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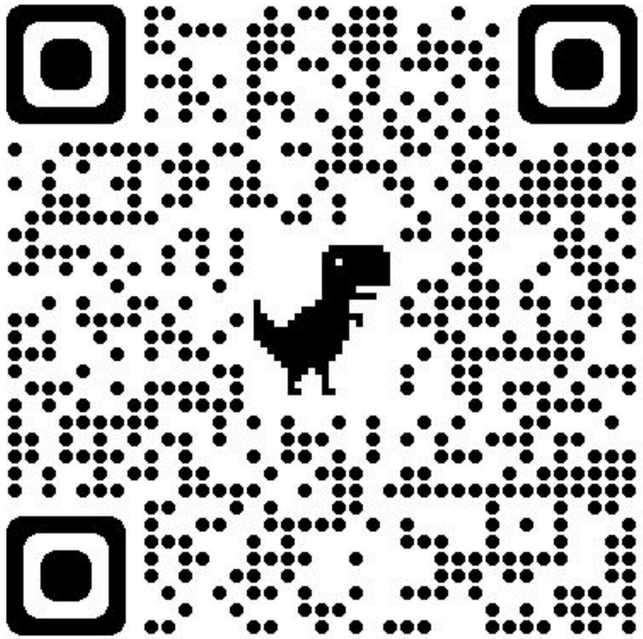
Promoting Project-Based *Learning* For The Future

Barhum Asad

Project-based learning (PBL) is a teaching method that works!
Understand what it is and how to easily implement it in your class.

KWL

Activity



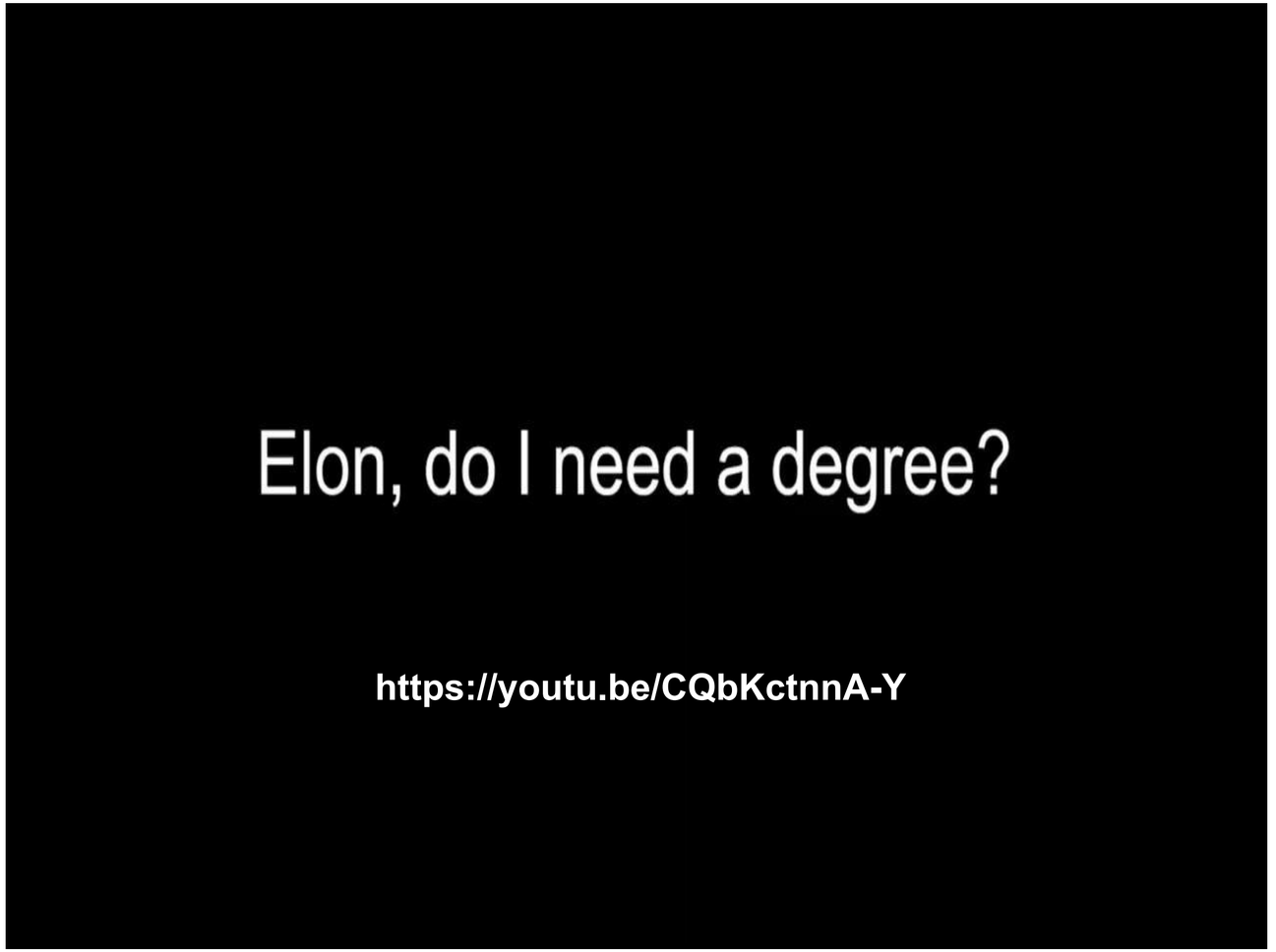
- On a scale of 1 to 10, what is your level of PBL understanding?
- What do you think when somebody mentions PBL?
- What do you expect to learn from this session?

