a real-world problem, and project-based learning experiences take advantage of a students' individual strengths.



- School leaders recognize the connection between project-based learning and the development of college and career readiness skills and mastery of academic content.
- Parents support project-based learning for their children because it supports college and career ready experiences, such as authentic problem-solving experiences around real-world issues and working with classmates on projects.

While this report leverages new data findings from Project Tomorrow’s Speak Up Research Project and the insights of those front-line educators, our goal is broader than just information dissemination. We also believe that it is essential today to support and stimulate new local reflections and discussions on how to engage our students most effectively in meaningful learning experiences. Consequently, we end our review of these findings with a short list of thought-provoking questions that school and district leaders can use to jump start new conversations within their communities about the role of authentic learning experiences such as exemplified through project-based learning.

1. What do educators think about the value of project-based learning experiences for students?

Why do project-based learning? We can teach content many different ways, but we are not just trying to teach our students content. We’re trying to teach them life skills that they’re going to use forever through school and after school, when they’re out in the world using those problem solving, creativity, critical thinking, and communications skills and being good global citizens.

Cathy Rice

Deputy Superintendent, Westmoreland County Public Schools (VA)

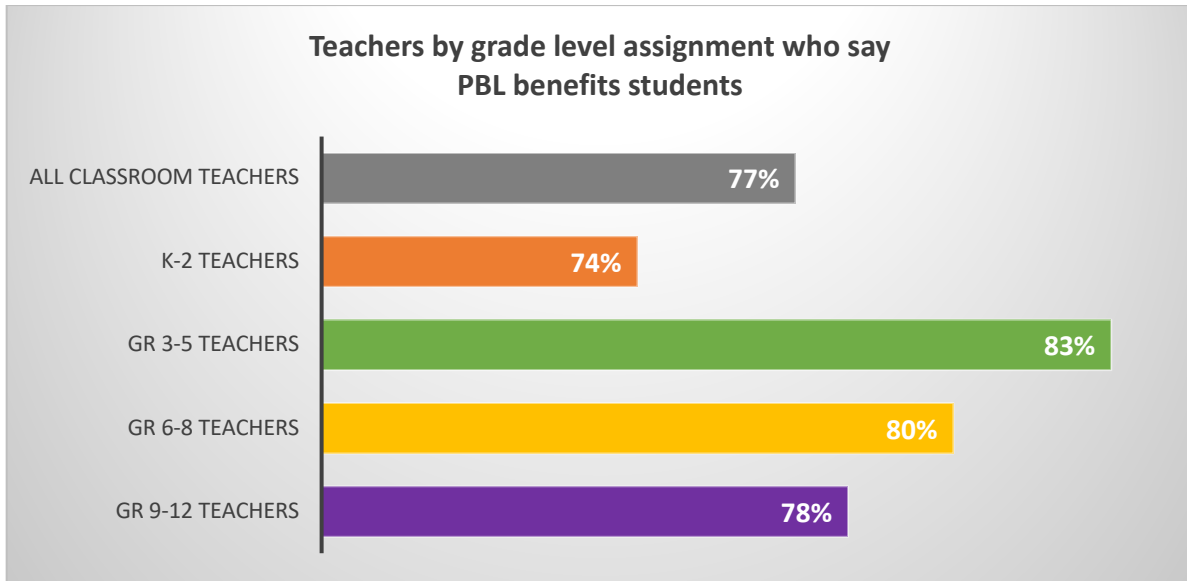
Year after year, students in all grade levels from Kindergarten through 12th grade tell us through the Speak Up Research that they like learning best when they can “do things, build or make things, and then share what they have learned with others.” Educators echo those statements as well. Dr. Ashley Ellis, Assistant Superintendent, Loudoun County Public Schools (VA), sums it up this way, “*Students learn best by doing, and there are elements of project-based learning that can be incorporated in any grade level or content area.*”

What Teachers Believe About the Value of PBL

While not every teacher has implemented project-based learning in their classroom, teachers across all grade levels and content areas recognize the value of this type of a learning experience for their students (Figure 1 and Figure 2).

