

INTRODUCTION

You've heard about Project Based Learning, but now you're wondering... Sure, it sounds good, but is it right for me and my students? Isn't it a big change? Can I do it in today's educational landscape? Our answer is yes, yes, and yes—with some “buts and ifs” we'll explore in this book. By the end, we hope you'll be planning to conduct your first project.

The Purpose of This Book

This book is written for teachers who are new to Project Based Learning, which we'll refer to as PBL from now on. The *PBL Starter Kit* is designed to provide easy to read, brief and to-the-point advice about your first project, and some tools to help you do it well. Other books in the BIE *PBL Toolkit Series* are meant to include the veterans — this one is for the rookies.

Specifically, this book is written for teachers who:

- **Teach in a high school or middle school**, although the basic design of PBL we describe can work for any grade level.
- **Teach in any subject area**, although our examples are drawn mainly from typical core academic courses.
- **Are considering using PBL**, but have not been to PBL workshops or read books on PBL methodology.
- **May have tried “doing projects” but were unsatisfied**, and would like to try it again, differently.



How This Book is Organized

The *PBL Starter Kit* has eight chapters:

- I. The **Introduction** provides background information about PBL and explains what teaching is like in a project based classroom.
- II. **Spotlight Projects** describes six sample projects from various schools, subject areas, and grade levels. We draw examples from these projects throughout the rest of the book.
- III. **Getting Started** takes you through the process of developing ideas for your project, setting goals for student learning, deciding on the project's scope, and writing a Driving Question.
- IV. **Planning and Preparing** gets down to the nitty-gritty details: how to design the tasks and products students will complete, assess their work, launch the project, form groups, provide resources and lessons, create a schedule, and make logistical arrangements.
- V. **Managing Your Project** shows you what to do once a project is underway: how to build the right classroom culture, guide the process of inquiry, manage day-to-day tasks, stay organized, facilitate student presentations to an audience, and troubleshoot problems.
- VI. **Reflect and Perfect** explains how, after your project, you and your students should reflect on the results, note ideas for improvement, and celebrate a job well done.
- VII. **After the Last Bell: Closing Thoughts** raises some questions to consider before doing another project, and concludes with comments from Spotlight Project teachers.
- VIII. **Useful Stuff** contains project planning forms, sample rubrics, and student handouts.

As you are reading, you will see the following special features:

TIPS FROM THE CLASSROOM

Advice on various topics from experienced PBL teachers.



Additional examples, resources, or notes on specific topics.

*USE THIS

Reminder that a form or handout can be found in **Useful Stuff**, the back section of the book.

How to Use This Book

This book is meant to be used to actually plan a project while you read it. We provide copy masters of the following three planning forms in the Useful Stuff section, or you can use the online versions available at www.bie.org.

- **Project Overview** — A two-page form for recording a summary of your project
- **Project Teaching and Learning Guide** — A one-page form to record your plans for helping students learn what they need to be successful in the project
- **Project Calendar** — A one-page form for recording the daily use of time in your project

Although it's not absolutely vital, we encourage you to fill out these forms as you go through each chapter—we'll remind you. You'll also see examples of completed forms from our Spotlight Projects.

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What is Project Based Learning?

Do you ever feel like you're pushing your students through the course you teach, or herding reluctant cattle with a combination of encouragement, rewards, and threats? In Project Based Learning, it's different. Students are *pulled* through the curriculum by a meaningful question to explore, an engaging real-world problem to solve, or a design challenge to meet. Before they can do this, they need to work with other students to inquire into the issues raised, learn content and skills, develop an answer or solution, create high-quality products, and then present their work to other people. This process creates a strong need to know and understand the material. And that's the key to increasing students' motivation to learn in PBL—give them a *real* need to know, understand, and demonstrate what they learn, beyond simply getting a good grade.

PBL is a teaching method in which students:

- Engage in a rigorous, extended process of inquiry focused on complex, authentic questions and problems
- Work as independently from the teacher as possible, and have some degree of “voice and choice”
- Demonstrate in-depth understanding of academic knowledge and skills
- Build 21st century skills such as collaboration, critical thinking, and communication
- Create high-quality products and performances which are presented to a public audience

If these five points define what PBL is, let's take a look at what PBL isn't.

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PBL Misconceptions

PBL is not: *the dessert*

PBL is: *the main course*

A project is central to the curriculum and drives your instruction; it is not a “fun activity” or “applied learning” you let students do after a traditionally-taught unit. PBL is both a curriculum organizer and an instructional method.

