
What is Problem Based Learning? PBL

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Your Experience

What most interests you about
PBL?

In small groups of 4-6

- Introduce yourselves.
- Discuss the question ~5 min



Overview

1. What is PBL?
 2. How do you do it?
 - Try a case!
 3. Should you use it or not?
-

Active and Self-Directed Learning

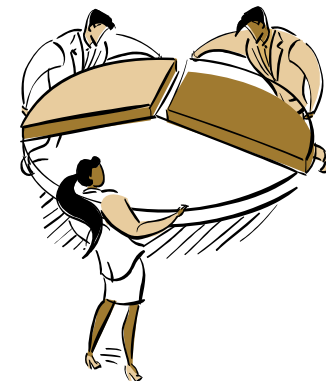
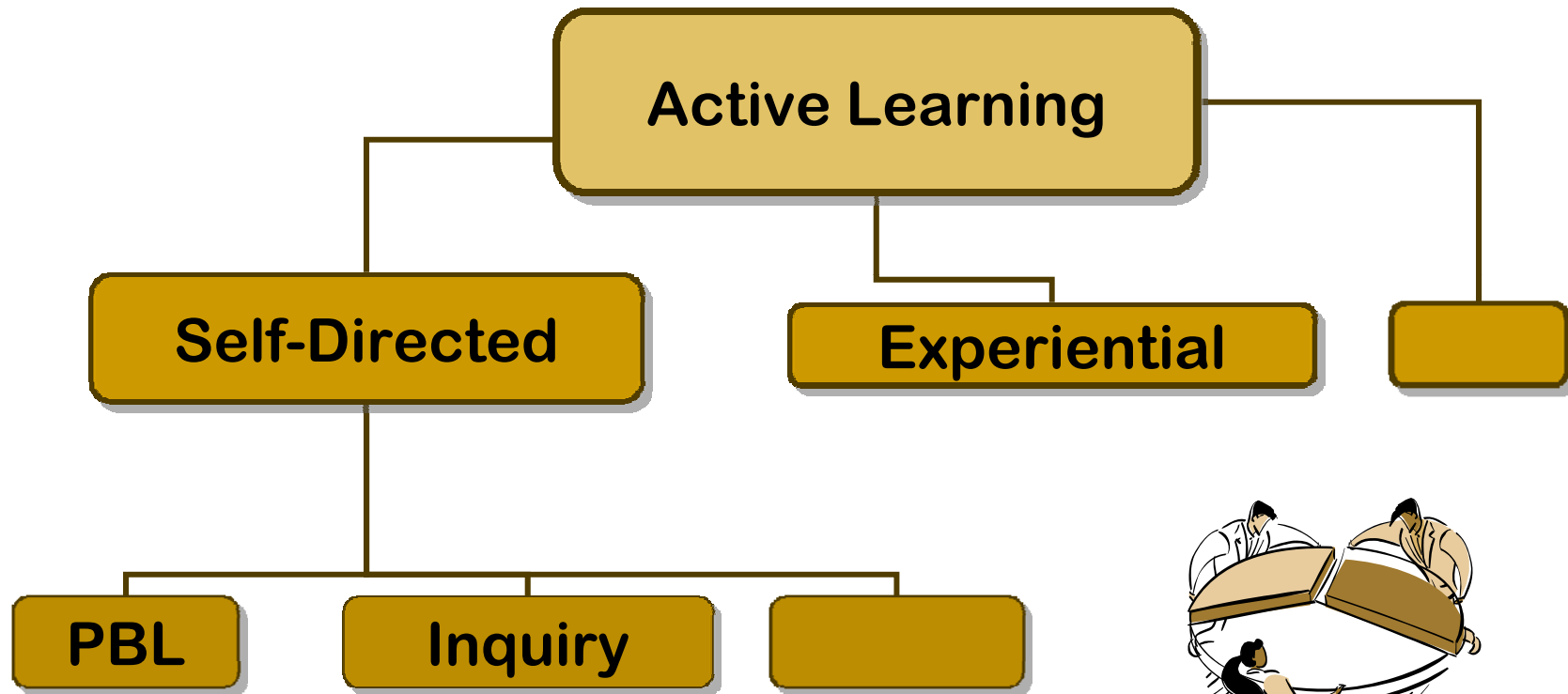
Active Learning

- Students **participate** in the learning process, are **mentally active** (Cameron, 1999).

