

Matildaville

Evaluating Public and Private Investment Possibilities to
Determine the Best Use of Land

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About the Buck Institute for Education

The Buck Institute for Education (BIE) is dedicated to improving 21st-century teaching and learning by creating and disseminating products, practices, and knowledge for effective Project Based Learning. Founded in 1987, BIE is a not-for-profit 501(c)3 organization that receives operational funding from the Leonard and Beryl Buck Trust, and funding from other education organizations, foundations, schools and school districts, state educational agencies, and national governments for product development, professional development, and research.

Project Based Economics

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Foreword

Students learn more when they care about what they are learning. Students understand concepts better if they see how these concepts apply to the world outside of school. Students retain information longer if they are actively engaged in discussion and demonstration of what they are learning.

These are hardly new ideas, but too much of what happens in American classrooms does not meet this ideal. *Project Based Economics (PBE)* is built upon these principles. It addresses the concepts and content defined by the *Voluntary National Content Standards in Economics*, but does it in such a way that this material becomes meaningful and involving to students. *PBE* reverses the traditional method of “teach the concepts first, then give students the opportunity to apply them.” Instead, *PBE* places students in an interesting scenario with an open-ended problem to solve and asks them to arrive at a justifiable solution using economic concepts. The project thus “pulls” students through the content. The teacher’s role is to clarify, facilitate, and guide, rather than “push” unmotivated students toward the learning objectives.

Additionally, the *PBE* methodology helps teachers build valuable interdisciplinary “21st-century skills” including collaboration, critical thinking/problem solving, and making a presentation. We have found that *PBE* works well for diverse students in a variety of school settings. Research comparing students’ economic knowledge gained from *PBE* versus that gained by students who received traditional instruction has demonstrated that the *PBE* students learn more, and that this difference is statistically significant.

These units were developed collaboratively by the Buck Institute for Education, and the HIRE Center, California State University–East Bay. They have been pilot-tested and critiqued by a group of energetic and insightful teachers throughout California. Although too many teachers have been involved in the development of these units to thank each teacher by name, we are extremely grateful for their time, insight, and contributions to making these units successful. In addition, there have been a number of university professors, staff developers, and school district staff who have contributed to unit development. We have benefited from their observations and suggestions, and offer a collective “Thank you!”

Please visit the Interact website (www.teachinteract.com) to find out about professional development offerings and conference presentations.

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Matildaville

Chapter Four

Purpose and Overview

Time required

4–6 class periods

4–6 class periods



Project scenario

A city, society, or individual is capable of producing some level of economic activity with its current level of resources (land, labor, capital, and entrepreneurship). These resources can be used to enjoy the income from economic activity today or can be invested to increase both productivity and the capacity for income from economic activity in the future. To explore these economic concepts, students are presented with the following problem-solving scenario.

The city of Matildaville has been given some undeveloped land by a wealthy benefactor. The Director of Matildaville's Community Economic Development Agency has asked his economic policy analysts to recommend which entities should operate on the land. The analysts consult a list of possible entities compiled by a citizens group and consider the benefactor's wishes. A sudden financial crisis forces students to focus their criteria for selection more narrowly around short-term economic concerns. Each team of economic analysts is asked to write a report that describes and defends their investment strategy for Matildaville.

Concepts to be learned

To successfully resolve the problem and complete the products required in this project, students need to understand and be able to apply the following economic concepts:

- Economic growth
- Investment (public and private)
- Income
- Multiplier effect
- Interest rates (nominal and real)
- Opportunity costs

Although an understanding of the following economic concepts is not essential to complete project tasks, you can use the unit to explain additional economic concepts including:

- Bonds
- Scarcity
- Crowding out
- Tradeoffs
- Present value
- Uncertainty
- Productivity
- Rate of return
- Public debt
- Tax
- Resources
- Time value of money

Purpose and Overview

NCEE content standards addressed

Matildaville addresses the following Voluntary National Content Standards in Economics codified by the National Council on Economic Education, in partnership with the National Association of Economic Educators and the Foundation for Teaching Economics. For more information see www.ncee.net/ea/standard.

