

“Research & Practice,” established early in 2001, features educational research that is directly relevant to the work of classroom teachers. Here, I invited Anne-Lise Halvorsen and her colleagues to share their research on project-based learning in the primary grades. In a series of studies, they developed integrated literacy and social studies project-based units and then tested their effects on students’ learning. Their work suggests that one form of PBL may significantly narrow the achievement gap between primary-grade children in low-income and high-income communities and that it can be more effective than non-PBL approaches.

—Patricia G. Avery, “Research and Practice” Editor, University of Minnesota

Project-Based Learning in Primary-Grade Social Studies

Anne-Lise Halvorsen, Nell K. Duke, and Stephanie L. Strachan

The primary-grade years offer a critical opportunity to engage children in understanding and navigating their social world; in discovering the historical events, people, and movements that have shaped contemporary life; in finding—both literally and figuratively—their place in the world; and in understanding how people live together, resolve differences, and work to improve their worlds. Educators have developed a range of innovative and exciting instructional approaches to accomplish these goals.¹ Unfortunately, social studies is more often taught in ways that are not challenging or engaging to young learners; or it’s neglected entirely and opportunities are missed to help young learners develop critical skills and values for democratic citizenship.²

We—researchers in elementary social studies and literacy education—set out to determine the extent to which a specific approach, project-based learning (PBL), would work to teach these skills and values while also engaging students

in rigorous learning in both social studies and informational reading/writing (also neglected in the primary grades).³ We were particularly interested in whether PBL could make a difference in the learning of students from low-socioeconomic status backgrounds, who tend to have fewer opportunities for social studies learning.

We decided to explore PBL for a number of reasons. First, it resonated with research suggesting that learning occurs most readily when it has relevance and meaning to students’ lives—in other words, when it is authentic. Second, we were eager to explore whether learning activities that were open-ended, imaginative, and tapped into higher-order thinking skills, would be effective for students from low-SES backgrounds, who are often less likely to receive this kind of instruction.⁴ Third, the approach seemed highly compatible with the integration of literacy and social studies; projects tend to require students to draw on content and skills from multiple domains.

Fourth, the approach appeared to be a promising way of teaching social studies and literacy standards; for example, the Common Core State Standards (CCSS) for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects call for integration of literacy with subjects and for students to engage in research and presentations, both of which align with PBL. Fifth, at the time we began our investigation, scholarship had already suggested the promise of PBL for social studies learning at the middle-school level (and since then, more studies have demonstrated its effectiveness at the secondary level), and we were eager to see whether PBL held the same promise for primary-grades social studies learning.⁵

In our research on PBL, we found that it did make a difference in students’ learning, and that both students and teachers were engaged by the projects in our units. In this article, we briefly describe the general principles driving PBL; introduce our PBL curriculum;

share the results of two studies we conducted;⁶ and share resources and lessons we learned for educators seeking to develop and teach their own PBL curricula.

What PBL Is—and What It Isn't

Recently, PBL has experienced a renaissance, and now books, professional development opportunities, and other resources related to PBL abound. There are even PBL schools and school networks. Educators define PBL in broad and varying ways. Most PBL educators agree that PBL can be defined broadly as an approach in which students engage in an activity over an extended period of time that drives learning, involves inquiry, has meaning and relevance in the world beyond school, and culminates in students presenting or disseminating their findings to an authentic audience. Project-based learning can be distinguished from thematic or inquiry learning, as well as problem-based learning, because it requires sustained inquiry and a public product often (and in the case of our projects, always) presented to an audience beyond the classroom. These are not required characteristics of inquiry learning or problem-based learning.

