



Construction of Meaning through Problem-Based Learning (PBL)

Oakland University Center for Teaching and Learning
Faculty Development Institute
September 13, 2012

Session #1



Session 1: Overview of PBL

■ AGENDA

- 12:00 – 12:15 Introductions
- 12:15 – 1:00 Rationale, History, and Models of PBL
- 1:00 – 1:30 Group Discussion



Introductions

- Name
- Department
- Courses Taught
- Interest in and Experience with PBL

Rationale

- Dissatisfaction with traditional lecture-based approach to instruction in higher education
- Need for new approaches to teaching and learning that would improve student engagement in the learning process and maximize student learning outcomes



History

- Originally developed as an instructional model for medical students at McMaster University (Canada) in 1968
- Currently used as the sole instructional method in medical schools across the country
- Used in all levels of education and in all disciplines/fields



Definition

- Instructional method through which fundamental knowledge is mastered by solving ill-structured problems
- Basic information, concepts, and skills are thus acquired in a contextually-bound format that simulates real-world use and application





Common Features of PBL


- Learning is initiated by a problem
- Problems are based on complex, real-world issues or situations
- All information needed to solve the problem is not initially given
- Students identify, find, and use appropriate resources in working toward a solution
- Students work in groups (usually permanent for the semester)
- Learning is active, integrative, cumulative, and connected

Example

 http://video.search.yahoo.com/search/video;_ylt=A0PDoS5n6FFQCzoA34qJzbkF?p=problem-based%20learning&fr=yfp-t-701-s&fr2=piv-image




Steps Involved in PBL

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- STEP I: Define the problem
 - STEP II: Discuss knowledge you think you already have that relates to the problem
 - STEP III: Identify what additional information is needed to solve the problem
 - STEP IV: Review the problem in light of the new information and redefine the problem if necessary



Or...

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- Present the problem
 - Organize ideas and prior knowledge
 - Pose questions (what else do we need to know?)
 - Assign responsibility for questions; discuss potential sources of additional information
 - Research questions; summarize; analyze findings
 - Reconvene, report on research
 - Integrate new information; refine questions and redefine the problem as necessary
 - Final solution



Common Models of PBL

- Medical School (or Structured)
- Floating Facilitator (or Guided)
- Hybrid (Combines traditional lecture with PBL)



Medical School Model

- Stable, permanent groups of 5 – 10 students
- May have a dedicated tutor
- Very student-centered environment
- Group discussion/work is the primary or sole classroom activity
- *May be 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 the learning issues, resources, and student group work
- Instructor rotates through groups asking questions, guiding discussion when appropriate, and checking understanding
- Group size of 4-5 students
- Groups report on findings followed by whole-class discussion or mini-lectures
- *May be good for large, introductory level courses or courses in which a TA is available to assist*



Hybrid Model

- Non-exclusive use of PBL
- Integrates PBL with other instructional methods such as lecture, large-group discussion, etc.
- Uses the PBL learning experience to enhance and supplement knowledge gained in the class
- *May be good as an entry point for transforming a course into a PBL format*

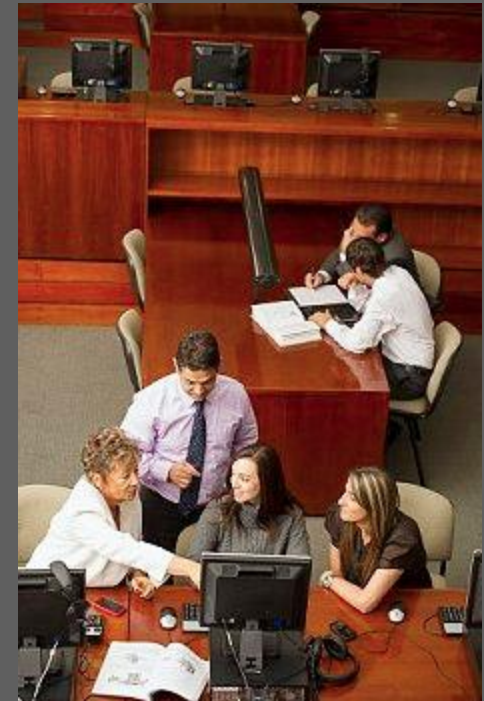
Factors to Consider when Choosing a Model

- Class size
- Intellectual maturity of the learners
- Student motivation
- Course objectives and learning outcomes
- Instructor preferences
- Availability of teaching assistants or peer facilitators



General Findings from Research on the Effectiveness of PBL

- Content and conceptual knowledge is comparable or superior to that obtained from traditional lecture-based courses
- PBL leads to:
 - Improvement in student attitude and performance
 - Deeper approach to learning
 - Improved interpersonal skills
 - Student acceptance of responsibility for learning



Group Discussion

- What are your thoughts now about PBL?
- What do you find interesting or exciting about PBL?
- What concerns would you have about converting a class to a PBL format?

