

Chapter 3

An Overview of Project–Based Learning Practices Within the Context of 21st Century Skills

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ABSTRACT

This chapter develops an accurate understanding for project-based learning approach by examining the definitions, theoretical foundations, and historical process of the approach. It also aimed to, within the framework of this understanding, present the implementation stages and effectiveness of the approach as well as its interaction with the other methods in recent years. In this context, first, different definitions of project-based learning were examined, and then how it evolved into an approach from a concept in its historical development process was addressed. Implementation stages of project-based learning were reported as presented by different researchers. The standards set out due to the diversity experienced in implementation were associated with these steps.

GENERAL CHARACTERISTICS OF PROJECT BASED LEARNING

When a search is made in Google search engine for “project-based learning” in August 2019, 18.300.000 results are shown. In their book, Larmer, Mergendoller and Boss (2015) stated that this result was over 3,000,000. This high increase over a period of approximately 4 years shows that the project-based learning approach has been a topic of interest for effective education in recent years. On the other hand, project-based learning, which becomes increasingly more popular, faces a “quality” problem with respect to poorly planned practices, different forms of implementation etc. (Larmer, Mergendoller and Boss, 2015). Bender (2012) stated that educators would recommend project-based learning approach as an innovative approach in the next century. The Buck Institute for Education (BIE) has played a central role in the development of the project-based learning approach for the last 20 years. It conducts studies

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on shaping and defining project-based learning practices. When the relevant literature is examined, it is seen that different definitions have been made about project based learning and it has undergone a controversial historical process.

Definition of Project Based Learning

Different researchers have made different definitions for project-based learning. When these definitions are examined, it can be stated that definitions have become deeper and the emphasis on the process has increased in the course of time. Such expressions as project, project work, project method and project based learning, project based teaching model and project based learning approach were used in these definitions. All of them included similar explanations. Table 1 presents these definitions.

Table 1. Definitions of project, project method and project based learning by researchers

Researcher (Year)	Definitions
Kilpatrick (1921, p.287-288).	Project: <i>“any unit of experience dominated by such a purpose as sets an aim for the experience, guides its process, and furnishes the drive for its vigorous prosecution”</i>
Knoll (1997, p. 59)	Project Method is <i>“the standard teaching method in which students can apply social and democratic behaviours and develop independence and responsibility awareness”</i>
Buck Institute for Education (BIE) (Markham, Larmer, & Ravitz, 2003, p. 4).	Project-based learning is <i>“a systematic teaching method that engages students in learning knowledge and skills through an extended inquiry process structured around complex, authentic questions and carefully designed products and tasks”</i>
Bell (2010,p.39)	Project-based learning is a <i>“teacher-assisted and student-centred method in which students learn by asking questions about their interests and curiosities”</i>
Al-Balushi & Al-Aamri (2014).	Project-based learning is a <i>“special case of inquiry-based learning, which consists of realistic questions and problems involving real-life practices of learning content.”</i>
Bender, W. (2012,p 1)	Project-based learning is a <i>“teaching model where students face real-life problems and issues that they consider significant, determine how they will cope with the problems in cooperation and find solutions”</i>

When the definitions of project-based learning are considered, it can be stated that the main points emphasized are experience, interesting questions, student-centeredness, cooperation, research and inquiry. These common characteristics show that it is more important to find an answer to the question “What specificities should a project have in order to set a project-based learning example?” rather than making a redefinition. Thomas (2000) identified 5 criteria in response to this question:

Centrality: The first one is centrality. Project-based learning projects should be at the centre of the learning programs. In other words, students learn and encounter the basic concepts of a discipline through a project. In a project-based teaching strategy, projects are the main teaching strategy.

Driving Question: Students should start with a problem or question that will make them encounter the main concepts and principles of a discipline.

Constructive Investigations: The inquiry process should include decision-making, problem-solving and posing, exploration and model building. But in a project-based learning project, inquiry involves structuring and transforming information.

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