Project-based pedagogy can range in the quality of implementation. In 2018, an international consortium of organizations and individuals involved in PBL released a statement that high-quality PBL has six elements: (1) intellectual challenge and accomplishment, (2) authenticity, (3) a public product, (4) collaboration, (5) project management, and (6) reflection.⁷ Social studies educators such as Walter Parker and his colleagues emphasize “deeper learning” in their conception of PBL, in which students develop complex and connected understandings that can be adaptively transferred in new and different situations and contexts.⁸

Our Projects

Our approach, tailored for the primary grades, followed several of the typical



Figure 1: Draft Flier for the Economics Project

design elements of PBL. In particular, we worked to ensure the projects served a purpose beyond “doing school,” involved a deep (i.e., weeks-long) interrogation of a topic, and had built-in student and teacher voice and choice regarding activities and the project. We also focused on aligning the projects with standards and ensuring the incorporation of specific research-supported instructional techniques, which is less common in PBL. We call our curriculum Project PLACE (Project-approach to Literacy and Civic Engagement), to capture the fact that it is PBL that integrates literacy and social studies and enables children to be actively engaged in activities that are civic- and community-oriented. We found that the integration of literacy and social studies was natural. We focused on informational reading and writing: students read texts to advance their understandings of social studies concepts and skills in order to successfully carry out the project; wrote texts to share information with or to persuade their audience; and engaged in authentic listening and speaking activities throughout each project.

We designed four integrated projects titled as follows: Producers and Producing in Our Community (economics); Brochure about the Local Community (geography); Postcards

about the Community's Past (history); and the Park/Public Space Project (civics and government). The topics stemmed directly from the social unit—the local community—that is the focus of the second-grade social studies standards in the state of Michigan.

Each of the projects entailed the design and creation of a product for an authentic audience. In the economics project, children wrote (1) informative/explanatory fliers about/for a business they visited for potential customers of that business (see Figure 1); (2) advertisements (persuasive text) for the school community about their own good or service; and (3) procedural or how-to texts about how to make the good or provide the service for those who want to carry on their work. In the geography project, they wrote persuasive brochures about natural and human characteristics of the local community for families settling or considering settling in the area. In the history project, children designed historical postcards with a photo and informative/explanatory text to sell or give away at a historical society, library, or the like. In the civics and government project, students created a proposal to a local city government official suggesting improvements to a local park or public space (see Figure 2), and designed and delivered a collaborative multi-media

presentation for a local city government official.

Each unit was 20 sessions long and each session within units followed a similar format: whole-group introduction, guided small group/individual instruction, and whole class review and reflection. Each of these sessions contributed to the design and production of the project. For example, students planned and drafted their writing over many sessions, typical of process writing. They learned the features of maps (e.g., title, legend, scale, symbol) before designing their own maps. The particular activities within the sessions—for example, map creation, timeline interpretation, persuasive writing, and grasping the main idea of a text—incorporated research-tested practices.⁹ The entire units and some of the supporting materials are available here: <https://sites.google.com/a/umich.edu/nkduke/home/project-place-units>

Does PBL Work? (Under What Conditions?)

Our inquiry into these questions began with a small design or formative experiment approach conducted between 2009 and 2012. (A design or formative experiment is an approach in which researchers collect and analyze data over time to inform the design, revision, and refinement of practices aimed at meeting a specific real-world goal. For example, researchers might collect and analyze many rounds of data to repeatedly revise a piece of educational software until it met the designed goal of improving students' understanding of a historical event.) Our research team worked in collaboration with six second-grade teachers to design two of the units, one on economics and another on civics and government. We met with teachers to solicit their ideas for project topics, and then, using a design-based approach, we iteratively revised projects.¹⁰

In tandem with developing the projects, we also designed assessments for economics, civics and government, informational reading, and informational writing because no measures for the standards