PBL is not: *a string of activities tied together under a theme, concept, time period, culture, geographic area, etc.*

PBL is: *set of learning experiences and tasks that guide students in inquiry toward answering a central question, solving a problem, or meeting a challenge.*

For example, an interdisciplinary unit on the Renaissance in which students build a model of a machine based on a Da Vinci drawing, write and present a report on a famous artist, and perform a costumed drama about a historical event is not necessarily PBL. These activities *could* be part of a PBL unit if together they help students develop and present an answer to a central question such as “Was the Renaissance just a rebirth, or a whole new baby?” In this case, the unit was “activity based” but did not require rigorous inquiry into a central question.

PBL is not: *the same as “making something” or “hands-on learning” or “doing an activity.”*

PBL is: *often focused on creating physical artifacts, but not always. It must involve other intellectually challenging tasks and products focused on research, reading, writing, discussion and oral presentation.*

It’s not truly PBL if students are *simply* making a collage about a novel, constructing a model of the pyramids, analyzing water samples from a lake, or measuring and calculating the geometry of buildings. These artifacts and activities *could* be part of a rigorous project if they help students meet a complex challenge and develop and present an answer to a central question.

PBL’s Effectiveness: What Experience and Research Tells Us

Project Based Learning has had its advocates in education for many years, but more and more teachers and schools in the 21st century are recognizing its value.

Classroom teachers, based on their experience, say that a well-designed and well-implemented project:

- Can work for all kinds of students, with the right support
- Improves students’ motivation to learn
- Can be used to teach academic content standards
- Can include multiple opportunities to integrate technology
- Helps students see how school connects to the outside world by making learning relevant and meaningful
- Promotes greater civic participation and global awareness

Researchers have found that well-designed and well-implemented PBL can:

- Be *more* effective than traditional instruction in increasing academic achievement
- Increase student motivation and engagement in learning
- Improve students’ retention of knowledge over time
- Improve students’ mastery of 21st century skills
- Be especially effective with lower-achieving students
- Increase students’ achievement on state-administered, standardized tests

Researchers also would say, naturally, that PBL needs more research, because it has been hard to pin down — so much depends on how it is defined, the particular circumstances in a school, and the quality of classroom implementation.

For more about the research on PBL, including links to specific studies and reprints of research articles, see the research section of the BIE website, www.bie.org.

Schools have used PBL effectively in all grade levels and courses, and for these special purposes:

- Career/technical education programs; continuation/alternative high school programs; after-school programs; summer school
- Integrating two or more school subjects and encouraging team teaching
- Connecting the school to other schools, the community, businesses, and other organizations

A school as whole can help make PBL effective by creating a supportive culture, encouraging collaboration among teachers, providing professional development, and developing school-wide practices and assessments. For more on this topic, see another book in BIE's *PBL Toolkit Series*, the *PBL Guide for School Leaders*.

The Role of the Teacher in PBL

Once teachers feel comfortable with PBL, they usually say they'd "never go back." They see how well it works for their students, and they enjoy the new role they play. PBL allows a teacher to work more closely with students, acting more like a coach instead of the "sage on the stage."

Now, if you *enjoy* being the center of attention in your classroom, you may think PBL is not for you. But don't fret—there are times when you still will be the focus.

Because you know more about the subject, you might still give a lecture, provide a structured lesson, or direct students to resources. Especially in your early projects, you'll still be planning and facilitating much of the work. In future projects as your students are more able to work independently, you may need to plan and facilitate less and less, but you still play a vital role as manager of the inquiry process, assessor of learning, and master of logistics. And if teaching a la PBL feels challenging at first, be assured that your skills will improve over time, as you learn from each project.

We'll say more about your role in the chapters that follow, as it relates to specific steps along the way toward planning and managing a successful project. But first, kick back and let's see what PBL actually looks like in real classrooms.

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PBL Prepares Students for 21st Century Challenges

“Let’s be clear — we are failing too many of our children. We’re sending them out into a 21st century economy by sending them through the doors of 20th century schools.”

— Barack Obama, in a speech at the Center for American Progress

Lots of people are saying the same thing: teaching and learning have to be different in today’s world. Education leaders, business leaders, academics and the authors below sound a similar note:

“Countries like India are now able to compete for global knowledge work as never before — and America had better get ready for this.”

— Thomas Friedman, *The World Is Flat*

“Nations around the world are reforming their school systems... to support the more complex knowledge and skills needed in the 21st century, skills needed for framing problems, seeking and organizing information and resources, and working strategically with others to manage and address dilemmas and create new products.”

— Linda Darling-Hammond, *Powerful Learning*

“Current formal education still prepares students primarily for the world of the past, rather than for possible worlds of the future.”

— Howard Gardner, *Five Minds for the Future*

“There is a profound disconnect between what students are taught and tested on in most high schools today and how they are expected to learn, versus what the world will demand of them as adults and what motivates them to do their best.”

— Tony Wagner, *The Global Achievement Gap*