

What Is a Good PBL Problem?



Institute for Transforming
Undergraduate Education
University of Delaware



Good PBL Problems...

- relate to real world, motivate students
- require decision-making or judgments
- are multi-page, multi-stage
- are designed for group-solving
- pose open-ended initial questions that encourage discussion
- incorporate course content objectives, higher order thinking, other skills



Bloom's Cognitive Levels



- Evaluation** - make a judgment based on criteria
- Synthesis** - produce something *new* from component parts
- Analysis** - break material into parts to see interrelationships
- Application** - apply concept to a *new* situation
- Comprehension** - explain, interpret
- Knowledge** - remember facts, concepts, definitions



Rubric to Evaluate PBL Problems

Criteria	Descriptors		
	3	2	1
Realism	Based on an actual or fictionalized real-world situation linking topic to learner.	Contrived or contains unrealistic elements that decrease credibility.	Unrealistic, lacking relevant context.
Content	Addresses significant conceptual issues; directly related to major content goals.	Encourages superficial rather than in-depth understanding concepts.	Relevance of topic peripheral or not apparent.
Engagement	Stimulates discussion and inquiry through its relevance and presentation.	Generates limited or superficial discussion; provokes little curiosity.	Lacks a "hook"; obscure or pedantic presentation.



Rubric to Evaluate PBL Problems

Criteria	Descriptors		
	3	2	1
Complexity	Appropriately challenging; group effort and cooperation required; some ambiguity appropriate; integrates multiple concepts.	Difficult but may encourage a "divide and conquer" approach. Concepts not well integrated.	Solution accessible to most students working alone; focused on single concept.
Resolution	Open to multiple resolutions or multiple pathways to solution, depending on student assumptions and reasoned arguments.	Resolution is more obvious but allows reasonable opportunity for judgment and discussion.	One right answer is expected; limited opportunity for analysis and decision making.



Rubric to Evaluate PBL Problems

Criteria	Descriptors		
	3	2	1
Structure	Progressive disclosure via multiple stages, builds on existing student knowledge.	Staging does not flow well; transition could be improved.	Too much or too little information provided at once; short cuts thinking/research.
Questions	Limited in number, short, and open-ended; encourage deeper understanding.	Most are directive; preempt student-generated learning issues.	Lead to "yes-no" answers rather than thoughtful discussion.
Research	Promotes substantive research using multiple resources.	Research limited to textbook material.	Limited necessity for research.

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		3 (ideal)	2	1
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Other possible rubrics:

Problem Delivery and Process

Associated Assignments

Student Products and Presentations