



# Project-based learning not just for STEM anymore

*The research is clear that social studies and literacy are fertile ground for robust project-based learning units.*



R&D

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

*Second graders stand before the chairperson of their city's Chamber of Commerce, presenting detailed brochures they have written that contain compelling characteristics of their local community. The chairperson has arranged to place children's brochures into welcome packets the chamber sends to new and potential residents. Students have taken an important step to convincing others about assets in their community and gained valuable knowledge and skills in the process.*

**NELL K. DUKE** (@nellkduke) is a professor in literacy, language, and culture in the combined program in education and psychology at the University of Michigan, Ann Arbor. **ANNE-LISE HALVORSEN** is an associate professor of social studies education at Michigan State University, East Lansing, Mich. **STEPHANIE STRACHAN** is an assistant professor of literacy education at Western Washington University, Bellingham, Wash.



This scene represents the final step of a unit developed to teach geography and key content literacy skills as part of Project PLACE, a Project-based Literacy And Civic Engagement curriculum for 2nd graders (Duke et al., 2014).

The project engaged students over 20 sessions to develop brochures intended to persuade new and potential residents that their community is a great place to live. Each student's brochure highlighted natural and human community attractions such as lakes, rivers, libraries, and athletic centers. The brochures included local maps with keys indicating points of interest. This was an educational unit for students to wrap their young minds around important geography and literacy concepts and skills, including graphical comprehension, using an index, and persuasive writing. All of that occurred in a real-world context and purpose — making it a prototype for

project-based learning.

But perhaps the most notable features of the project is that the content it aims to teach derives from social studies and literacy rather than the science, technology, engineering, and mathematics (STEM) disciplines typically associated with project-based learning (PBL). Indeed, the popularity of project-based learning has been driven in part by a growing number of STEM schools and programs. In your district, for example, it should be no surprise if the STEM school or program down the street — emphasizing a curriculum based on inquiry, hands-on learning, and problem solving — is furthest along in adapting and integrating project-based learning.

But STEM subjects are not the only fertile ground for project-based learning. Social studies and literacy content, as demonstrated by the 2nd graders' brochures, can be addressed in project-based learning units.

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## Key research

Despite greater attention to project-based learning in STEM education, some of the most powerful evidence in support of PBL comes from social studies education research. At the high school level, for example, students who participated in collaboratively designed learning units centered around complex, authentic challenges exhibited better scores on Advanced Placement (AP) tests than students in typical AP classes (Parker et al., 2013). Similarly, project-based learning fostered better learning of macroeconomics concepts and improved problem-solving skills than traditional lecture-based instruction (Mergendoller, Maxwell, & Bellisimo, 2006).

Studies with middle school students also demonstrate PBL's potential in social studies (MacArthur, Ferritti, & Okolo, 2002). Research also has documented compelling social studies growth via PBL with young learners (Halvorsen et al., 2012). Our current large-scale study examining the effect of project-based units for 2nd graders (Project PLACE) produced significant social studies learning compared to status quo instruction — specifically in economics, geography, history, and civics and government (Duke et al., 2016).

Literacy research also points to the power of project-based learning. Numerous studies have shown that literacy develops more quickly, and students have greater literacy motivation in contexts when students:

- Read and write for purposes beyond school;
- Read and write material they see as relevant to their lives;
- Read and write texts similar to those found outside school;
- Read and write texts on topics of interest to them;
- Make choices about what they read;
- Write for an audience beyond a teacher; and
- Have the opportunity to collaborate (Guthrie, McRae, & Klauda, 2007; Purcell-Gates, Duke, & Martineau, 2007; Puzio & Colby, 2013).

Sound familiar? These are common characteristics of project-based learning.

Moreover, research suggests that involving reading and writing in content-area instruction — typical in PBL — is better than separating them. This is a strong finding with respect to science and literacy (Anderson et al., 1997; Goldschmidt & Jung, 2011; Guthrie, McRae, & Klauda, 2007; Romance & Vitale, 2001; Vitale & Romance, 2011; Wang & Herman, 2005).

There also is reason to think this is true for social



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studies (Halvorsen et al., 2012). Indeed, in the Project PLACE study mentioned earlier, we not only had effects on social studies but a modest effect on a standards-aligned reading measure as well (Duke et al., 2016).

### Sample projects

Each of the following two examples describes projects that were designed to address social studies and literacy standards in grades 2 and 5, respectively, but could be adapted for a number of grade levels.

#### The park improvement project

It's never too early for students to learn how to be active, responsible citizens. In this project, students begin by visiting a neighborhood park or public space and noting ways to improve it for the community. The students survey others in the school and community to determine which area of improvement is most important. They develop a proposal for improvement and investigate which area of local government could respond.

Students communicate their proposal for improvement in two ways. First, as a whole class, they write and give a persuasive multimedia presentation for a local government official and in doing so hone their persuasive speaking skills. Second, each student writes a letter for the government official to distribute to colleagues, developing their persuasive writing skills. Throughout the project, they deepen their civics and government knowledge and reading skills.

#### The how-to-make-money book

The future Steve Jobs or Oprah Winfrey may get his or her start in this project. Students are connected with a local organization serving youth, such as the YMCA or Boys & Girls Club. Students write a book for this group on how to make money for personal or philanthropic use (Duke, 2015). The project begins with reading about real-life child entrepreneurs. Students then begin researching and analyzing the pros and cons of a range of possible businesses. In the process, they learn important economic concepts, such as unmet economic wants, business plans, profit and loss, as well as reading skills such as understanding words that have multiple meanings.

