



# OVERVIEW OF PROJECT BASED LEARNING

## WELCOME

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If you're new to project based learning (PBL), looking for a refresher, or just looking for some ready-made PBL resources, you're in the right place!

The lessons in this series are designed to help you prepare a PBL experience for your students; manage the experience to ensure that every learner is actively participating; set up the presentations of learning; and, finally, use your students' feedback on the process so that you can hone your skills as a PBL educator.

## WHAT IS PBL?

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PBL is an inquiry-driven process which requires active learning. It is both a *heads-on* and *hands-on* learning experience for students.

Students are presented with a real-world problem to be solved in the form of a driving question and, in the quest to find an answer, they conduct research and learn about the surrounding issues. Then, in role-specific teams, they prepare a presentation of their researched solution including their supporting evidence.

Students rehearse their presentations in front of their peers (which serves as a *jigsaw* approach to collaborative learning) and, using a critical friends protocol, improve their presentations based on peer feedback. Final presentations take place in front of an audience which could include school/district administration, parents, press, and/or professionals employed in related fields.

## HOW IS IT DIFFERENT?

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Traditionally, projects are usually assigned after the "real-learning" happens as a curricular add-on. They are like a reward (think dessert) and are enjoyable, hands-on experiences that usually end with the creation of a school-world work product (like a macaroni sculpture of the Roman Colosseum). Assessment of curricular outcomes is completed by the teacher.

PBL, on the other hand, includes both the learning and the final real-world work product (the main course and the dessert). It is completed as a team and includes assessment of:

- the process,
- the final presentation of the learning,
- curricular outcomes (often from two or more subject areas), and
- the NB global competencies.

Formative and summative assessment is provided by the teacher, student peers and the presentation audience.

## LESSONS IN THIS SERIES

- ➔ Overview of Project Based Learning
- Getting Started
- Balancing the Assessment
- Teamwork Tips
- Managing the PBL Experience
- Wrapping Up

## ABOUT THIS SERIES

Throughout this series, a fictional narrative, *Lynn and Chuck's Excellent (PBL) Adventure*, tells a PBL story from its inception to its conclusion. Please feel free to adapt the resources and ideas from the story for your own PBL adventure!

## THE SEVEN Cs OF PBL

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PBL is based on providing instruction and assessment of the mastery of course **curriculum** outcomes and the NB global **competencies**. Students work **collaboratively** to solve real-world problems that are **current** and, where possible, have impact on their **communities**. Most often, students are **connected** with professionals who are doing similar work which verifies the relevance of what they are learning. Finally, and best of all, the PBL experience is **cool!** Most students enjoy the experience of active learning once they get the hang of it, and are excited and proud to present their learning to the world.

## PBL IN NEW BRUNSWICK

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The following are a few summaries of PBL experiences from across New Brunswick.

High school students in an Environmental Science 120 class were presented with the driving question of "How can our school reduce our carbon footprint?" While meeting learning outcomes in Environmental Science, English, and Information Technology, teams of students brainstormed possible answers, conducted research to learn about the issue and help form their responses, and prepared a PPT presentation of their recommendation complete with long term projections. Each team came up with a different idea for reducing the school's carbon footprint which they presented to each other during rehearsals and to district and school officials during final presentations. While all teams came up with creative, well-researched solutions, one team's recommendation stood out as particularly innovative. They discovered that electric lighting in classrooms could be significantly reduced simply by painting the walls and ceiling with semi-gloss paint to increase the lumens per square foot on their desks - a relatively low investment with the potential for huge long-term savings and a lowered carbon footprint!

An elementary class were presented with a driving question of "What makes soil healthy enough to grow a vegetable garden?" Learning outcomes in literacy, numeracy and science were met when students learned about testing soil Ph levels, plant placement and spacing, companion vegetables, composting, etc. Each team made a scale drawing as their presentation. The class then decided which team's plan to use, started the plants indoors in early spring, and then spent many productive healthy hours outside doing the prep work and planting.

A middle school MSTE class had a PBL experience with the driving question, "What is the history of our community?" while meeting outcomes in MSTE, social studies and literacy. Each team partnered with a resident in a nearby senior citizens home who provided primary source evidence of the community's involvement in WWII, business and industry over the years, what life was like when the seniors were young teens, etc. Student teams prepared interview questions and videoed the seniors' responses. Tri-fold display presentations along with the videoed interviews were displayed in the senior citizens lobby and the school. As an added bonus, some students taught their senior partners how to use email!

“ “ Children become better problem solvers in direct relation to the opportunities they have to solve problems and to reflect on what works and what doesn't.

Real-world problems do not come neatly packaged with predictable, easy-to-solve answers, so we need to provide students with experience in grappling with problems that mirror the world beyond school. ” ”

Willard Daggett

For more information on the model for PBL used in this series (and more PBL examples and resources), please see the Buck Institute for Education's [PBLworks web page](#).

## LYNN AND CHUCK'S EXCELLENT (PBL) ADVENTURE

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Lynn is a teacher at Memorial High School. She is teaching Personal Development and Career Planning for Grade 10 this semester.

Lynn has just heard from yet another former student who has moved to another province for employment. She finds it discouraging and depressing that so many of NB's youth are moving away. She wonders what is being done about it and consults Google to find out.

Lynn discovers that NB has one of the oldest populations in Canada which mean serious labour shortages in coming years. She finds a report from 2007, [Be our future: New Brunswick's Population Growth Strategy](#). On page 10, the first few lines of a sidebar called *A Vision of New Brunswick in 2026* caught her eye:

Imagine a child born today who will be 19 in 2026. What is going to influence that person to stay in New Brunswick?

As she thought about that for a moment, it suddenly occurred to her that most of her grade 10 students were born around 2007. **They are the children envisioned in this sidebar.** And just like that, an idea for a PBL experience was born!

Lynn is excited about the connection of this problem to her curriculum. Over coffee in the staff room at lunch time, she explains her PBL idea to her colleague, Chuck, an ELA teacher. Chuck, who is teaching ELA 10 this semester, knows a good PBL opportunity when he sees one, and he wants in. As luck would have it (and remember, this is a fictional narrative 😊), Chuck and Lynn have the same students, their classes are back to back on the schedule, and their prep periods are when the other teacher would have the same class.

They start planning the PBL experience.

To be continued....