What Is PBL? Why PBL?

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www.udel.edu/pbl/ysu

In Knowledge Work …

The task is not given; it has to be determined.

There is usually no right answer; there are choices instead.

Peter Drucker
Post-Capitalist Society

Characteristics Needed in College Graduates

Excellent communication skills
Ability to define problems, gather and evaluate information, develop solutions
Address problems in a complex real-world setting
Team skills – ability to work with others

Quality Assurance in Undergraduate Education (1994)
Wingspread Conference, ECS, Boulder, CO.

In Knowledge Work …

What Is PBL?

“The principal idea behind PBL is that the starting point for learning should be a problem, a query, or a puzzle that the learner wishes to solve.”


Characters of Good Learning Issues

Presented in the form of a question or series of questions. Focused so that it seeks specific information.

Constructed so that it asks an answerable question. Pursues information that is relevant to the problem. Goes beyond superficial knowledge to probe conceptual issues. Often set in a context that provides direction. Why is the question important?

What are the Common Features of PBL?

Learning is initiated by a problem. Problems are based on complex, real-world situations. All information needed to solve problem is not given initially. Students identify, find, and use appropriate resources. Students work in permanent groups. Learning is active, integrated, cumulative, and connected.
PBL: The Process

Resolution of Problem; (How did we do?)
- Integrate new Information;
- Refine questions
- Research questions; summarize; analyze findings

Presentation of Problem
- Next stage of the problem
- Organize ideas and prior knowledge (What do we know?)
- Pose questions (What do we need to know?)
- Assign responsibility for questions; discuss resources

Resolution of Problem; (How did we do?)
- Reconvene, report on research;
- Research questions; summarize; analyze findings

PBL Contrasted with Subject-Based Learning

Given problem to illustrate how to use it
- Told what we need to know
- Learn it

PBL Contrasted with Subject-Based Learning

Problem posed
- Apply it
- Identify what we need to know
- Learn it

Other Reasons for Using PBL?

Students learning to communicate in a common language.
International Islamic University of Malaya
Innovation and thinking ‘outside of the box’.
Republic Polytechnic, Singapore
Student engagement; learning ‘how to learn’.
Inquiry-based approach, bringing research-like approach to thousands of students.

Factors in Choosing a Model

- Class size
- Intellectual maturity of students
- Student motivation
- Course learning objectives
- Instructor’s preferences
- Availability of peer facilitators

UD PBL online

- PBL at UD
  www.udel.edu/pbl
- PBL Clearinghouse
  www.udel.edu/pblc
- Watson homepage
  www.physics.udel.edu/~watson
- This presentation
  www.udel.edu/pbl/ysu

Common Classroom Models

• Medical school
• Floating Facilitator
• Peer Facilitator
• “Hybrid”

Medical School Model

• Dedicated faculty tutor
• Groups of 8-10
• Very student-centered environment
• Group discussion is primary class activity

A good choice for
• Highly motivated, experienced learners
• Small, upper-level seminar classes

Floating Facilitator Model

• More structured format: greater degree of instructor input into learning issues and resources
• Group size: 4-6

A good choice for
• Less experienced learners
• Classes of all sizes

Peer Facilitator Model

Advanced undergraduates serve as facilitators
– Help monitor group progress and dynamics
– Serve as role models for novice learners
– Capstone experience for student facilitators

A good choice for
• Classes of all sizes

Dealing with Large Classes

Floating facilitator or peer facilitator models are the most appropriate.
Requires a more teacher-centered, structured format: instructor directs group activities
Group size: 4
Reduce grading burden through group (vs. individual) papers, projects

“Hybrid” PBL

• Non-exclusive use of problem-driven learning in a class
• May include separate lecture segments or other active-learning components
• Floating or peer facilitator models common

Often used as entry point into PBL in course transformation process