Workshop Outcome

The session will help the participants to:

- Get a deeper understanding of what **Project-Based Learning (PBL)** really is
- Getting hints and tools to motivate students and boost their key competencies.
- Confidently implement PBL in classes and/or school communities.
- Create detailed, effective, manageable PBL lesson plans.

Do I Need a Degree?



What is Project-Based Learning?

Project-based learning (PBL) is a teaching method in which students gain knowledge and skills by working for an extended period of time to investigate and respond to an authentic, engaging, and complex question, problem, or challenge.”

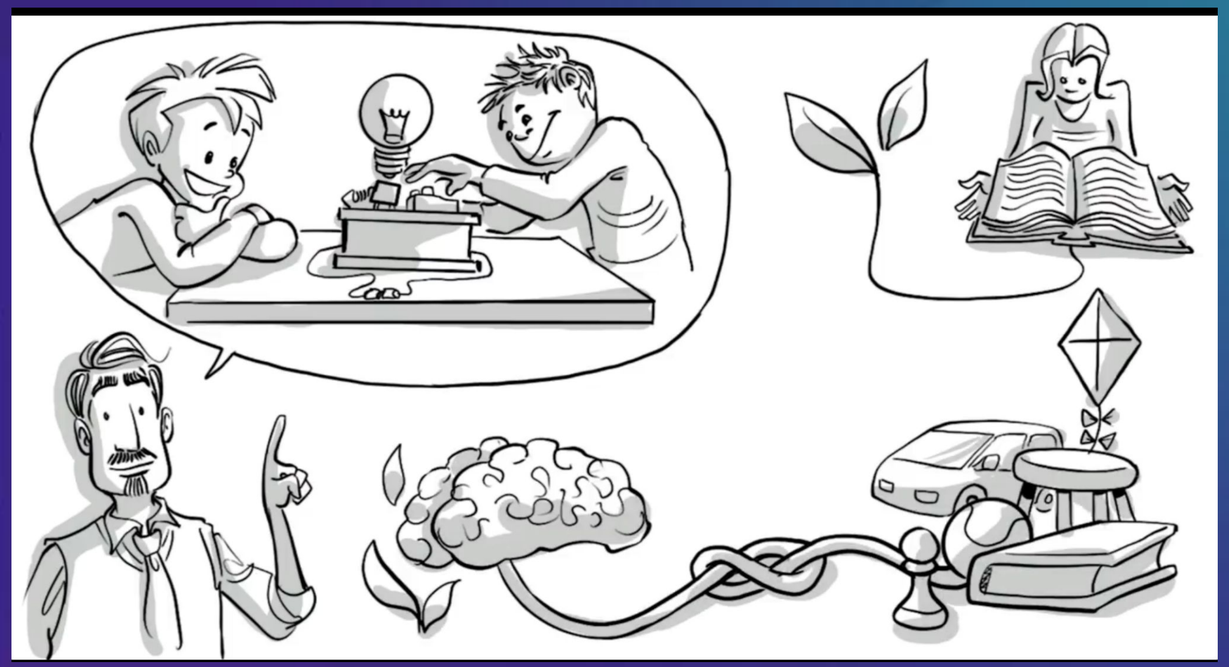
Buck Institute for Education (BIE)

Project-based learning (PBL) encourages students to develop critical thinking, problem-solving, collaboration, and communication skills by working on real-world challenges.

