Problem-Based Learning

2010 Hendrick Best Practices for Adult Learners Conference
PBL Background

- McMaster University Medical School 1960s.
- Originated by Dr. James E. Anderson and Dr. Howard S. Barrows to teach medical students
- Today PBL has wide use in medicine, education, engineering, military, law enforcement, etc.
What is PBL?

Ill-Structured
Real Life Significance
Student-Led
Instructor-facilitated
Community focused
An instructional method which places students in an active role as problem-solvers confronted with ill-structured, real-life problems

A problem solving process
People must achieve a threshold of initial learning before transference can occur.

Learning with understanding is more likely to promote transference of new skills than memorization.

(National Research Council, 2000)
By using the following:

1: Adults must be partners in their own educational plans and evaluations

2: Adults learn experientially based on positive and negative experiences

3: The material must be relevant

4: Problem based learning is more effective than content based instruction
Adult Learning strategies supportive of PBL

Co-operative learning
Socratic Lecturing
Group Assignments

Role playing
Individual/Partner Exercises
Scenario Based Learning

Case Studies
PBL uses...

**EMOTIONAL INTELLIGENCES**

- Being intelligent about your emotions
- Recognizing and understanding that how you think, feel, and act has consequences for learning
- E.I. Competencies

*REFERENCE: Salovey, Goleman, Boyatzis, McKee*
PBL uses…

EI COMPETENCIES

- What are E.I. Competencies?

**Personal**
1. Self Awareness
2. Self-Management

**Social**
1. Social Awareness
2. Relationship Management

*REFERENCE: Goleman*
PBL uses...

**MULTIPLE INTELLIGENCES**

- Verbal - linguistic learners
- Logical - mathematical learners
- Visual - spatial learners
- Body - kinesthetic learners
- Musical - rhythmic learners
- Interpersonal learners
- Intrapersonal learners

*REFERENCE: Howard Gardner

It’s not how smart you are...

...but how you are smart!
The “ill-structured” problem

- Make it “real-life” and describe it completely
- It should have numerous possible solutions
- Who “owns” the problem? (everyone)
- Who is affected by the problem? (when it comes to learning… the more, the better)
PBL Structure

Ideas
Known Facts
Learning Issues
Action Plan
Evaluate Product & Process
No such thing as “BAD” ideas about the problem

Consult a variety of opinions and use ample time

How?....brainstorm & brainstream
Known Facts: Defining the Problem

- Explore all known facts
- Dissect the problem
- Suggest peripheral facts
Learning Issues: Learning about the Problem

- What do they need to know to solve the problem?
- Use project management skills and use multiple resources.
- Collaborate on local resources needed to solve problem.
Action Plan: Solving the Problem

- What specifically will you do?
  How will you operate the plan?

- Who will help?
  Is there community buy-in?

- What are the possible consequences?
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<th>Ideas</th>
<th>Known Facts</th>
<th>Learning Issues</th>
<th>Action Plan</th>
<th>Evaluation</th>
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**Evaluation: Is the problem solved?**

- Did it work? How do you know?
- Evaluate both product and process
- Use evaluation *rubrics* (teacher/student generated)
- Self and Group evaluations
Journaling

- Is used to describe training, a situation or experience.
- It is used to explain what happened in training, during a situation or experience.
- It is used to analyze what learning issues one needs to overcome.
- It is used to evaluate how one did in regards to training, life situations, or experience.
- Self-improvement