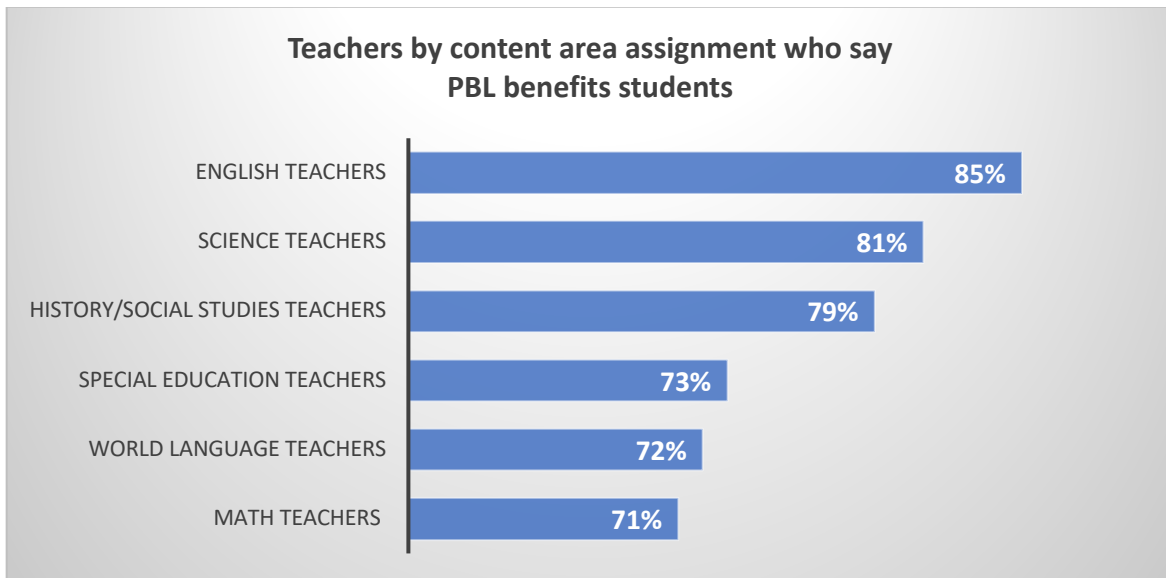
Based upon feedback from nearly 11,000 classroom teachers nationwide, 77% of teachers say that a project-based learning experience would be beneficial for their students. Additionally, 83% of teachers in grades 3-5 and 85% of English teachers believe that a PBL learning experience will benefit their students.

Figure 1: Percentage of teachers by grade level assignment who believe PBL would be beneficial for their students (n=10,937)



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Figure 2: Percentage of teachers by grade level assignment who believe PBL would be beneficial for their students (n=4,678)



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Two aspects of these data findings are particularly noteworthy. First, this high valuation on project-based learning by teachers is consistent across grade levels and content areas. PBL resonates with science teachers and history teachers almost equally. Second, the consistency of the data results across grade levels and content areas speaks to Dr. Ellis’ point about the applicability of project-based learning across different learning settings.

What School Principals Believe About the Value of PBL

Sixty-eight (68%) of school principals say that project-based learning has been implemented in their school in various formats. However, only 14% note that they have implemented PBL strategically schoolwide. Based upon the valuation expressed by a wide variety of teachers with different assignments, the opportunity exists therefore to think about PBL as more than just a teaching methodology for a few teachers, but rather as a schoolwide or even districtwide initiative. Dr. Michael Perry, Superintendent of the Westmoreland County Public Schools endorses the idea of project-based learning districtwide; he makes sure that new staff members and particularly principals understand that *“Westmoreland is a PBL county!”*

Second, the consistency of these findings across grade levels and content areas also indicates how project-based learning has the potential to address a critical challenge in education today. School and district leaders nationwide are increasingly focused on ensuring that they are providing equitable learning experiences for all students. Project-based learning is a teaching methodology that can be used in a variety of settings and can be adapted to meet individual student needs. In fact, PBLWorks acknowledges this and frames its Gold Standard PBL as a “main course” instructional strategy that is core for all students, especially Black and Brown students, as opposed to how PBL can be used as “dessert,” or supplemental instruction used as an incentive for some students.