What is Project-Based Learning?

“Project-based learning promotes students’ intellectual development by engaging their minds in observation and investigation of selected aspects of their experiences and environment, ideally those aspects worthy of their attention and energy”.

(Katz and Chard, 2)



What is Project-Based Learning?
(Hands-on & Minds on)

If knowledge comes from the impressions made upon us by natural objects, then it's impossible to procure knowledge without the use of the objects which impress the mind.

- According to the Buck Institute for Education (BIE), PBL has its roots in experiential education and the philosophy of John Dewey.
- The idea was made popular by the educational reformer John Dewey in 1916.
- He claimed that students learn more if they are interested in the subject, and recommended learning by doing or learning by solving a problem.
- Dewey further stressed the importance of the connection between life and the objects we are studying.
- We don't ask kids what they want to be when they grow up, rather ask what problems they want to solve when they grow up.

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Project-Based Learning Explained

https://www.youtube.com/watch?v=LMCZvGesRz8

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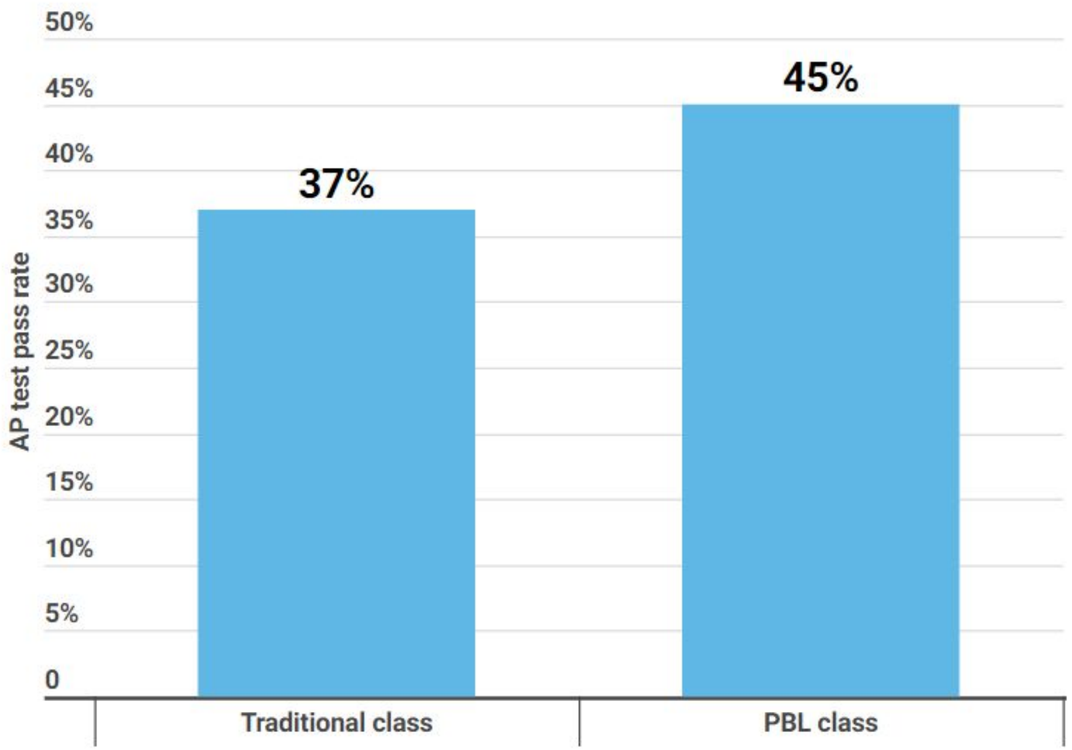
PBL Improves Advanced Placement Pass Rates

In a new gold-standard study of 3,645 students in five school districts, students in project-based learning AP classes outperformed those in traditional AP classes, improving test pass rates by 8 percentage points.

