

# Chapter 16

## Online Project–Based Learning: Students' Views, Concerns and Suggestions

**Erman Yukselturk**

*Middle East Technical University, Turkey*

**Meltem Huri Baturay**

*Kırıkkale University, Turkey*

### ABSTRACT

*This study integrated Project-based learning (PBL) in an online environment and aimed to investigate critical issues, dynamics, and challenges related to PBL from 49 student perspectives in an online course. The effect of PBL was examined qualitatively with open-ended questionnaire, observations, and students' submissions who were taking an online certificate course. According to the findings, students thought that an online PBL course supports their professional development with provision of practical knowledge, enhanced project development skill, self confidence, and research capability. This support is further augmented with the facilities of the online learning environment. Students mainly preferred team-work over individual work. Although students were mostly satisfied with the course, they still had some suggestions for prospective students and instructors. The findings are particularly important for those people who are planning to organize course or activities which involve online PBL and who are about take an online or face-to-face PBL course.*

### INTRODUCTION

Learning is enhanced when students are actively involved in it; when assignments reflect real-life contexts and experiences; and when critical thinking or deep learning is promoted through reflective and applied activities (Smart & Cappel, 2006). Online courses have the potential to create

environments where students have the advantage of learning by doing in real-life contexts. Even though online learning has the potential to offer flexible and individualized multimedia supported real-life contexts, without a learning strategy its effect on learning would be just a media enriched touch. Implying the importance of pedagogical input into the design and delivery of online learning, Jasinski (1998) stated that online technologies in the form of instructional medium would not

DOI: 10.4018/978-1-60960-615-2.ch016

in themselves improve or cause change in learning. Online learning environments have many capabilities and opportunities for teachers and learners; whereas, what improves learning truly is a well-designed instruction. Therefore; how learning activities are rendered via technology is significant; learning activities should be the focus when designing and analyzing learning through various technologies (Tolsby, Nyvang & Dirckinck-Holmfeld, 2002).

The general tendency is to implement online learning with the traditional approaches. To their analysis of 436 randomly chosen educational websites, Mioduser et al. (2000) found out that most of these online courses reflected traditional approaches commonly found in textbooks and CD ROM multimedia. In fact, it's the instructor's responsibility to create a learning environment which will allow students to construct knowledge by interacting with their environments (Hill, 1997). Whether it is a traditional or an online learning environment, recent recommendations about education reform implies a new concept of teaching and learning heeding student's centrality, autonomy and awareness in the learning process (Karaman & Celik, 2008). Based on constructivism, project-based learning, called PBL here after, is one of those innovative approaches that provide students with the opportunity to work autonomously, collaboratively in realistic contexts while they are designing a project, problem solving or decision making.

PBL has been used in various settings: in traditional classrooms, online courses, K-12 and higher education. Despite the popularity of PBL, further research studies are needed for sufficient understanding on how PBL method guides learners in constructing collaborative projects within the online learning community (Lou & MacGregor, 2004; Rooij, 2009; Thomas & MacGregor, 2005). Therefore, this study provides descriptions of the learning dynamics within an online course, and investigates how students explore ways to use web-based tools that help them communicate and

construct projects over time. The main objective is to investigate the participants' learning experiences with the project method using the web-based collaborative technologies. Such research is expected to contribute to the improvement of pedagogy in the design and use of project-based learning in online courses.

## **BACKGROUND**

### **Project-Based Learning**

Project-based learning has lately proved to be an effective teaching and learning strategy that is becoming used more often in many classrooms. The theoretical foundations for PBL are proved early in the last century by Dewey's (1938) experiential learning which implies the importance of practical experience in learning.

Through PBL learners learn concepts, interpret them and construct meaning while interacting with others and with their surroundings. It engages students in finding solutions to challenging real-life questions or problems that entail making predictions, problem-solving, decision making and data analyzing through a process of investigation and collaboration instead of solving well-defined problems prescribed by the teacher (Krajcik et al., 1999; Doppelt, 2005). In their study exploring prospective teachers and their students' perceptions regarding PBL intervention Karaman and Celik (2008) found that besides gaining life-long learning skills and knowledge, students felt that they could overcome challenges confronted in their real lives after dealing with tiresome, stressful projects. PBL helps learners acquire knowledge and develop long-term learning ability, intellectual abilities, interpersonal skills and professionalism (Frank et al., 2003; Chartier & Gibson, 2007; Wang et al., 2005). Underpinned with constructivist learning approach and due to the focus on collaboration for problem-solving, this model of learning is often confused with problem-based

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/online-project-based-learning/54164](http://www.igi-global.com/chapter/online-project-based-learning/54164)

## Related Content

---

### Design Cycle Usability Evaluations of an Intercultural Virtual Simulation Game for Collaborative Learning

Elaine M. Raybourn (2003). *Usability Evaluation of Online Learning Programs* (pp. 233-253).

[www.irma-international.org/chapter/design-cycle-usability-evaluations-intercultural/30612](http://www.irma-international.org/chapter/design-cycle-usability-evaluations-intercultural/30612)

### Game-Based Learning and Information Literacy: A Randomized Controlled Trial to Determine the Efficacy of Two Information Literacy Learning Experiences

Scott Neal Wilson, Caroline E. Engler, Jessica E. Black, Derik K. Yager-Elorriaga, William Michael Thompson, Andrae McConnell, Javier Elizondo Cecena, Ryan Ralston and Robert A. Terry (2017).

*International Journal of Game-Based Learning* (pp. 1-21).

[www.irma-international.org/article/game-based-learning-and-information-literacy/188609](http://www.irma-international.org/article/game-based-learning-and-information-literacy/188609)

### Breakthroughs, Breakdowns, and Some Productive Pedagogical Paradoxes of Virtual Learning

Vachel Miller and Kelly Clark-Keefe (2010). *Transformative Learning and Online Education: Aesthetics, Dimensions and Concepts* (pp. 142-153).

[www.irma-international.org/chapter/breakthroughs-breakdowns-some-productive-pedagogical/44205](http://www.irma-international.org/chapter/breakthroughs-breakdowns-some-productive-pedagogical/44205)

### An International Study on Learning and Process Choices in the Global Game Jam

Ali Arya, Jeff Chastine, Jon Preston and Allan Fowler (2013). *International Journal of Game-Based Learning* (pp. 27-46).

[www.irma-international.org/article/an-international-study-on-learning-and-process-choices-in-the-global-game-jam/96977](http://www.irma-international.org/article/an-international-study-on-learning-and-process-choices-in-the-global-game-jam/96977)

### First-Timer Learning Experiences in Global Game Jam

Mikko Meriläinen (2019). *International Journal of Game-Based Learning* (pp. 30-41).

[www.irma-international.org/article/first-timer-learning-experiences-in-global-game-jam/220081](http://www.irma-international.org/article/first-timer-learning-experiences-in-global-game-jam/220081)