For example, Jose Gonzalez, 21st Century Learning Specialist in Compton Unified School District (CA) sees project-based learning as a way to level the playing field for all his students. As explained by Mr. Gonzalez, providing equitable learning experiences for students often starts with understanding how project-based learning helps students develop self-efficacy, confidence, and an eagerness to direct their own learning.

Unfortunately, in many communities, including in Compton, students do not always have access to learning environments that can support equity and their own self-efficacy as a learner. Students need to feel that they can contribute to their own education and that the adults in their learning environments respect and value their contributions. Mr. Gonzalez emphasizes with his students that PBL provides them with an opportunity to have “choice and voice” within their learning:

“Each student brings their own strengths and ideas to our projects, and in this community where their voices aren’t always heard, it is important to recognize their worth.”



2. What is the impact of project-based learning on student outcomes?

We believe that putting authentic, challenging problems at the heart of teaching and learning is the best way to promote deeper, longer lasting learning. Project-based learning is the instructional pedagogy to deeper learning.

Dr. Eric Williams

Former Superintendent, Loudoun County Public Schools

Our examination of project-based learning through the eyes of teachers, school and district leaders, parents and students would not be complete without a discussion of the impact of a PBL experience on students. **In short, educators, parents and students agree that project-based learning (1) creates a compelling learning environment that closely matches students' preferences for learning today, (2) supports the development of college and career ready skills, and (3) enables students to be more successful academically.** These outcomes do not occur by happenstance, however. As Dr. Williams explained, when students feel the joy of learning they actually work harder with greater engagement and enthusiasm for the learning process. This naturally results in more significant tangible outcomes.

PBL really places the emphasis on student-centered learning. It's not about what I want to teach.

It is not about me as a teacher. It's about the students and their learning.

PBL puts the ball, as far as the action, in the student's court.

Shawna Stone

Special Education Teacher, Westmoreland County Public Schools

What Teachers Say About Why PBL Work for Students

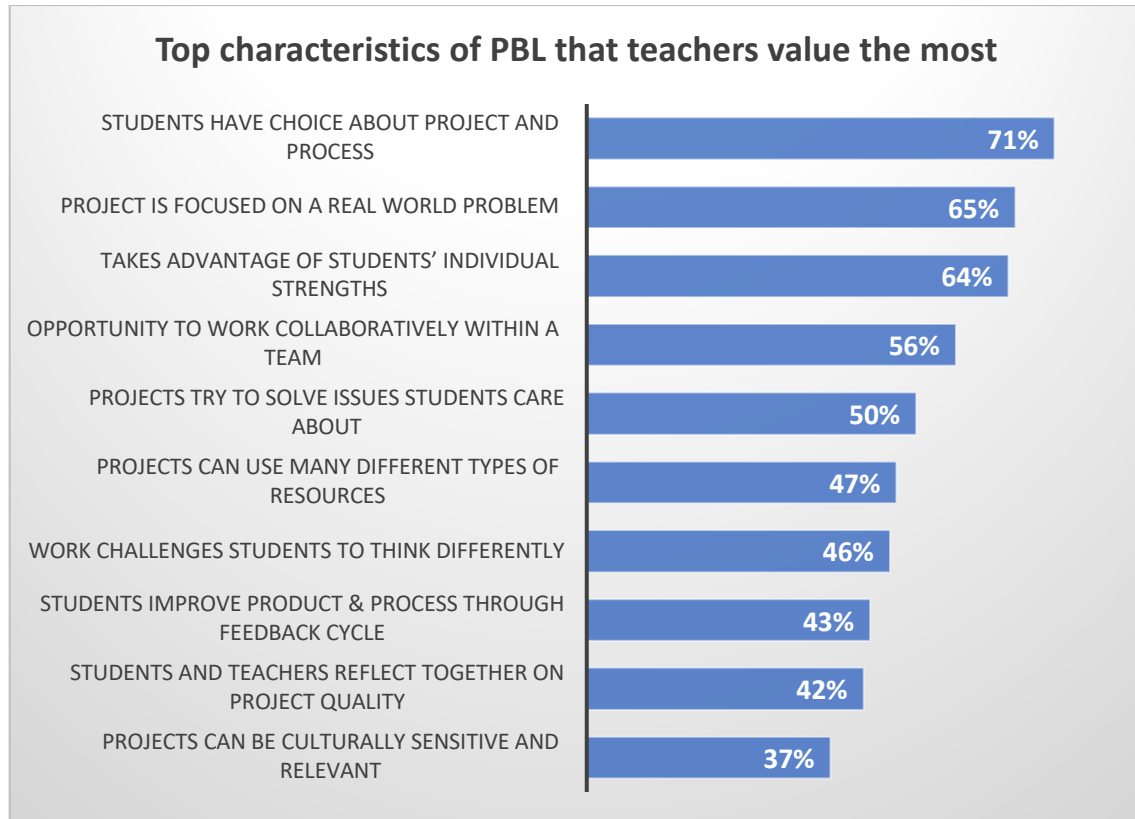
As part of this examination on the impact of PBL on students, the Speak Up surveys asked teachers to identify the top 10 characteristics of project-based learning that they felt would be most appealing for their students.

