

# **Project-Based Learning for Gifted Students**

**A Handbook for the  
21st-Century Classroom**

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# *Introduction*



This book is designed to help a teacher turn his or her gifted classroom in a project-based learning environment. There are numerous advantages associated with shifting from traditional learning to project-based learning. For instance, project-based learning:

- allows for more creativity,
- is easily differentiable for students of varying ability levels,
- motivates underachieving gifted students, and
- creates a passion for learning.

Teachers often claim that they cannot incorporate project-based learning into their classrooms because they have to cover specific state and national learning standards. Teachers sometimes lament that they are bound to these learning standards, but these standards can instead be viewed as building blocks from which projects can be built—projects that foster student understanding, rather than rote memorization. When planned and implemented thoughtfully, project-based learning works alongside state and national standards and complements them. This book provides strategies for how to plan projects using state and national standards as guidelines, so that students approach core concepts with new depth and passion.

Chapters 1–3 of this book explain the rationale behind project-based learning. What advantages does project-based learning provide for your gifted classroom? Where, when, and how is project-based learning best implemented? The rest of the book looks at the practical applications of using project-based learning in the gifted classroom. Chapter 4 deals with finding the structure that works best for you. The structure of your project-based learning classroom—how you create and run projects in a way that best fits your teaching style, your students' knowledge and abilities, and your classroom and resources—is the key to project-based learning. Once you have decided on a structure that best matches your and your students' situation, everything else usually falls into place. Chapter 5 discusses how to vary this structure, once you have found it, to adapt to your classroom's needs. Chapter 6



explains how to implement the structure you have chosen, which is greatly simplified after you have already considered your situation and how you might vary the structure as you are implementing it.

Because rubrics are the backbone of the project-based learning classroom, Chapter 7 is devoted to the topic of rubrics, discussing how to train students to use rubrics as a tool for self-empowerment and deeper learning. Chapter 8 addresses the importance of the classroom's physical setup, which can go a long way in terms of making projects run smoothly. The role of the teacher in a project-based classroom is covered in Chapter 9. Whereas in a traditional classroom, the teacher imparts knowledge to a passive audience of learners, in a project-based classroom, the teacher acts as a coach, enabling students to excel and supervising them as they progress. The reproducibles in Appendix A, including rubrics and learning contracts, can be used as they are or adapted to fit your classroom. The lessons in Appendix B provide samples of projects that I have used in my own classroom, with students' work included. You may use these same projects, or perhaps they will provide you with ideas for your own classroom.

Once you commit to project-based learning, you and your students will find it difficult ever to return to the traditional ways of teaching and learning. Having made my own classroom a project-based classroom, I know that I wouldn't have it any other way.

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# *What Is Project-Based Learning, and Why Should We Use It?*

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## INTRODUCTION

In this chapter, project-based learning will be defined, and the elements that comprise project-based learning will be discussed. In addition, the value of using project-based learning in the gifted classroom will be explored. There are many benefits of project-based learning, among which are student independence, student empowerment, and the teacher's ability to tailor projects to the deep and varied needs of gifted students.

## WHAT IS PROJECT-BASED LEARNING?

Project-based learning (PBL) is exactly what its name implies: learning through the process of completing a project over a period of time. A more comprehensive definition is as follows:

projects are complex tasks based on challenging questions or problems, that involve students in design, problem-solving, decision making, or investigative activities; give students the opportunity to work relatively autonomously over extended periods of time; and culminate in realistic products or presentations. (Jones, Rasmussen, & Moffitt, 1997)

This style of teaching and learning is different from more traditional styles, such as teacher-led lectures or reading chapters in a textbook. In the latter methods, the student is *given* the information or skills being taught. The major difference in PBL is that students *discover* for themselves the process of learning. They are provided with the structure, resources, and guidance, but it is their responsibility to figure out how best to learn the material.

Each of these variables has two obvious extremes (e.g., student-led vs. teacher-led). Because each variable is a spectrum, however, you do not have to be at one end or the other. You can be in the middle, a little to the left, a little to the right—wherever you feel will be best for you and your students. Project-based learning is so useful largely because it is so adjustable. The fact that so many combinations exist of variables and placements on their spectrums means—again—that it will take you some time to find the ideal recipe for your classroom.

## TEACHER-LED VERSUS STUDENT-LED

This aspect of PBL concerns how much involvement the teacher has in the day-to-day activities of the projects. If the project is teacher-led, then the teacher is involved in most aspects of the project—providing background information, giving specific direction, or offering direct instruction. This might be a good option for students first being introduced to project-based learning. You certainly don't want to just throw them into the deep end of the pool without any direction. You might suggest products, guide them to particular resources, or arrange for mini-lessons along the way to keep students focused and on track. At the same time, you will eventually want to wean students off of too much teacher-led instruction, or you will risk compromising the independence that students need for effective project-based learning. Once students are familiar with the structure of the project, you can go to the other end of the spectrum and have the students decide for themselves regarding factors such as time allotment, product choice, and resources, or stay in the middle and do a mixture of both.

When I am deciding where on this spectrum a given class will fall, I take into account the amount of prior knowledge that students possess. For instance, I might approach a project concerning Mesopotamia very differently than I would a project about Egypt. Students usually know very little about the cradle of civilization, Mesopotamia, so I might begin the project with a brief lecture on some of the key features of the river valley civilization, or perhaps show a documentary on some of these people's accomplishments, just to get students interested. I might also need to help students by bringing in books from the library concerning Mesopotamia or bookmark some helpful websites, as many online resources concerning Mesopotamia are university- or museum-run and may be above the heads of younger students. However, students typically bring a lot of prior knowledge concerning Egypt to the classroom. They know the staples of mummies, pyramids, the Nile, and pharaohs. So the teacher-led lecture wouldn't be necessary. There are also plenty of student-friendly resources and websites concerning Egypt, so students would need very little guidance where research was concerned.

A good way to gauge students' prior knowledge is through the use of a pretest, an interest inventory, or journaling to unpack their knowledge. Unpacking is simply allotting 15–30 minutes for students to write, sketch, or diagram all of the information they know about the topic. Sometimes students will even surprise themselves with how much they know once they begin thinking about it.

Most effective project-based learning should be on the right side (student-led) of this spectrum. There are exceptions, as mentioned, such as rigorous content or maybe a group of students that shows a lack of maturity or responsibility, requiring more discipline in order