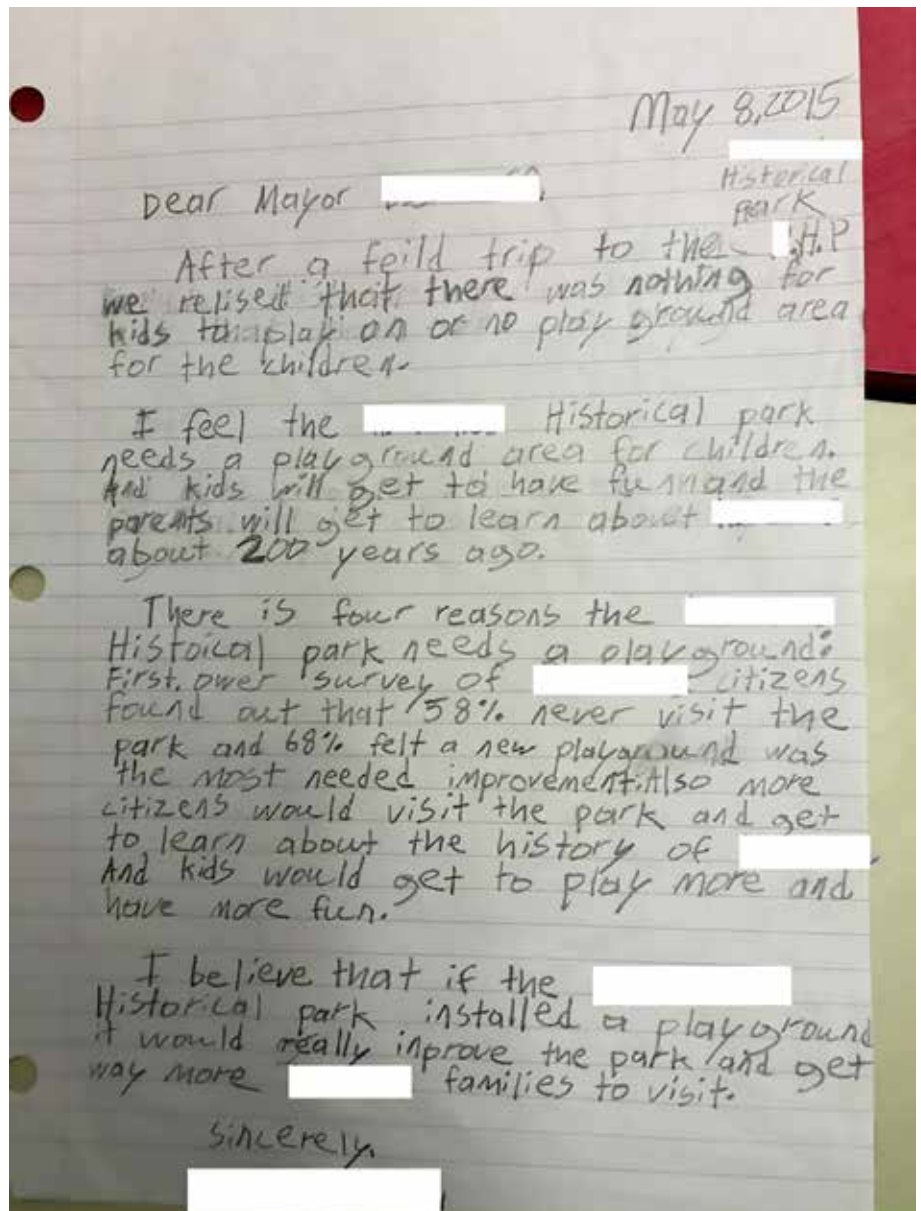


Figure 2: Draft Letter to a Local City Government Official for the Civics and Government Project.

we targeted existed. For each standard, we designed questions and activities that would tap into students' knowledge and skills. For example, to assess students' understanding of the difference between personal and civic responsibilities and explain why they are important in community life, we provided students images of personal and civic responsibilities and had them sort them. We then designed rubrics that would measure four levels of understanding for each standard.¹¹

In our first study, we found that students in low-income communities experiencing the PBL units showed growth in social studies, informational reading,

and writing between the pre- and post-test, and that there was no difference statistically in social studies and informational reading between the post-test performance of students experiencing our PBL units and students in much wealthier communities who had not. In other words, it seemed that PBL could help narrow the achievement gap in social studies and informational reading between students from low-SES and high-SES backgrounds. We speculate that the deeper learning, real-world application, and community connections afforded by the projects were engaging and empowering for the students.