Standard #	Economic Concept
1	Scarcity
2	Opportunity cost
12	Interest rates
13	Income and productivity
15	Investment

● Teaching *Matildaville* ●

Sequence of the unit

Like the other BIE *Project Based Economics* units, students complete *Matildaville* by following a standard set of activities in a proscribed order. But within these activities, there will be variation in the timing and in the way students complete them. The sequence of instructional activities is described below. This sequence is logical, and is based upon extensive pilot testing in high school economics classrooms. It is also informed by research into effective instruction. Although changes may be necessary to meet time constraints, address the needs of specific student populations, or include additional instructional materials and learning opportunities, we strongly encourage teachers to adhere to the sequence of activities as closely as possible—at least during the first several times *Matildaville* is taught. Each instructional activity is discussed in more detail in the following section, the *Step-by-Step Teaching Guide*.

Pre-project planning

0. **Prepare** for successful project implementation.

Launching the project

1. Students receive Entry Document, the **memo from Fred Gonzenbach**, and discuss it as a whole class.

Framing the inquiry

2. Students develop **initial “Know” list** with you (whole-class discussion).
3. Students develop **initial Driving Question** with you (whole-class discussion).
4. Students develop **initial “Need-to-Know” List** with you (whole-class discussion).

Problem-solving and learning activities

5. Students form small groups, receive **second memo and list of entities** and discuss the pros and cons of each (in small groups).
6. Students **revise Know/Need-to-Know List** with you (whole-class discussion).
7. Provide **Clarifying Lesson #1** on multipliers.
8. Students individually write **first Project Log entry**.
9. **Review individual Project Log entries** to assess understanding of economic concepts.

Daily Directions

Step-by-Step Teaching Guide

10. Students receive “Criteria for Evaluating Entities” **table**, and begin making choices (in small groups).
11. **Review** “Criteria for Evaluating Entities” **table** by discussing it as a whole class.
12. Students receive **memo from Mayor John Okada** and review it with you (whole-class discussion).
13. Students **revise Know/Need-to-Know List and Driving Question** with you (whole-class discussion).
14. Provide **Clarifying Lesson #2** on investment, growth, and interest rates.
15. Students individually write **second Project Log entry**.
16. **Review individual Project Log entries** to assess understanding of economic concepts.
17. Students **finalize Know/Need-to-Know List** (whole-class discussion).
18. **Share supplied rubric with students** to guide their work.

Presentation, assessment, and debrief

19. Students **decide upon recommendations and write report** (in small groups).
20. Students **share and discuss recommendations** (whole-class discussion).
21. **Use supplied rubric to assess** reports.
22. Conduct **debrief to clarify and consolidate** students’ understanding of key economic concepts (as necessary).
23. Manage **student reflection** on the 21st-century skills practiced, and the process of learning in PBL.
24. Use supplied **multiple-choice test** to assess individual students’ knowledge of key economic concepts.
25. Make **notes on adjustments to the unit** to improve student learning for the next time the unit is taught.

Step-by-Step Teaching Guide

Each of the above instructional activities is discussed in more depth below, with tips for successful classroom implementation.

Pre-project planning

0. Prepare for successful project implementation.

There are a number of issues that must be considered before embarking on a project with students. These include:

- How much time will be devoted to the project?
- What economics content resources need to be prepared in advance (textbooks, articles, websites, etc.)?
- Do all students have the skills they need to tackle the project—including basic literacy skills as well as the ability to work in teams, make presentations, and conduct research? If not, is it necessary to pre-teach some of these skills, make sure students who need it have adequate support, or deal with these challenges in other ways?
- How will student groups be formed? (See “Manage Small Group Work” in Chapter Two, Teaching Strategies for Project Based Economics.)
- How will groups report on their progress and be held accountable? Do report forms or other tools need to be developed?
- Is it necessary to arrange access to the library/media center or computer lab?
- Do parents or administrators need to be informed about the process of Project Based Learning and be assured that time spent on the project is focused on standards-specific learning goals?

In addition to considering the above issues, be sure student handouts and clarifying lesson/mini-lecture materials are ready—or at least underway.

Launching the project

1. Students receive Entry Document, the memo from Fred Gonzenbach, and discuss it as a whole class.

*The memo from Fred Gonzenbach may be found in the **Student Materials**.*

Have one or more students read aloud the Entry Document while the whole class focuses on it.

