

## Chapter 72

# Advocating Problem–Based Learning and Creative Problem–Solving Skills in Global Education

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### ABSTRACT

*This chapter aims to advocate the development of Problem-Based Learning (PBL) and creative problem-solving skills in global education, thus describes the theoretical and practical overviews of PBL and creative problem-solving skills, the significance of PBL in global education, and the significance of creative problem-solving skills in global education. The application of PBL and creative problem-solving skills are critical in the educational institutions that seeks to serve the educational administrators and students, increase educational performance, sustain competitiveness, and fulfill expected accomplishment in global education. Therefore, it is required for educational institutions to utilize PBL and creative problem-solving skills and develop a strategic plan about PBL and creative problem-solving skills towards satisfying the requirements of the educational administrators and students. The chapter argues that advocating PBL and creative problem-solving skills has the potential to improve educational performance and reach strategic goals in global education.*

### INTRODUCTION

The complex and fast-evolving world requires young students to possess the problem-solving skills more than ever (Akcaoglu, 2014). The real-world problems require the learner to use metacognitive skills to monitor the problem-solving processes, to reflect on the solution processes, and to establish rationales for the proposed solutions (Cevik, Haslamani, & Celik, 2015). As every difficulty to be removed is a problem, it is required for the individuals to have the problem-solving skills and use these skills in their daily lives (Karabacak, Nalbant, & Topçuoğlu, 2015). In the new era of information technology,

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problem-solving skills are vital for students to master the world-class knowledge and contribute towards establishing educational society (Ngang, Nair, & Prachak, 2014).

Problem-Based Learning (PBL) deserves a more prominent place in global education, because the PBL process empowers students to assume responsibility for analyzing problems and establishing the educational solutions towards encouraging students' creative problem-solving skills. Having students work on solutions to problems encountered by stakeholders provides all parties involved in the PBL process with a framework for extending the learning opportunities in global education (Etherington, 2011).

To develop students' skills of creative problem solving is one of the goals of PBL (Chen, 2008). PBL can promote students' problem-solving skills and help cultivate the problem solvers who can work with the local learning community as the innovators of global education. PBL method is effective in the development of students' problem-solving skills in global education (Günüşen, Serçekuş, & Edeer, 2014).

PBL is an instructional approach that is intended to facilitate the prior knowledge activation, the critical analysis of arguments, and the promotion of the insight into scientific perspectives (Loyens, Kirschner, & Paas, 2012). Loyens et al. (2015) stated that problems used in PBL entail several features that can promote the high levels of cognitive engagement. PBL is an effective approach for academics to enrich the students' social learning practices (Orsmond & Zvauya, 2015). PBL is the development of students' higher-order thinking skills (Ersoy & Başer, 2014). PBL is an important process for realizing the effective learning where learners are responsible from learning (Arı & Katrancı, 2014).

The strength of this chapter is on the thorough literature consolidation of PBL and creative problem-solving skills in global education. The extant literature of PBL and creative problem-solving skills provides a contribution to the educational administrators and students by describing the multifaceted applications of PBL and creative problem-solving skills to appeal to the different segments of PBL and creative problem-solving skills in order to maximize the educational impact of PBL and creative problem-solving skills in global education.

## **BACKGROUND**

The aim of education is to provide students with opportunities to learn the effective problem-solving skills for the issues that they experience on a daily basis (Erdem-Keklik, 2013). The skills of problem solving, critical thinking, and communication are essential for all high school students in the 21st century (Carlgren, 2013). Helping college students as professionals who are able to deal with the real-world problems in the complex and dynamic situations is one of the essential goals for higher education (Choi & Lee, 2009). Higher education practitioners may facilitate the development of problem-solving skills through conducting the brainstorming session (Rodzalan & Saat, 2015).

Case-based methods (e.g., PBL) have attempted to develop the students' expertise towards solving the specific problems (Arts, Gijssels, & Segers, 2006). Problem is stated as situations that the individual cannot solve with present information (Bransford & Stein, 1984). Problem solving in the real-world contexts involves multiple ways of knowing and learning (Tan, 2007). Heppner and Krauskopf (1987) used problem solving as synonymous with coping with the problem. Problem-solving skill is a teachable skill, which helps finding the effective solutions to the individuals' problems (Conger, Rueter, & Elder, 1999). Problem-solving skills training is recognized as a method of short-term intervention is effective in increasing students' self-regulation of learning (Griffith & Ruan, 2005).

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