

Interdisciplinary Project-Based Learning (PBL)

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Speaker

Interdisciplinary Project-Based Learning (PBL)

Terminal Objective:

By the end of this session, participants will be able to design and implement an Interdisciplinary Project-Based Learning unit that effectively integrates multiple subject areas and promotes comprehensive, real-world learning experiences.

Enabling Objectives:

1. Participants will be able to explain the concept of Interdisciplinary Project-Based Learning and how it differs from traditional learning methods, demonstrating an understanding of its benefits and challenges.
2. Participants will be able to identify and describe the key components of Interdisciplinary Project-Based Learning, including project planning, execution, assessment, and reflection.

3. Participants will be able to develop a practical Interdisciplinary Project-Based Learning unit plan that integrates multiple subject areas, aligns with curriculum standards and objectives, and promotes critical thinking, collaboration, and real-world application.

Project-Based Learning

Project-based learning (PBL) is a teaching strategy that emphasizes learner-centered instruction, collaborative problem-solving, and real-world application.

Interdisciplinary Project-Based Learning (PBL)

Interdisciplinary project-based learning (IPBL) is a variation of PBL that integrates multiple disciplines and perspectives in solving real-world problems or creating original products.

Understanding Project-Based Learning

PBL involves a student-centered approach to learning, emphasizing active and experiential learning. Students engage in collaborative projects that require the application of skills, knowledge, and understanding toward a specific goal. PBL projects can be based on real-world problems, or they can be designed to develop specific skills or subject-specific concepts. The emphasis on real-world application makes PBL an effective teaching strategy for developing subject-specific concepts.

Benefits of PBL in Teaching Subject-Specific Concepts

- ❖ Improved retention of subject-specific concepts: PBL enables students to develop a deeper understanding and retention of subject-specific concept. When students engage in real-world situations, making learning more meaningful and relevant.

Benefits of PBL in Teaching Subject-Specific Concepts

- ❖ Development of critical thinking skills. PBL requires students to think critically and solve problems collaboratively, encouraging them to think beyond rote memorization of facts.
- ❖ Development of creativity. PBL encourages students to think outside the box and develop creative solutions to problems, enhancing their creativity and ability to innovate.

Benefits of PBL in Teaching Subject-Specific Concepts

- ❖ Enhance communication skills. PBL promotes communication and collaboration, essential skills in today's world, and leads to greater confidence and a sense of empowerment among students.
- ❖ Preparation for the workforce. PBL projects enable students to develop the essential job skills employers are looking for such as critical thinking, problem-solving, communication, and collaboration.

Strategies for Developing Effective PBL Projects

- ❖ Start with clearly defined learning objectives. Identify the subject-specific concepts that you want your students to learn, and use these are the basis for your project.

Strategies for Developing Effective PBL Projects

- ❖ Foster collaboration and teamwork: encourage students to work collaboratively on projects, developing their communication, collaboration, and teamwork skills.
- ❖ Provide feedback and reflection: offer feedback and reflection opportunities throughout the project to help students improve their skills and learning.

Strategies for Developing Effective PBL Projects

- ❖ Choose a real-world problem or scenario: Select a problem or scenario that is relevant to your students' lives or interests, and that requires the application of subject-specific concepts.
- ❖ Incorporate authentic assessments: Design assessments that mimic real-world scenarios and require the application of subject-specific concepts.

Strategies for Developing Effective PBL Projects

Key Principles of Learner-centered teaching philosophy

1. Active learning
2. Personalization
3. Collaboration
4. Inquiry-based approach
5. Feedback and reflection
6. Flexibility and choice
7. Respect and inclusivity
8. Lifelong learning

Strategies for Developing Effective PBL Projects

Example of PBL

- ❖ Planning a garden that meets specific design objectives, then plant and tend the garden. At the end of the growing season, iterate the design to improve it for the next season based on how the garden was or was not successful in meeting the objectives.

Project-Based Learning

Implementation in schools leads to increased student engagement, motivation and academic achievement



Interdisciplinary Project-Based Learning (PBL)



Project-based learning (PBL) has the potential to transform education.

Interdisciplinary Project-Based Learning (PBL)

It is grounded in the constructivist approach to education, founded by John Dewey and William Kilpatrick, in which learning is hands-on and active.

Students are at the center of instruction and engage in answering driving questions or finding solutions to relevant, real-world problems.



Interdisciplinary Project-Based Learning (PBL)

Students work towards developing solutions to *driving questions* or *compelling problems* in this highly creative and innovative learning process.



Interdisciplinary Project-Based Learning (PBL)



Student collaboration and teamwork are essential elements.

Often experts in relevant career fields work side-by-side with students and teachers.

Interdisciplinary Project-Based Learning (PBL)

Teachers facilitate the inquiry process, assisting students in further developing their content knowledge and skill acquisition in order to solve authentic problems.



Interdisciplinary Project-Based Learning (PBL)

In PBL classrooms, the process is as important as the final product.

“Mistakes” often lead to innovation.

Students learn to become reflective thinkers.