Each student chooses a business he or she would like to lead, such as making and selling bracelets or offering car washing services. Once students have developed strong knowledge of the business they have chosen to write about, they study common features and language of procedural or how-to texts. They imitate the features and language as they write about their chosen business, drafting both prose and graphics for their procedural texts while deepening their knowledge. They get feedback from peers, their

**FIG. 1.**  
**The first page of a student's text about how to start and sustain a bracelet-making business.**

## Bracelets to the Bank

Do you want to start a business? Do you like to make jewelry? Well I have a job for you! I know most people love moolah, and in this job you will earn some! The job is making and selling jewelry! All you need are a few step by step directions.

### Materials:

- internet
- survey and clipboard
- stretchy string
- beads
- metal string
- shells
- poster paper and markers
- computer and printer
- money for change
- business cards



### Procedures:

#### 1: Knowing the Market:

Know what people like. Take a survey in your neighborhood, to see what styles and sizes people like. Go on the internet with your parents' permission and search these questions: 1) How much would people pay for jewelry? 2) Who would buy more jewelry adults or children? 3) How many jewelry stores are in your city? 4) How many of the jewelry stores sell handmade jewelry?

#### 2: Developing Skills:

You need to know how to make the jewelry you researched. Test them out to see which ones you can make. Try out which string will go through the beads the best. List the products in a notebook and the materials used.

**Source:** Duke, N.K. (2015). *Information in action: Reading, writing, and researching with informational text, grade 5*. New York, NY: Scholastic. Reprinted with permission.

teacher, and some members of the target audience and then revise and edit to create a product as effective as possible for students in the organization they hope to support. Once all students' texts are compiled into a book, they are delivered to the partner organization for their use.

Figure 1 is the first page of a student's text about how to start and sustain a bracelet-making business.

### Developing social studies and literacy projects

To develop your own project-based units involving social studies and literacy, consider the following steps, which may occur recursively.

**Identify needs or opportunities** in your school, local community, region, state, nation, or the world.

For example, perhaps there is an upcoming event at school or in the community that could give rise to an authentic purpose for social studies and literacy learning. Maybe a recent national news story draws attention to a need or cause students could address. Or you may have observed something about students or their families that could inspire a project — for example, students’ interests in a particular television program or families’ experiences of immigration.

**Determine standards you want to address** in your project. This should include literacy standards as well as social studies standards from your state and/or the College, Career, and Civic Life (C3) Framework (National Council for the Social Studies, 2013). Be sure to consider all the strands within standards documents. Real-life learning often does not fit into neatly bound curricular categories. For example, a project might involve both geography and economics or the Common Core standards for reading, writing, speaking, listening, and language. Be sure to attend carefully to each standard throughout unit planning.

**Consider real-life skills beyond standards.** Many of the most important knowledge and skills typically are far from front and center in curricula. In PBL, we make skills such as flexible thinking, problem solving, strategic use of technology, informing or persuading others (orally or in writing), and collaborating front and center. We recognize that without those all the domain knowledge in the world is not enough for students’ success.

**Hone in on an authentic purpose and audience** for the social studies learning, reading, and writing. You might predetermine this, but it is often more compelling when students are engaged in this honing process. As you work through this, consider personal connections you, colleagues, or families may have that can support establishing an audience and/or experts who can inform the project. Does your brother-in-law own a lumber yard? Maybe you can use that! Does a friend of a friend work for Doctors Without Borders? Maybe you can use that too! Does a student’s parent work for a local transportation organization? Again, you can use that!

**Meaningfully integrate social studies and literacy.** Avoid integration for integration’s sake. Instead, determine ways to meaningfully and authentically involve content from these domains; it is not always easy, but it is worth the challenge (Alleman & Brophy, 2010). For example, look for opportunities to incorporate social studies texts such as maps, government web sites, and biographies. Engage students in writing texts relevant to social studies such as creating a historical marker for a landmark or creating public service announcements for respecting laws designed to keep people safe.

**Make the project the core of the curriculum.** The motivational and educational benefits of PBL cannot be realized if the project is simply an end-of-unit activity. The project needs to be in students’ minds from early in the unit and each activity needs to be seen as serving the project in some way. We recommend that teachers remind students of the purpose and audience of the project during each session, for example by noting how students’ hard work on their maps will help keep readers from getting lost and will help them find interesting places to visit in the community.

**Plan project sessions with a full toolkit.** A significant danger of PBL is that we get so swept up in the excitement and immediate demands of the project that we forget to incorporate what we know from teaching and learning outside a project-based context. We know, for example, that explicitly teaching reading comprehension strategies is a research-supported practice. We should incorporate this practice into projects but with a focus on how a given strategy will support achievement of the project purpose.

Finally, once you have a project that you believe works, share it with colleagues, student teachers, and other educators. You might even reach out to that STEM school down the street. **K**

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**A large-scale study examining the effect of project-based units for 2nd graders produced significant social studies learning in comparison to status quo instruction – specifically in economics, geography, history, and civics and government.**



Los Angeles, National Center for Research on Evaluation, Standards, and Student Testing. [www.cse.ucla.edu/products/reports/R781.pdf](http://www.cse.ucla.edu/products/reports/R781.pdf)

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