

Problem Based Learning Institute

Developing PBL Materials

Major Choices in Project Development

- Who develops the Project?
 - Instructor
 - Students
- Start from scratch or adapt existing materials?
 - Time
 - Resources
 - Needs
- What version of PBL?
 - Problem-stimulated vs. student-centered

Problem-stimulated VS. Student-centered PBL

Different emphasis in objectives:

- acquire knowledge base underlying professional practice
- development of professional skills
- development of problem solving skills
- development of life-long learning skills

Problem-stimulated vs. Student-centered PBL



From Instructor's Point of View	Problem-stimulated	Student-centered
Time to develop materials		+
Time to update materials		+
Development of lifelong learning		+
Control of curriculum	+	
Coverage of material	+	
From the Student's Point of View		
Less wasted motion	+	
Chance of student success	+	
Focus on high quality materials	+	
Control over obj's & resources		+
Confusion about how to proceed	+	
Student uncertainty	+	
Target personal learning needs		+

Unit of Instruction: The PBL *Project*

- Mirrors professional responsibilities
- Group task
- Clear goals
- Limited duration
- Operate under time constraints
- Expectation of product performance/action

Components of Problem-stimulated PBL Projects

- Project Components
- Introduction to the project
- Problem statement
- Learning objectives
- Guiding questions
- Product specifications
- Resources
- Assessment
- Time constraints

Starting Point for a PBL Project

- Learning Objectives
- Vaguely understood problem
- Adapt an existing problem
- Adapt an existing case scenario
- Draw on your own research

Project Development: Identifying the Problem

- Problem comes first
- Problem derived from practice
- Related to expected role and work context
- Problem is common and/or has high impact
- *Swampy* problems that lack clarity
- Select mode of representation

Types of Problems

- Structured or “high ground” problems
 - problem may be clear
 - solution maybe unclear
 - *Wisdom Cannot be Told* project
- Messy or “swampy” problems
 - unclear about what the problem is
 - often a complex of intertwined problems
 - often value-related problems or dilemmas
 - solution is also unclear

Features of Distinctive Problems

- High impact on the practitioner, the organization and/or its clients;
- Typical rather than atypical of problems confronted by professionals in the role;
- High importance to those experiencing it;
- Common across types of the organization;
- Messy rather than clear or narrowly focused;
- Realistic, not contrived;
- Sufficient info for reader to understand what's going on and prepare products, but not overload.

Mode of Representation of the Problem

- Written form
- Video
- Actual client/organization
- Live simulation
- Mixed

Information to Include

Details, specifics of concrete case; Engage the problem solver! Possible details to include:

- **Actors:** names, roles, character, conditions, personalities, values, preferences, beliefs, habits, conflict/relationships to others
- **What:**
 - » is happening that is problematic?
 - » are the constraints on what can be done (e.g., scientific, legal, cultural, organizational, financial, political, personal)?
 - » resources are available (e.g., financial, human, material)?
 - » is at stake (e.g., consequences for self, others, organization, things people care about)?
 - » is the nature of external pressures to act (e.g., create a sense of urgency to act, to resolve a tension)?

Information to Include

- Provide details, specifics of concrete case. Engage the problem solver! Possible details to include:
 - **When?**
 - » details about time in past, present, future
 - » have events occurred? (i.e., chronology)
 - » may other events occur that we need to know about?
 - » is the *point of entry* for the problem?
 - **Where?**
 - » details about the location and/or context and characteristics of the setting
 - » the organization and its culture
 - » the environment of the organization

PBL Project Introduction

- States how and why the project is relevant to the work of the administrator.
- Connects the problem and the learning objectives to the reality of the workplace

Defining the Learning Objectives

- In practice is a fluid process in tandem with definition of the problem and product expectations
- Should be stated in terms of the students' learning
- Should NOT be a restatement of the product expectations
- Vary taxonomic domains (i.e., knowledge, comprehension, application, analysis, synthesis)

Defining the Major Learning Issues and Resources

- What skills and knowledge are you assuming students will bring to this project?
- Which of these assumed skills and what presumed knowledge students may lack?
- What resources (readings, artifacts, videos, people) will be most useful?
- Access professors, clinical staff, and

Developing Guiding Questions

Purpose of guiding questions:

- To direct students to key concepts
- To assist students in thinking through the problem
- To stimulate students to view the problem from alternative perspectives

Product or Performance

Is a key component of the project:

- Diagnosis or precise definition of the problem
- Design a process for dealing with the problem
- Develop a plan for dealing with the problem
- Create plan and implement it in some form

Defining Product Specifications

- What are the performance characteristics that will be demanded of students in connection with the resolution of the problem in practice?
- To the extent possible the product should be similar to workplace performance.
- Vary products: memo, presentation, interview, conference, meeting etc.
- Access practicing administrators in design performance and assessment

PBL Project Assessment

- Formative assessment
- Summative assessment
- Skills, knowledge,
attitudes
- Integrative essays
- Talk back sheets

Pilot Test

- Project development as a formative and iterative process
- Not always sequential as outlined here
- Estimating time allocation based on experience
- Importance of obtaining student feedback in a systematic fashion
- Continuous process of refinement
- Expect the need for changes

Review of PBL Projects

- Creating a Vision and Time to Achieve it!
- Leadership and School Culture
- Meeting Management
- Safety and Order
- Supervision

Review Criteria

- **Nature of the Problem**
 - swampy or high-ground
 - long and detailed, or short and broad
- **Type of Learning Objectives**
 - levels of objective
 - appropriateness and linkage to problem, resources and solutions
- **Range of Resources**
 - human, text, video or other
- **Nature of the Product**
 - realistic?
 - type of performance required?

PBL

Project Prospectus

- Brief description of your focal problem and why it is significant . . . ?
- Resources needed in order to develop the project . . . ?
- Calendar for completing the various parts of the project . . . ?
- Thoughts about how you might pilot-test your project . . . ?
- Your biggest concern(s) or question(s) about the project . . . ?