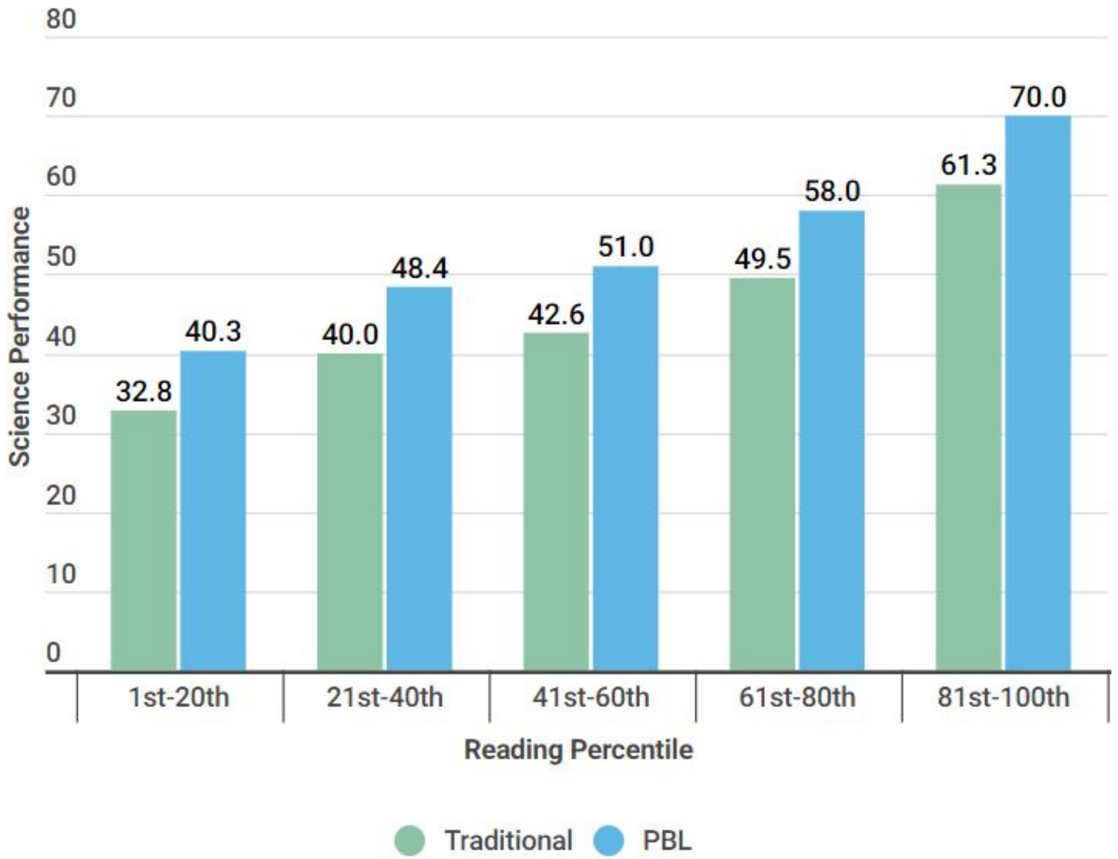


Source: Saavedra et al., 2021

- A study in 2021 showed that PBL students perform better than traditionally taught students.
- The finding indicates that projects were superior when it comes to long-term retention, skill development, and satisfaction of both students and teachers.
- It's a powerful way to learn things and remember them for a long time.
- PBL activities allow students to develop deep knowledge.
- It also supports the development of 21st-century skills such as critical thinking, collaboration, **creativity**, and communication.

PBL Boosts Science Learning—Even Across Reading

In a new study of 2,371 third-grade students, PBL raised average science test scores. Looking more closely, the data revealed that students at all reading levels outperformed their counterparts in traditional classrooms.



Source: Krajcik et al., 2020

Clarify Misconceptions: What PBL is not!

According to professor Pam Grossman, Dean of the graduate school of education at the university of Pennsylvania stated that, “this approach to learning (PBL) suffers from a wide range of misconceptions, mostly because no one has really agreed what PBL is and suggested a few examples of how to do it well.

“PBL is not the “dessert” at the end of the meal”
(Larmer & Mergendoller, 2011)

- In a usual project, students only become active at the end of a lesson, unit, or module, when they are asked to produce a certain kind of product.