Interdisciplinary Project-Based Learning (PBL)

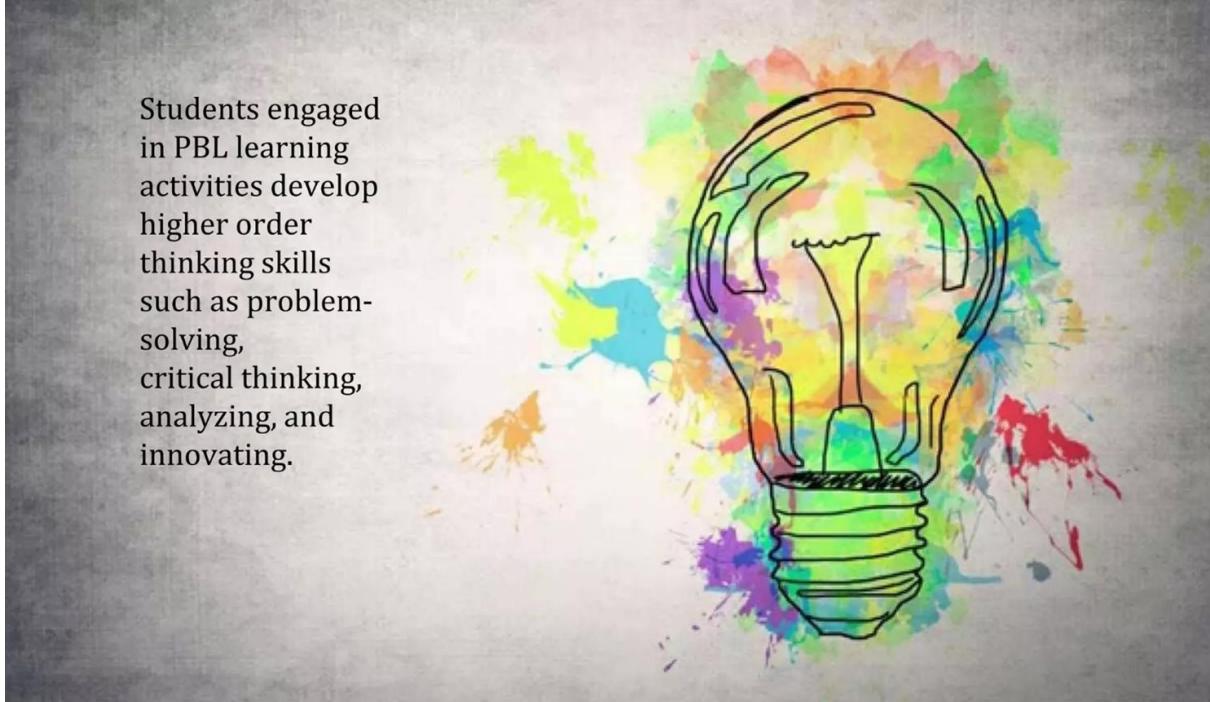
Formative assessments are ongoing and varied in PBL classrooms.

Learning is differentiated and personalized.



Interdisciplinary Project-Based Learning (PBL)

Students engaged in PBL learning activities develop higher order thinking skills such as problem-solving, critical thinking, analyzing, and innovating.



Interdisciplinary Project-Based Learning (PBL)



Reading, writing, and research are integrated into the learning process.

Interdisciplinary Project-Based Learning (PBL)



The connections that are found between academic disciplines and between school and the outside world **engage** and **motivate** students. Students *want* to learn more.

High motivation in school is directly linked to increased academic achievement.

Interdisciplinary Project-Based Learning (PBL)

Students who are engaged in learning see meaning in it and want to know more and achieve at a higher level.

Project-based learning can increase cognitive development in ALL students.



Interdisciplinary Project-Based Learning (PBL)

The answers to driving questions or solutions to compelling problems are as varied in a PBL classroom as they are in the 21st century global society.



Interdisciplinary Project-Based Learning (PBL)



Students showcase their finished projects to a larger, community-based audience

Interdisciplinary Project-Based Learning (PBL)



Creativity and innovation are prized in this constructivist pedagogy.

And in a Global Society.



