Chapter 15
Problem-Based Learning: Enhancing Students’ Authentic Learning

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ABSTRACT

Students learning and understanding is enhanced if the teaching and learning process is authentic. Authentic learning process leads to understanding and meaningful application of concepts learned. One way by which teachers can to provide authentic learning environment is through Problem-Based Learning (PBL). PBL offers opportunity for students to learn about something that is real and beneficial. Teacher education programs, pre-service or in-service, should help teachers to understand how to use PBL to provide students with authentic learning environments. The chapter aims at supporting teachers’ understanding and application of PBL so that they can provide students with meaningful learning experiences. Specifically, this chapter is intended to assist teachers have a better understanding of PBL as a strategic approach to meaningful teaching and learning as well as identify effective ways to incorporate this approach into their pedagogical practices.

INTRODUCTION

Student learning, their active engagement and satisfaction are of immense importance in the teaching/learning process. As teachers, we cannot continue teaching by using traditional methods, which are teacher centered, and still expect meaningful learning on the part of students. Educational researchers and authors over the years been searching for ways of making the teaching learning process more student-centered, engaging and focused on real world issues. Learning becomes fun and enjoying to students when the teaching/learning process is engaging and about something, which is relevant and authentic. Problem-based learning (PBL) is one of the approaches to teaching and learning that emphasize on active engagement, cooperation (Smith, Shepherd, Johnson & Johnson, 2005) based on real-world experiences. It is very advantageous to students’ long-term understanding and application of what is taught.
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in meaningful ways. It is important for teachers and preservice teachers to become familiar with the problem-based approach to teaching and learning. That way, they would be able to create, for students, learning experiences that are active, engaging and based on real-world issues. That kind of learning environment would offer students with authentic learning experiences and outcome.

**WHAT IS PROBLEM-BASED LEARNING?**

Problem-Based Learning (PBL) is a promising approach to teaching, which is consistently calling for the attention of teachers and preservice teachers. However, its benefits can be realized when teachers and preservice teachers know what Problem-Based Learning is and understand how to apply it in appropriate teaching/learning situations. Problem-Based Learning (PBL) is an issue based, engaging and student-centered approach to teaching and learning. PBL is viewed as an inductive approach to teaching and learning (Smith, Shepherd, Johnson & Johnson, 2005) which is “focused, experiential learning (minds-on, hands-on) organized around the investigation and resolution of messy, real-world problems” (Torp & Sage, 2002 p. 15). Mansor et al (2005) also consider PBL as “an instructional method in which students work in collaborative groups to identify what they need to learn through facilitated problem solving” (p. 259). Problem-based learning is considered as one of the useful and student-centered teaching/learning approaches (Savery, 2006, p. 9). It creates a learning environment which is real, meaningful and therefore promotes authentic understanding of students.

It is important to note that Problem-based learning does not just focus on problem-solving. Rather, PBL involves a process that uses relevant issues to help increase students’ knowledge and understanding of a phenomenon. It is a student-centered and issue-based approach to teaching and learning in which students use “triggers” from the problem case, as a basis, to define their learning objectives. When group learning objectives are set, group members move into independent, self-directed research on the issue before returning to the group for further deliberation. The aim of this discussion is to synthesize and refine the acquired knowledge (Wood, 2003, p. 328) of team members. The discussion results in a commonly shared understanding among the group members regarding the phenomenon or solution to the issues involved.

The problem and need to look into it serve as a trigger because PBL usually begin when students have an open-ended, ill-structured, real-world problem to work within teams. Students work to identify learning needs and develop an appropriate solution. In this learning situation, the instructors act as facilitators, not the primary sources of information (Smith, Shepherd, Johnson & Johnson, 2005, p.128) since the teaching/learning process heavily center on the student. That is not to downplay the place of teachers in PBL learning environments.

Teachers are needed to organize and facilitate the learning process. As a social learning approach, PBL requires the support of teachers as knowledgeable adults. In his writings concerning the role of teachers, as facilitators of the PBL process, Kilroy (2004, p. 412) had stated that “the skill of PBL facilitation is that of knowing when to provide assistance to the group, be it suggesting useful resources they might like to consider or interjecting with thought provoking comments to guide the breadth and depth of learning, without necessarily imparting facts”. This unique approach to teaching and learning has its basis firmly rooted in the constructivist paradigm and aims at helping to develop students’ abilities to think creatively, collaborate with peers, and synthesize information from diverse sources in the pursuit of solutions to an authentic problem. It offers unique learning situations in which student rely on their
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