These top three characteristics of PBL are endorsed by over two-thirds of teachers:

- 1. Students' ability to have a say in their project and the process of learning**
- 2. Projects are focused on real world problems that resonate with students' learning passions**
- 3. PBL takes advantage of students' individual strengths, thus building self-efficacy and confidence**

Figure 3 identifies the complete set of the top 10 characteristics that teachers say they value most highly about project-based learning.

Figure 3: Top 10 characteristics of PBL for student impact as identified by teachers (n= 10,937)



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PBL characteristics align with other student preferences and attitudes about learning. **Nearly a majority of students in grades 6-12 (49%) say that they learn best when they can do projects that engage them in solving a real-world problem.** Students (47%) also highly value self-directed learning experiences. Project based learning, with its premium on student agency, self-directed learning and contextually relevant experiences empowers greater student engagement in learning.

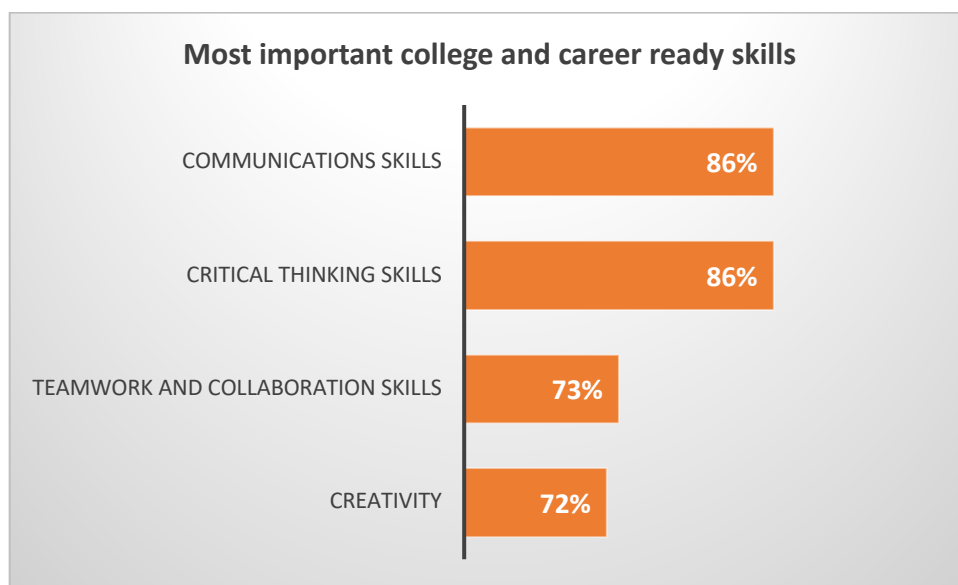
Leslie Steele, an elementary school principal in Westmoreland County Public Schools (VA), agrees that project-based learning engages students in the learning process in unparalleled ways. She notes that because of their implementation of PBL at her school her young students take greater ownership of their own learning.