Self-Directed Learning

- Students take **initiative** and **responsibility** for directing their learning (Knowles, 1975).
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Teaching Methods



What is PBL?

- Students decide what to study based on a problem case or ‘trigger’

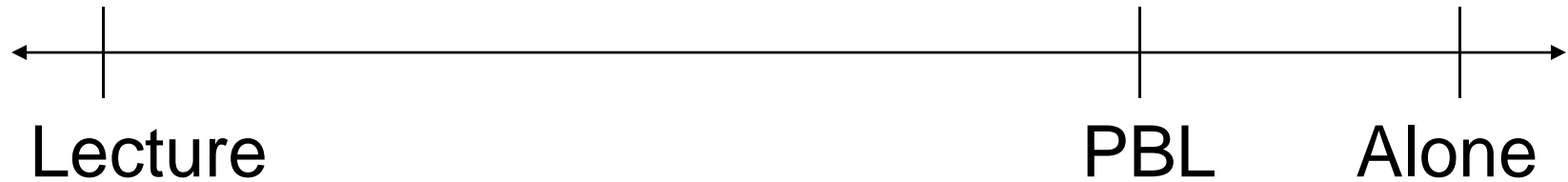
(David, Patel, Burdett, Rangachari, 1999)

- Usually groups of 6-10
 - Content objectives and skill objectives
 1. Ask questions
 2. Find answers (research)
 3. Synthesize answers (analysis, synthesis)
 4. Communicate findings (oral, written)
 5. Self-evaluation and peer-evaluation
-

Teaching Methods

Teacher Directed

Self-Directed



Lecture

PBL

Alone

How do you do it?

First Class

- Read case
- Identify questions / issues

Individually

3. Research to find answers

Second Class

4. Discuss and share findings
 5. Evaluate
-

Roles in PBL

Student

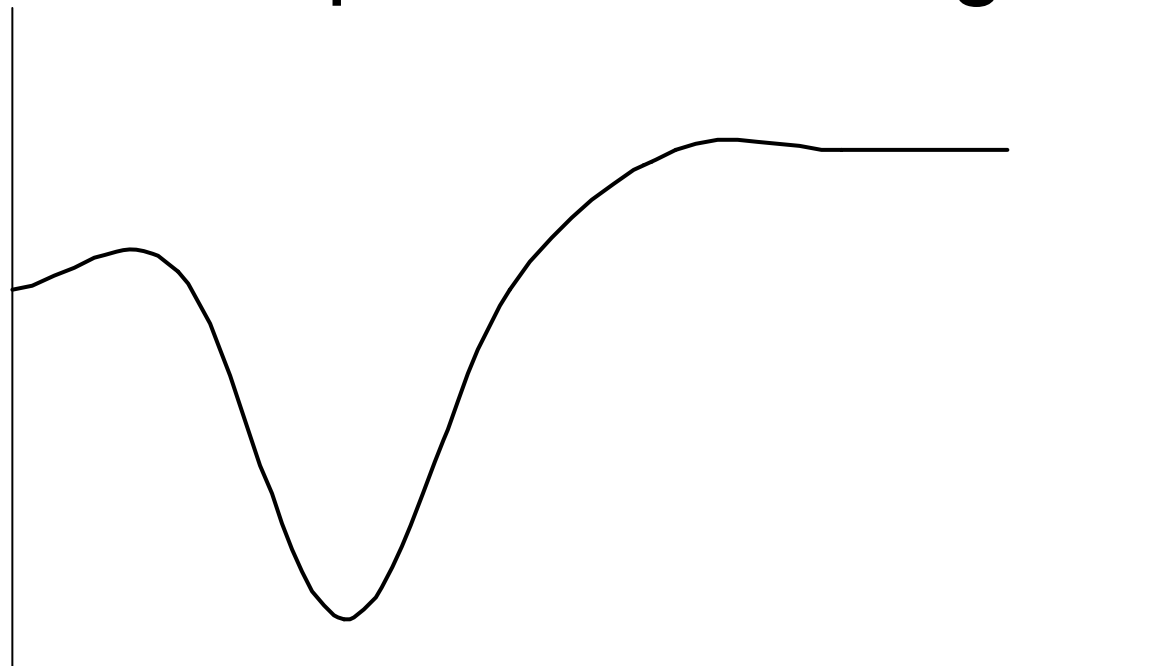
- Responsible
- Ask questions
- Find answers
- Communicate
- Collaborate
- Self-Evaluate
- Peer Feedback

