

Problem-Based Learning



**PRACTICES
THAT FOSTER
EFFECTIVE LEARNING**

DESCRIPTION

Problem-based learning is the active approach to learning in which learners collaborate in understanding and solving complex, ill-structured problems (Barrows, 2000; Savery, 2006).

Problem-based learning (PBL) requires learners to share their current knowledge, negotiate among alternative ideas, search for information, and construct principled arguments to support their proposed solutions (Lu, Bridges, & Hmelo-Silver, 2014). PBL addresses a large range of cognitive and affective dimensions, with studies indicating that PBL students are more motivated and engage in deep approaches to learning and problem solving.

1. As students engage with ill-structured problems, they develop skills in creativity, reasoning, and self-directed learning
2. Compared to traditional forms of instruction, PBL can enhance students' ability to transfer knowledge to new problems and to achieve more coherent understanding

CAPABILITIES

- Assessment: Open-ended assignments (multi-step)
- Assessment: Project
- Instruction: Active learning experience

SAMPLE DESIGN IMPLEMENTATIONS

- Robust Technology: Apply problem-based writing assignments with automated scoring techniques
- Simple Technology: Apply problem-based assignments that require instructor grading (e.g., using MediaShare)
- Content Support: Problem-based assignments aligned to learning objectives

LEARNER IMPACTS

- Attitudes
- Behavior
- Motivation
- Self-regulation



Pearson

Problem-Based Learning

SELF-ASSESSMENT INSTRUMENT



| Principle Criteria | Integration (4-5 points) | Exploration (2-3 points) | Consideration (1 point) | Not Applicable (0 Points) | Total Points |
|---|--|--|--|--|--------------|
| Purpose/Model | The product strategy is aligned to problem-based learning as a core principle of a learner-centered product. | The product team is exploring problem-based learning as a core LDP for creating a more learner-centered product. The product strategy is exploring integrating an evidence-based model of problem-based learning. | The product team considers problem-based learning to be an important LDP for creating a more learner-centered product. The product strategy considers problem-based learning at a high level but does not currently align to an evidence-based model. | The problem-based learning LDP does NOT align to the product strategy and is not necessary to explore further. | = ____ |
| Problem-based Learning Application | The product uses empirically-based recommendations concerning problem-based learning. | Principle is applied only to a specific area of the product and more learner feedback is needed to improve principle application. | Product team thinks applying this principle would add value to their product strategy. Product team has applied similar principles to their product strategy. | This principle is NOT currently being applied to any area of the product and is NOT needed to improve the product. | = ____ |
| Project-based Learning Delivery | The impact on a capability or service aligned to this principle has been gathered/reported on. | Product team is in early discussions about partnering with LD team to validate this principle with learners. Product team has specific capabilities they need to validate this principle with. | Product team needs more information about how this principle might be tested with learners using LD's validation services. | This principle does NOT need to be validated in order to inform product design & development. | = ____ |
| Learner Characteristics | Design & development are currently using validation reports to further align the principle and the product strategy. | Product team is currently exploring how validation results and recommendations could be used in product design & development. | Product team feels there is time in the schedule to include validation data to inform product design & development. Product team needs a consultation to learn more about validation services and results reports. | Validation data will NOT be used to inform product design & development. | = ____ |
| Formative/ Summative Applications | The formative and summative applications make proper use of problem-based learning LDP recommendations for creating assessments. | Product team is currently exploring how recommendations for designing assessments for problem-based learning could be used in product design & development. | Product team feels there is time in the schedule to include time spent on assessment application design & development. Product team needs a consultation to learn more about designing problem-based learning. | Formative/summative applications will NOT be used to inform product design & development. | = ____ |