In 2012, we began building on the first study, with a randomized control trial to explore whether we could make causal claims about the effect of PBL on students' motivation and on achievement in social studies, informational reading, and informational writing. We developed two more PBL units: one in history and one in geography. As with the other two units, we followed a design-based approach in which teachers taught the projects and provided substantive feedback that we then used to revise the projects.

To study the effects of our PBL curriculum, we recruited schools in which at least 65% of the student population qualified for free or reduced-priced lunch and with below-state-average student performance on state exams in social studies. Then, we randomly assigned 48 second-grade teachers to either teach social studies using project-based units we designed (the experimental or PBL group) or to teach social studies as they normally would (the control group).

Through a pre-/post-test design, we found that students whose teachers taught the PBL units had higher gains in social studies learning and informational reading than students whose teachers taught their regular social studies curriculum. We found that for the PBL group, gains were 63% higher for social studies and 23% higher for informational reading than in the control group. For motivation and writing, there were no statistically significant differences. However, we found that teachers who implemented the curriculum with greater consistency with the lesson plans had students with higher growth in motivation and writing, as well as informational reading, than those who did not.

We also explored whether the Project PLACE units help narrow the achievement gap in social studies and literacy. To do this, we assessed a group of students from two very high-SES schools on the same measures we used for the experimental and control groups. We found that the gap between high-SES students

and the experimental students narrowed in social studies, reading, and writing.

Support for Designing and Implementing PBL

PBL can present challenges to educators who are unfamiliar with this instructional approach and even to those who are. Fortunately, there are a range of supports for educators seeking to implement it. This section describes resources for PBL, the value of connecting with a PBL community, and instructional moves we found that encourage PBL implementation.

Resources

An increasing number of high-quality resources have been developed to support teachers using PBL, ranging from books to fully developed unit plans. Edutopia: K-12 Education Tips and Strategies That Work, a website supported by the George Lucas Education Foundation (www.edutopia.org/), offers videos and articles about PBL and provides a discussion forum for educators to exchange tips, strategies, and resources related to PBL. The Buck Institute (www.bie.org/) offers webinars, live Google hangouts, and a plethora of other resources for educators seeking to implement PBL. There is a "project search" in which you can search for projects by grade level and subject area.

Books such as *Setting the Standard for Project Based Learning: A Proven Approach to Rigorous Classroom Instruction*; *The PBL Starter Kit: To-the-Point Advice, Tools and Tips for Your First Project*; and *Inside Information: Developing Powerful Readers and Writers of Informational Text through Project-Based Instruction* also provide valuable background information and tips for educators seeking to develop their own PBL curricula.¹² As with all resources, it is important to look carefully for the research base behind the recommendations offered, privileging those recommendations that are closely aligned to research.

Developing a PBL Community

We encourage teachers seeking to design and implement PBL to find (or create!) a community of like-minded educators. Face-to-face communities of teachers in one's school or school district provide valuable opportunities for collaboration on curriculum design, peer coaching, and collective reflection on the enactments of lesson ideas. Virtual communities can also make important contributions to professional learning, such as the potential to offer participants motivation for trying new ideas, suggestions for valuable resources, encouragement when obstacles present themselves, general emotional support, and the opportunity to share experiences and reflect on practices.

Instructional Moves that Support PBL

From the implementation of the units, we learned a number of lessons about what may contribute to their effectiveness. Most fundamentally, we viewed the alignment of standards and incorporation of research-supported instructional techniques, in addition to elements more commonly associated with PBL, as important to unit success. In our first study, we also found that teachers made their own modifications to the unit plans that appeared to help them effectively teach the plans: (1) both teachers and students drew connections between the project and their lives outside of school; (2) teachers, and sometimes students, drew connections across projects; and (3) teachers, and sometimes students, drew connections between the projects and other school subjects.