Facilitator

- Course Objectives
 - Develop problem
 - Prepare students
 - Facilitate dynamics
 - Challenge students
 - Balance guidance
 - Feedback/Evaluate
-

Common Reactions

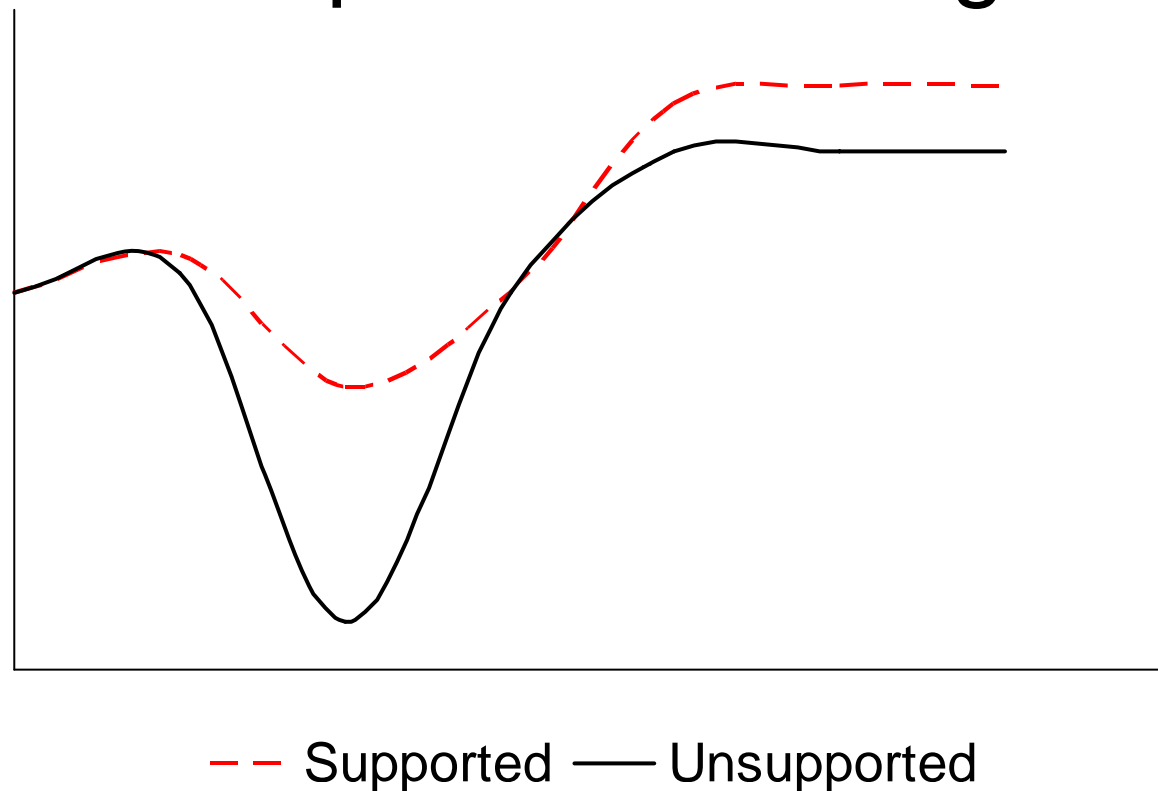
Response to Change



— Unsupported

Common Reactions

Response to Change



Adapted from Woods, 1994

Why do PBL?

Why might you use PBL?

