

SHORT COMMUNICATION

PROBLEM-BASED LEARNING: AN OVERVIEW OF ITS PROCESS AND IMPACT ON LEARNING

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Problem-based learning (PBL) has a long history of advocating experience-based education. Psychological research and theory suggest that by having students learn through the experience of solving problems, they can learn both content and thinking strategies. Problem-based learning (PBL) is an instructional strategy that allows students to seek solutions to unstructured, real-world situations. PBL focuses student learning on a complicated topic with no one proper answer. Students collaborate in groups to determine what they need to know in order to solve an issue. Rather than imparting knowledge, the teacher's role is to aid the learning process. PBL aims to help students build flexible knowledge, effective problem-solving abilities, SDL skills, effective collaboration skills, and intrinsic motivation. The process of PBL includes identification of outcome, designing a scenario, introduction of PBL, research, performance and assessment. When compared to students in a lecture-based learning environment, studies on the effectiveness of PBL tend to be mixed, but they all suggest that students who have experienced PBL acquire similar or less learning gains when it comes to short-term information acquisition. However, in terms of long-term information retention, the results strongly favour PBL.

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PBL OVERVIEW

Problem-Based Learning (PBL) is a teaching style in which students are taught concepts and principles through the use of challenging real-world issues rather than direct presentation of facts and concepts.¹ PBL can help students acquire critical thinking skills, problem-solving talents, and communication skills in addition to course content. It may also offer opportunities.²

Learning is usually triggered by an issue that needs to be solved in a PBL context. The origin of thinking, according to Dewey, is some 'perplexity, confusion, or doubt' triggered by 'something special that causes and provokes it'.^{3,4} Many educators like PBL as a pedagogical technique because it provides an instructional framework that encourages active and group learning. It is based on the assumption that effective learning occurs when students construct and co-construct ideas through social interactions and self-directed learning.⁴ A tutor, also known as a facilitator, serves as a guide to help students learn by scaffolding their learning, particularly in the PBL tutorial's issue analysis and reporting portions, and by facilitating students' inquiry paths as they make sense of their ideas through dialogue and sharing.⁵

PBL PROCESS

PBL is a student-centred, inquiry-based teaching method in which students work on a real-world, ill-structured topic that requires more research.⁶ You can start designing, implementing, and assessing PBL in your own courses by breaking down the PBL cycle into 6 parts.

The first step is to identify the outcome. PBL is best for process-oriented course goals including

teamwork, research, and problem solving. It can aid in the acquisition of content or conceptual information, as well as the development of disciplined habits such as writing and communication.

The scenario's second phase is to plan it out. After that, you design a PBL scenario with an incorporated challenge based on the brainstorming of students. Consider a real-life, complicated situation that relates to your course's subject.

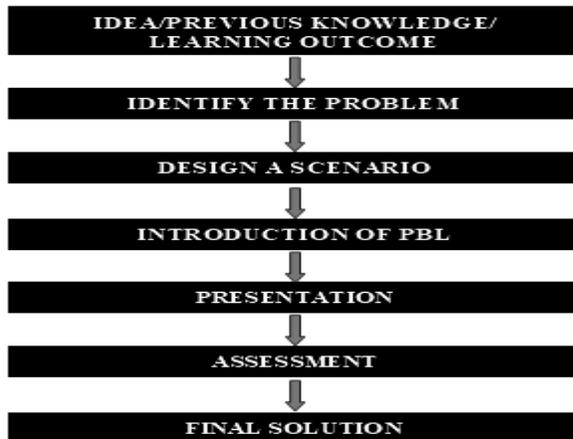
The following stage is to introduce PBL. Start with a 'simple problem' such as a scenario with long lines in the dining hall, if students are unfamiliar with PBL. After grouping students and providing time for an abridged form of PBL, introduce the assignment expectations, rubrics, and timelines.

The next stage is to conduct research. PBL research begins with students describing the problem and determining what they already know about it (background knowledge), what they need to learn more about (research subjects), and where they can get data in small groups (databases, interviews, etc.).⁷

Fifth step is performance. Following their research, the students build products and presentations that combine their findings, solutions, and knowledge. You have complete control over format of the summative assessment. Students gather resources to gain background knowledge that will help them grasp the problem, and then present their findings to the class as research posters, along with suggested solutions.

The final step is assessment. Evaluate the products and performances of the groups during the PBL assessment process. Rubrics can be used to determine whether students clearly communicated the problem, background, research methodology, solutions (feasible

and research-based), and resources, as well as whether everyone in the group contributed meaningfully.^{8,9}



Flow chart showing the process of PBL

PBL AND ITS IMPACT ON LEARNING

The majority of the study on PBL's effectiveness has been done in the medical profession. The influence of PBL on student learning outcomes is increasingly being investigated in applied domains and professional education, providing new insights. Nursing education has devoted a large amount of study to investigating the efficacy of PBL in healthcare training in order to prepare nursing practitioners for an expanding spectrum of patient care services. According to a meta-analysis of studies on PBL's effectiveness in nursing education, it has good effects on student satisfaction with the course.¹⁰

Studies on the effectiveness of PBL appear to be variable when compared to students in a lecture-based learning environment, but they all show that students who have encountered PBL acquire similar or less learning gains when it comes to short-term information acquisition. However, the results favour PBL greatly in terms of long-term information retention. Several authors in the PBL literature have acknowledged that one of the PBL intended learning objectives is deep-content learning.¹¹ In fact, studies show that students who engaged in deep-content learning increased their overall learning results. It is well

accepted that PBL components are linked to student performance and learning outcomes.

PBL was found to be more effective than traditional methods in developing students' knowledge of procedures or applications in several studies. Capon and Kuhn found that students in PBL had stronger procedural or application knowledge by demonstrating their ability to apply such information to a specific test situation. This was also demonstrated in a similar way.¹²

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