During the randomized control trial study, we also sought to better understand factors associated with higher and lower student growth in both literacy and social studies. Here we focus on social studies. We found that the teachers with the highest student growth in social studies incorporated discipline-specific practices, such as having students supply and analyze evidence and

engage in perspective taking. They also tended to seek ways to activate students' prior knowledge. These findings suggest the importance of teacher knowledge in social studies skills and content, and their capacity to build on students' background knowledge and connect it in meaningful ways to the curriculum.

Conclusion

PBL is a powerful approach that has been proven to engage and foster development in young learners. It also holds promise for narrowing the achievement gap, which is particularly important in areas such as content literacy and social studies—so often neglected in low-SES settings. In addition to raising achievement, PBL has the power to help students see themselves as change agents in their communities.

As we have explained, PBL is not easy to design, implement, or assess. It also involves “letting go” and putting more decision making in the hands of students. It is messy, complex, and requires teachers to attend to both “big picture” thinking and attention to detail. However, there are a range of resources for teachers to use to support their implementation including fully developed units (see websites provided on p. 61). Teachers interested in giving it a try do not need to start from scratch. We have found that the efforts put into PBL are worth it, as evidenced by the results of our investigations. Further, many teachers remarked about the excitement students displayed when they saw the impact their work had on effecting change in their communities. Through PBL, even our youngest learners can make a difference beyond their years. 🌍

Notes

1. See for example, the articles in the March/April 2015 issue of *Social Studies and the Young Learner* focused on approaches that empower learners with civic agency, the articles in the November/December 2016 issue of *Social Studies and the Young Learner* focused on instructional approaches to teach geography and world history, and the articles in the January/February 2017 issue of *Social Studies and the Young Learner* focused on using current events to cultivate civic life.
2. See Anne-Lise Halvorsen, *A History of Elementary*

Social Studies: Romance and Reality (New York, N.Y.: Peter Lang, 2013); Paul G. Fitchett and Tina L. Heafner, “A National Perspective on the Effects of High-Stakes Testing and Standardization on Elementary Social Studies Marginalization,” *Theory & Research in Social Education* 38, no. 1 (2010): 114–130; National Council for the Social Studies [NCSS], *The College, Career, and Civic Life (C3) Framework for Social Studies State Standards: Guidance for Enhancing the Rigor of K-12 Civics, Economics, Geography, and History* (Silver Spring, Md.: NCSS, 2013); Stephanie L. Strachan, “Elementary Literacy and Social Studies Integration: An Observational Study in Low- and High-SES Classrooms” (PhD diss., Michigan State University, 2016).

3. See Nell K. Duke, “3.6 Minutes Per Day: The Scarcity of Informational Texts in First Grade,” *Reading Research Quarterly* 35, no. 2 (2000): 202–224; and Tanya S. Wright and Susan B. Neuman, “Paucity and Disparity in Kindergarten Oral Vocabulary Instruction,” *Journal of Literacy Research* 46, no. 3 (2014): 330–357.
4. See Nell K. Duke, “For the Rich It’s Richer: Print Experiences and Environments Offered to Children in Very Low- and Very High-SES First Grade Classrooms,” *American Educational Research Journal* 37, (2000): 441–478.
5. For studies on PBL at the middle-school level, see for example, Pedro Hernández-Ramos and Susan De La Paz, “Learning History in Middle School by Designing Multimedia in a Project-Based Learning Experience,” *Journal of Research on Technology in Education* 42, no. 2 (2009): 151–173; and Cynthia M. Okolo and Ralph P. Ferretti, “Knowledge Acquisition and Technology Supported Projects in the Social Studies for Students with Learning Disabilities,” *Journal of Special Education Technology* 13, no. 2 (1996): 91–103. For studies at the secondary school level, see, for example, Neal Finkelstein et al., *Effects of Problem-Based Economics on High School Economics Instruction* (Washington, D.C.: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, 2011); Walter Parker et al., “Rethinking Advanced High School Coursework: Tackling the Depth/Breadth Tension in the AP US Government and Politics Course,” *Journal of Curriculum Studies* 43, no. 4 (2011): 533–559; and Walter C. Parker et al., “Beyond Breadth-Speed Test: Toward Deeper Knowing and Engagement in an Advanced Placement Course,” *American Educational Research Journal* 50, no. 6 (2013): 1424–1459.
6. The first study, funded by the Spencer Foundation, used a design-based research approach to investigate whether and how a project-based approach to social studies and content literacy instruction could enable second-grade students from low socioeconomic-status (SES) schools to make gains in both domains and perform at the same levels of students from high-SES schools. See Anne-Lise Halvorsen et al., “Narrowing the Achievement Gap in Second-Grade Social Studies and Content Area Literacy: The Promise of a Project-Based Approach,” *Theory and Research in Social Education* 40, no. 3 (2012): 198–229. The second study, funded by the Spencer Foundation and the George Lucas Educational Foundation, was a cluster randomized control trial investigating the impact of PBL on the social studies and literacy achievement and motivation of second-grade students from high-poverty, low-performing school districts. See Nell K. Duke et al., “Putting PBL to the Test: The Impact of Project-based Learning on Second-grade Students’ Social