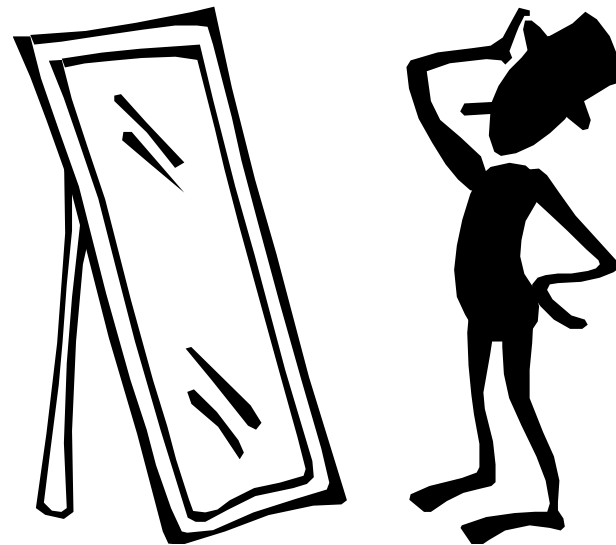
- Talk to the person next to you
~ 2 min



Preparing Students

What have we done so far?

- Think individually.



Preparing Students

- Group dynamics and collaboration
 - Meet each other
 - Find out student expectations
 - Set group norms for participation
 - Explain PBL
 - why using it
 - process and roles
 - Possible reactions to PBL
 - Evaluation expectations: Collaboration
-

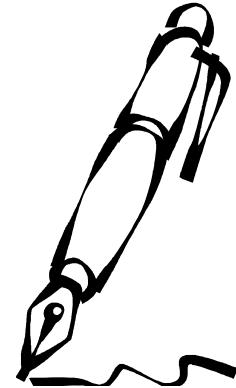
Sample Case: Issues

In your groups

1. Read the case
2. Identify issues/questions (on chart paper) that you need to know more about, in order to understand the problem better.

Take ~ 10 minutes

3. You will have some time to look for answers after.



Sample Case: Research



Find some answers to a question.

- You may do this individually or as a group.
- Possible Resources
 - Articles: here, library
 - People: ex. those who have tried PBL, librarians
 - Online Resources: ERIC, Google scholar, Medline

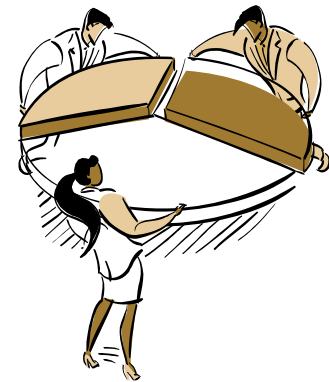
Take ~ 20 minutes

- You will have time to share your answers in your group when you get back.
-

Sample Case: Discussion

1. Teach each other what you have discovered.
2. Record some key findings on chart paper.

Take ~ 10 minutes



Sample Case: Reflection

- What was difficult in the process?
- How did you feel?
- What strategies worked that might help others?
- How would you change the process?
- What were your strengths and weaknesses?
- What should each group member
 - continue doing?
 - change to improve for next time?
- What were the key content points you learned?
- What surprised you?



How do you do it?

First Class

- Read case
- Identify questions / issues

Individually

3. Research to find answers

Second Class

4. Discuss and share findings
 5. Evaluate
-

How do you do it: Evaluation?

Alignment:

Objectives ↔ Method ↔ Assessment

- 1) Process: research, collaboration, discussion
- 2) Skills: evaluation, synthesis, etc.
- 3) Content Objectives
- 4) Balance group and individual performance

How do you Evaluate?

Common Methods

1. Written summaries for each case
2. Discussion contributions
 - Peer-Evaluation
 - Self-Evaluation
 - Facilitator Evaluation
3. Final Essay
4. Triple-Jump: Individual PBL, in class writing

How do you do it: Problem Design

- Build in content objectives
 - Engage Interest: real
 - Format: written short, long, simulation
 - Require more than one issue
 - Some issues are open-ended
 - Information: not all provided
 - Difficult to divide: collaboration
-

Should you use it?

Research Evidence

- Conflicting evidence
- Often equal test scores (Multiple choice prep)

Student Skills

- objectives

Work Load

- Time consuming for faculty and students

Faculty-Student contact

- High opportunity for reward
-

7 Principles of Good Teaching

1. Encourages contact between students and faculty.
2. Develops reciprocity and cooperation among students.
3. Uses active learning techniques
4. Gives prompt feedback.
5. Emphasizes time on task.
6. Communicates high expectations.
7. Respects diverse talents and ways of learning.

Should you use it?

Alignment:

Objectives ↔ Method ↔ Assessment

External Constraints

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Thank you and have fun!

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