- **In PBL, learning happens during the entire lesson, unit, or module. This means that content and competencies are actively acquired by students throughout the whole process.**

- **In PBL, students work on the creation of a product that tackles a specific, real, and/or problematic issue, whose practical solution can also be useful to the community.**

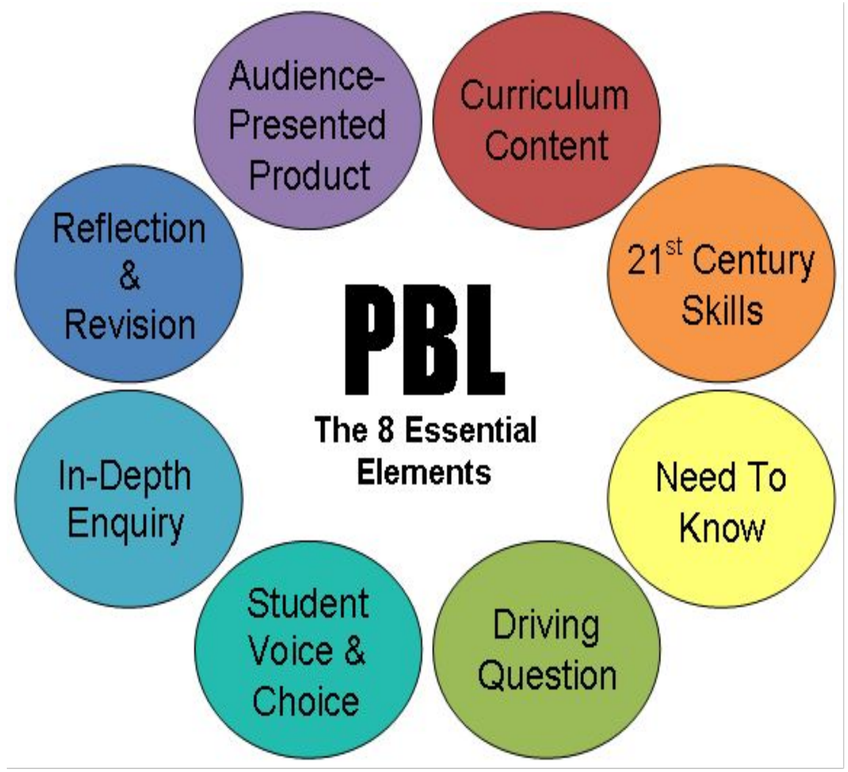
PBL is not inquiry based where students are investigators
(PBL vs Inquiry-Based Learning)

- In Inquiry-Based Learning, students carry out some research and look for information related to a certain question (which can lead to extra questions) and the activities reach their end when the findings are presented.

- **Pearlman (2006) claims, “PBL puts learners into a students-as-workers setting where they learn collaboration, critical thinking, written and oral communication, and the values of the work ethic while meeting state or national content standards.”**

- **In PBL students are problem-solvers, creators, designers, and builders.**

PBL Features & Elements



Need To Know — Activate students' "need to know" content with an entry event such as a guest speaker, a lively discussion, or a video that sets up the scenario. Initiate questioning to motivate students.

Driving Question — Provocative, open ended, challenging/complex, real-world situation, consistent with the curriculum standards and framework, and linked to what you want students to learn.

Voice & Choice — Collaboration, Communication, critical thinking, and the use of technology.

Reflection & Revision — Use rubrics and monitoring as well as peer feedback.

Audience Presented Product — Publicly presented product.

Teachers and Students Roles

Teachers	Students
Topic Selection	Topic Selection
Facilitator/Advisor	Work in collaborative groups
Provide help, expertise, specialised resources,etc.	Self managers: Find resources, conduct research, accountability, etc.
Feedback, review and reflection	Ask thought provoking questions Ask for assistance.

Group Activities

Participants are required to select one of the 3 PBL scenarios shown on the next few slides and will be expected to work in small groups to answer the following questions:

Identify the subject areas or the curriculum outline from your chosen PBL scenario.

Formulate a driving question from the scenario.

Create a rubric to assess and guide students through the key stages of the PBL.

Be able to explain and apply the 8 PBL elements throughout the project of your chosen scenario.

Creating a community garden

Students can collaborate with their community to design and build a community garden. They can research and plan the garden, prepare the soil, plant and maintain the crops, and organize events to promote community involvement.

Investigating a local environmental issue:

Students can investigate a local environmental issue, such as air or water pollution, and develop a plan to address the issue. They can research the causes and effects of the problem, conduct experiments to gather data, and propose solutions to the community.

Designing a sustainable housing complex

Students can work together to design a sustainable housing complex that is energy-efficient, environmentally friendly, and affordable. They can research and test different building materials, energy sources, and design strategies to create a complex that meets the needs of the community.

AIS Grade 6 School Project

Explain The Relationship Between Potential And Kinetic Energy In a Rocket System

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How was the session?

https://docs.google.com/forms/d/1ah9OmeGIdUVWikeiU52oDlfrnXwj4f90soS3hhmZi_U/edit

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