Studies and Literacy Learning and Motivation,” (unpublished manuscript, Ann Arbor, Mich., 2018), <https://sites.google.com/a/umich.edu/nkduke/publications/project-place-papers>

7. “A Framework for High Quality Project Based Learning” (2018), <https://hqpl.org/>
8. See Parker, “Beyond Breadth-Speed.”
9. See Anne-Lise Halvorsen et al., “Engaging the Community with a Project-based Approach,” *Social Education* 82, no. 1 (2018): 24–29, for detail about the projects.
10. See Halvorsen et al., “Narrowing the Achievement” for more on the design process.
11. Scorers achieved a high level of inter-rater reliability, ranging between 87–92%. IRR is the degree of agreement among the scorers in how they evaluated the students’ responses.
12. See John Larmer, John R. Mergendoller, and Suzy Boss, *Setting the Standard for Project Based Learning: A Proven Approach to Rigorous Classroom Instruction* (Alexandria, Va.: ASCD, 2015); John Larmer, David Ross, and John R. Mergendoller, *The PBL Starter Kit: To the Point Advice, Tools and Tips for Your First Project*, 2nd ed. (Novato, Calif.: Buck Institute for Education, 2017); and Nell K. Duke, *Inside Information: Developing Powerful Readers and Writers of Informational Text Through Project-Based Instruction* (New York, N.Y.: Scholastic, 2014).

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PROJECT BASED LEARNING IN PRIMARY GRADES by. Timothy g. fox submitted in partial fulfillment of the requirements for the. DEGREE OF MASTER OF ARTS IN EDUCATION AT NORTHERN MICHIGAN UNIVERSITY December 3, 2013.Â Project-Based Learning In project-based learning, students work in groups to solve challenging problems that are authentic, curriculum-based, and often interdisciplinary. Learners decide how to approach a problem and what activities to pursue.Â An additional study from Hertzog (1994) focused on project based learning in a primary setting. In addition, it focused primarily on the obstacles encountered with implementation. Project-Based Learning: A Working Definition. Before we jump into how to approach planning a project, itâ€™s important that we are operating from the same definition of PBL, because there are many! After years of working in the leading organizations of the PBL movement I came to arrive on the following as my non-negotiables for a project to reflect high quality PBL.Â In the case of the Silent Voices project we identified social studies standards on the American Revolution and Common Core ELA standards for narrative writing, compare and contrast, and research.Â In my 7th grade Language Arts classroom, we do PBL throughout the entire year as opposed to just one 8-week crash course. Our units are laid out through Essential Questions. Project-based learning is an instructional model for classroom activity that shifts emphasis away from practices of isolated, short term, teacher-centered lessons in favor of learning activities that are more long-term, interdisciplinary, and centered on the student. These projects are complex, centered around challenging questions or problems which involve students in investigative activities, problem-solving, design, and decision making. This model of instruction allows the opportunity for students to work autonomously over significant amounts of time and often culminates in realistic present