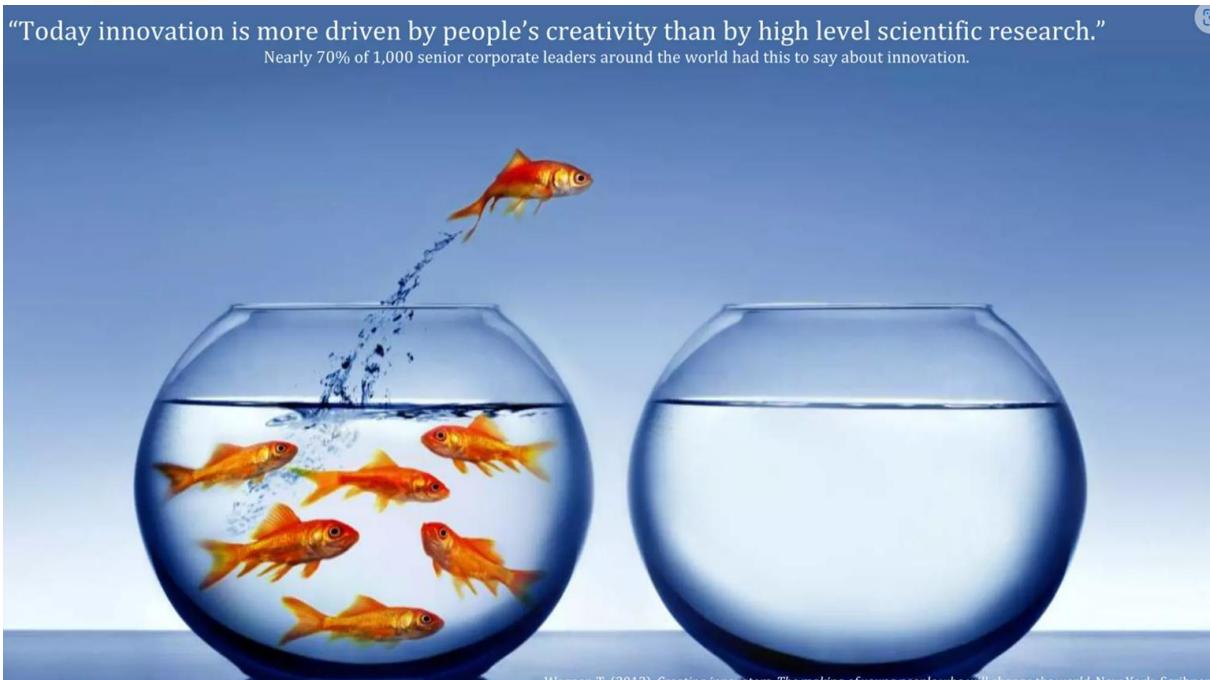
Innovation is the ability to
see change as an
opportunity – not a threat.

Steve Jobs

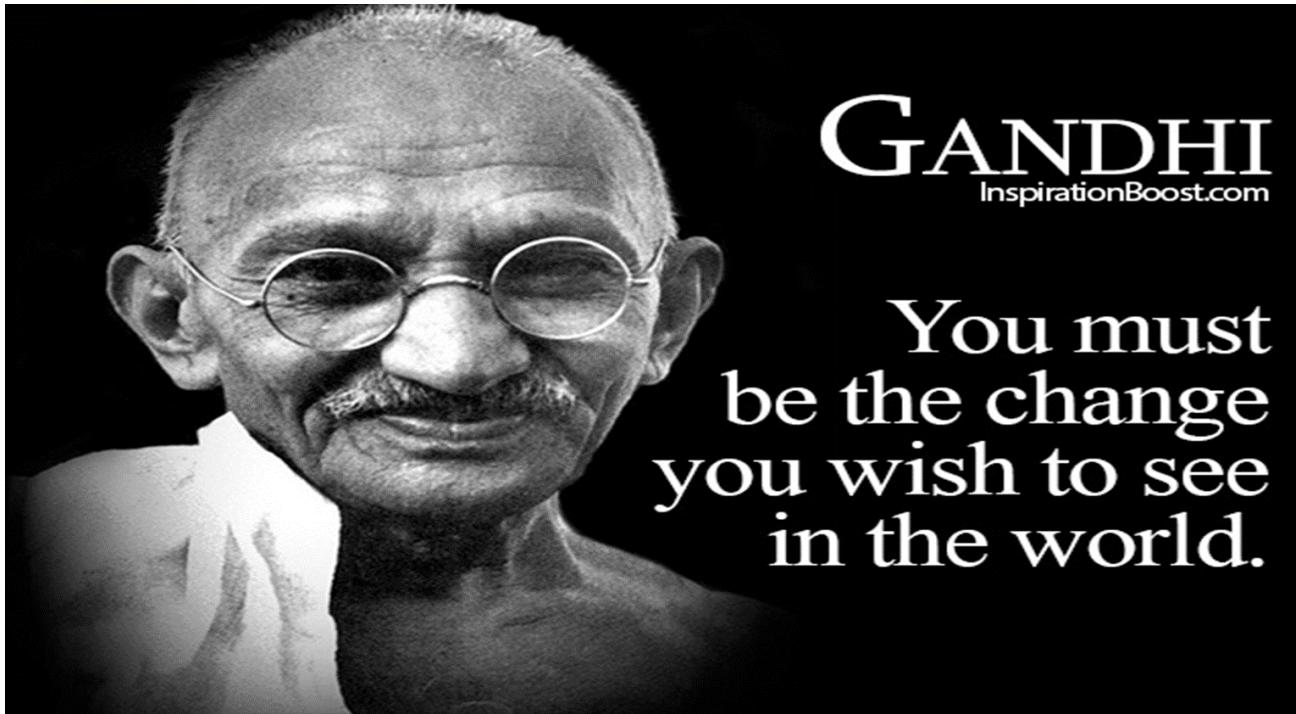
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Interdisciplinary Project-Based Learning (PBL)

“Today innovation is more driven by people’s creativity than by high level scientific research.”
Nearly 70% of 1,000 senior corporate leaders around the world had this to say about innovation.



Wagner, T. (2012). *Creating innovators: The making of young people who will change the world*. New York: Scribner.



Thank You!



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