“They are so engaged in their projects that they don’t even realize they are learning. I definitely feel that a significant student outcome of PBL is the increased engagement but also that my students have become thinkers and problem solvers.”

What Parents Say about Future Ready Skills and PBL

How to create learning experiences that help students develop college and career ready skills is a challenge facing many schools and districts today. This is being driven not only by employers who are looking for graduates with workplace ready skills, but also parents of school-aged children (45%) who are concerned that their children are not learning the right skills in school to be successful beyond school. As depicted in Figure 4, parents have a very clear idea of the college and career ready skills that they want their children to develop in school.

Figure 4: Top college and career ready skills identified by parents of school-aged children (N=11,273 parents)



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And when asked what type of learning experiences will best support the development of these types of skills, 62% of parents said that participating in project-based learning experiences would help their child develop the skills they need for future success. **Additionally, parents’ wish list for college and career ready experiences also included having authentic problem-solving experiences around real-world issues (75%) and working with classmates on projects (62%), both key tenets of project-based learning.**

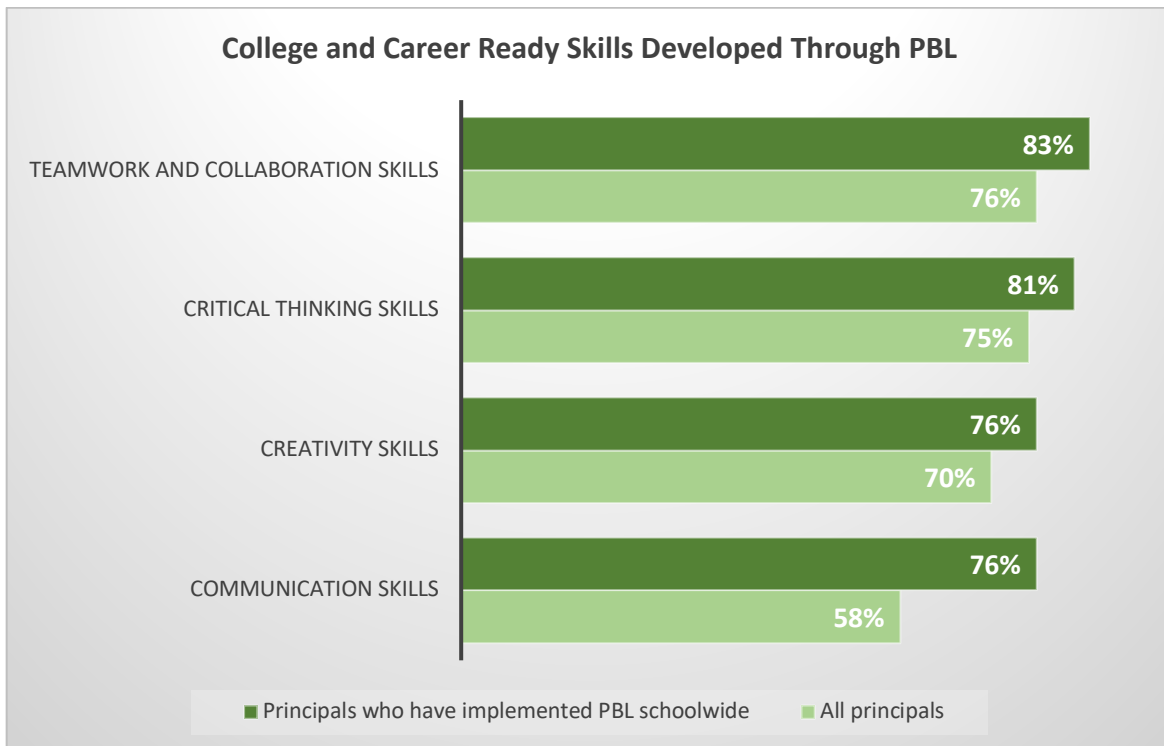
What Principals Say about Future Ready Skills and PBL

School principals also appreciate the connection between project-based learning and the development of these future ready skills or college/career skills. This is especially true for administrators who have implemented PBL schoolwide. In Figure 5, we can see the top skills that principals believe that students will develop as a result of



their PBL experiences in school. These top skills correlate very closely with the parents’ list of the top skills they believe their children need to acquire to be successful.