Daily Directions

Step-by-Step Teaching Guide

Potential Hurdle

It is essential that the entire class be able to read and comprehend the text. If necessary, employ regular literacy-building strategies.



Economics Content Note

Because the Entry Document does not focus exclusively on economic considerations, students are free to choose entities based on a very general set of guidelines at this point. This intentionally sets up a sudden need to emphasize economics when the financial crisis arises.



The memo can be projected so it can be read by the whole class. Alternatively, copies of the memo can be duplicated and passed out to students, or viewed online as an email or document posted to a website.

Potential Hurdle: As this memo sets up the scenario and the problem to be solved, it is essential that the entire class be able to read and comprehend the text. If necessary, employ the same literacy-building strategies you would normally use for this kind of reading material.

Synopsis of memo: The memo is sent by Fred Gonzenbach, Director of Matildaville's Community Economic Development Agency, to his team of economic analysts. This memo tells students that they are to select the entities to be developed on property bequeathed to the city by a wealthy benefactor, Mary O'Leary. The analysts are told to consider economic potential but also to abide by Mrs. O'Leary's wish to provide the city with cultural and leisure amenities.

Economics Content Note: Because the Entry Document does not focus exclusively on economic considerations, students are free to choose entities based on a very general set of guidelines at this point in the project. This initial focus on noneconomic considerations is intentional—it sets up a sudden need to emphasize economics when the city faces a financial crisis.

Framing the inquiry

2. Students develop the initial "Know" list with you (whole-class discussion).

Students must now assess what they already know about the problem posed in the Entry Document. This should be done as a whole class by creating a "What Do We Know?" list on chart paper, or a computer projector. Ask students to carefully review the Entry Document and offer items for the list, making sure to *only record what is in the text, not what might be inferred*. Students should be coached to identify all of the information that the Entry Document provides. They should conclude that this information is insufficient to solve the problem, and they need to know (learn) additional things.

Example of initial Know List

What do we know?

- Mrs. O'Leary died and left us 96 acres
- The land was her grandfather's and his mansion was never rebuilt
- Each entity can be developed in ont to two years
- City population is about 250,000; the area is 1 million

Economics Review

Multiplier Effect

The “multiplier effect,” or multiplier, causes a curious feature in local and national economies. A \$15 million change in investment spending, for example, can lead to an approximately \$60 million change in the output-aggregate income level because spending increases in the current period create economic opportunities for even greater spending increases in subsequent periods.

The multiplier is the ratio of a change in the local economy, or Gross Domestic Product (GDP) at the national level, to the initial change in investment spending that, in our example, causes a change in real income for Matildaville. The multiplier is based on the “fact” that the local economy is characterized by repetitive, continuous flows of expenditures and income through which dollars spent by an individual are received as income by another. This means that any change in income or investment spending will cause both consumption and saving to vary in the same direction. It follows that an initial change in the rate of spending in Matildaville will cause a spending chain reaction which, although of diminishing importance at each successive step, will cumulate to increase income in the City. Thus, because of the multiplier *a relatively small change in the investment plans of business (or the City) can trigger a much larger change in income to Matildaville (or GDP at the national level)*. The formula is:

$$\text{Multiplier} = \frac{\text{change in real income for the City}}{\text{initial change in spending or investment}}$$

Note that income for the City, in this case, includes both public and private income. It is equivalent to GDP (= C + I + G) at the national level.

For example, in Matildaville the workers employed at the ThetaMax Weapons Factory, the Sluggers, etc., will receive wages for their efforts. Part of this money (approximately 0.75) will be spent within the City of Matildaville. This spending will generate growth in employment in another sector of the economy, which will generate increased employment and wages and regenerate the cycle. If the marginal propensity to consume (MPC) in Matildaville is 0.75, the initial expenditure of income by a business will generate four times that amount ($\frac{1}{1-mpc}$) in Matildaville’s aggregate income. Remember, MPC is the amount that consumers will spend of an additional dollar that they receive.

Note that the reverse is also true. When Banks took money out of Matildaville’s economy, the loss became greater because the decrease in income gives rise to a much larger decrease in economic activity through the multiplier.