Figure 5: Percentage of School Principals who identified skill development as an outcome of PBL (N=785 School Principals)



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Westmoreland County Public Schools has implemented project-based learning districtwide. Cathy Rice, Deputy Superintendent, says that because of their implementation of PBL their students are more empowered learners. She notes that their students have become more sophisticated “*thinkers, problem solvers, and collaborators*” and that these outcomes are widely recognized by their school board, parent community and the greater community in their county. According to Ms. Rice, the outcomes tell the story about why project-based learning is so important today.

In addition to facilitating student self-directed learning, school principals also believe that the effective use of this new learning modality can support students’ overall academic success.

- **Over 90% of school principals connect their implementation of PBL schoolwide with students learning how to apply knowledge gained through their project-based learning experiences to other practical problems, a demonstration of extended learning.**



- **69% of those principals say that students who have experienced PBL develop a stronger understanding of the core content being studied.**
- **80% of the school principals who have implemented PBL schoolwide agree that project-based learning helps students achieve academic standards.**

Dr. Ellis from Loudoun County Public Schools attributes project-based learning with creating a new sense of ownership for the students, and that this new culture of student-owned learning contributes to their academic success. As she explains it,

“The students are now learning something that matters to them. Whether it matters now, or they can see how it matters in the future, they know it is important, and it is not just because their teacher told them they had to learn this.”

That change in perspective about the purpose of education is very significant and it has an impact on teachers as well. Through the implementation of project-based learning in their classroom, teachers begin to see their role as not just providing content, but also as facilitating learning experiences that will prepare their students for future success. This results in changes in how teachers approach their instructional practices, and thus improves their overall effectiveness.

Mr. Gonzalez from Compton Unified School District has a similar view. He works with teachers every day helping them embrace project-based learning in their classroom. His message to his teachers is very straightforward:

“You did not go into teaching to prepare kids to take standardized tests. Give yourself permission to implement this type of highly effective instructional pedagogy that you know works. Project-based learning works!”

What is the future of project-based learning?

I firmly believe that for future generations of kids their primary learning experiences will be through project-based learning.

Shawna Stone
Special Education Teacher, Westmoreland County Public Schools

The year’s *State of Project-Based Learning* report confirms that PBL is growing across the nation, and teachers, school leaders, and parents alike see the value and benefits for students. A growing body of research shows that PBL has positive benefits for students including Black and Brown students. The findings also point to the positive benefits for teachers as well.

Research over the last 30 years has shown that PBL can improve student outcomes in all subject areas and across grade levels. Recently, Lucas Education Research (LER), a division of the George Lucas Education Foundation (GLEF), reported findings from rigorous studies on the impact of PBL that further support this claim



with significant results. For example, in a study of 3,645 students engaged in Advanced Placement PBL units supported by PBLWorks professional development in five large urban school districts, researchers found that students in project-based learning AP classes outperformed those in traditional AP classes, improving test pass rates by 8 percentage points. For more research on PBL, go to: <https://www.pblworks.org/research>.

Project-based learning has been around for over 100 years. Since 1918 when “the project method” was introduced by William Heard Kilpatrick, one of John Dewey’s students, it was ahead of its time. Since that time, it has spread quickly with teachers and leaders seeking innovative ways to reach their students but more slowly in traditional K-12 students where most of the students in our nation go to school. The research included in this report points to the reasons why project-based learning is now gaining increased traction in more schools.

2020 offered a multitude of opportunities to “get it right” for all students, especially Black and Brown students, who need and deserve equitable access to intellectually challenging, engaging, and rich learning experiences that prepare them for the future. Toward this end, PBLWorks is working with educators nationwide to make this vision a reality: *for all students, including Black and Brown students, to engage in high quality PBL to achieve success in college, career, and life.*

Here are some additional resources provided by PBLWorks to help teachers, parents, and school and district leaders get started on their PBL journey:

What is Project-Based Learning? While PBL can be defined differently, there are common characteristics across frameworks. In 2018, an international group of PBL practitioners, experts, and researchers agreed upon a common description of criteria that constitute *high quality project-based learning* or “HQPBL,” focusing on student experiences.

- [HQPBL Framework](#)

How can I get started with PBL? Edutopia, a website published by the George Lucas Educational Foundation founded in 1991, offers a plethora of resources that can help teachers start their PBL journey, including:

- [Resources for Getting Started with PBL](#)
- [PBL Quick Start Guide for Teachers](#)

How can I trust that PBL works? In addition to the research shared above, there is over 30 years of research showing that PBL can improve student outcomes, and more recent rigorous research that shows that PBL learning and other outcomes for all students, including our more vulnerable students. These two resources help tell that story:

- [New Research Makes a Powerful Case for PBL](#)
- [Project Based Learning & Student Achievement: What Does the Research Tell Us?](#)

How can I help families in my school or district better understand PBL? Families are key partners in our educational process. There are several resources that are specifically designed to increase awareness and understanding about PBL for families, including:

- [What Parents Need to Know about Project Based Learning](#)



- [Project Based Learning Resources for Parents](#)
- [An Intro to Project Based Learning for Parents and Communities](#)

Ending thoughts

As evidenced by this year’s report, the state of project-based learning is rich with opportunities for enhancing learning experiences and outcomes for all students. The defining characteristics of PBL align with the development of the future-ready skills that are highly valued by parents and educators. Additionally, educators agree that PBL learning experiences provide a myriad of benefits for students including enhanced academic outcomes. The data results from the Speak Up Research Project and the first-hand insights of school and district leaders and teachers about the value of PBL offers a compelling proof case for the “why” of project-based learning. And the additional resources provided by PBLWorks supports the “what and how” of effective planning and implementation for project-based learning in your classrooms. But we learned from our interviews with school and district leaders nationwide that the PBL journey often starts with a conversation within your community about your goals and vision for student learning today. To help support those conversations, we encourage you to utilize these three questions as jumping off points for your local planning:

1. What is your vision for the types of classroom and community-based learning experiences that you believe your students need to have to be well-prepared for future success?
2. How can project-based learning help you turn that vision into a reality for all your students, and most notably your Black and Brown students?
3. What do you need to do as a school or district leader today to enable and empower your teachers to be able to effectively implement project-based learning, and for your students to realize the benefits of PBL as part of their education process?



Appendix

About Project Tomorrow and the Speak Up Research Project

Project Tomorrow’s nonprofit mission is to support the effective implementation of research-based learning experiences for students in K-12 schools. Project Tomorrow is particularly interested in the role of digital tools, content and resources in supporting students’ development of college and career ready skills. The organization’s landmark research is the Speak Up Research Project which annually polls K-12 students, parents, educators and community members about the impact of technology resources on learning experiences both in school and out of school, and represents the largest collection of authentic, unfiltered stakeholder voice on digital learning. Since 2003, almost 6 million K-12 students, parents, teachers, librarians, principals, technology leaders, district administrators and members of the community have shared their views and ideas through the Speak Up Project. Learn more at www.tomorrow.org.

To support this report, we created a companion infographic to support your local planning activities: (add Link to companion infographic)

About PBL Works

PBLWorks (the brand name of the Buck Institute for Education) believes that all students – no matter where they live or what their background – should have access to quality Project-based learning to deepen their learning and achieve success in college, career, and life. Our focus is on building the capacity of teachers to design and facilitate quality Project Based Learning, and on supporting school and system leaders in creating the conditions for these teachers to succeed with all students. For more information, visit www.pblworks.org.