Chapter XII
Transformative Potential of Constructivist Blended Problem-Based Learning in Higher Education

Roisin Donnelly
Dublin Institute of Technology, Ireland

ABSTRACT

This chapter critically explores the design and implementation of a blended problem-based learning (PBL) module for academic professional development in higher education. A core aspect of the chapter is the overview of the design framework used for the application and specific use of learning technologies in the PBL module. As it would appear that E-Learning courses are often lauded on the basis of their constructivist approach to learning, but in reality sustained inter-student contact and discussion can be difficult, an underlying purpose of the chapter is to show how interactional analysis helps in understanding the potential of transformative pedagogy within blended PBL. This chapter aims to highlight how emerging constructivist theories of learning may be applied to the blend of PBL and E-Learning. It addresses the need for an analysis of the interactions taking place in blended PBL with a specific focus on academic staff who are engaged in professional development in higher education in Ireland. It applies the relevant constructivist theories to the face-to-face PBL tutorials, online discussions, focus group interview texts and reflective papers generated over two years in a professional development module involving 17 academic staff. The chapter concludes with an analysis of the difference that the blended delivery made to both tutors and participants and discusses the design implications of a blended PBL model for the practice of academic development.
INTRODUCTION

Some of the most innovative E-Learning applications used today tend to be among advocates of a constructivist approach to learning who have high levels of information and communication technology (ICT) skills, often in higher and adult education. Influenced by constructivist philosophy and new learning technologies, there is increasing interest among higher education faculty/academic staff in authentic activities as a basis for learning. In recent years, the integration of constructivist learning theory and problem-based learning (PBL) strategies with online scenarios and virtual role playing have taken student activities to the heart of the curriculum. This chapter explores the constructivist nature of blending face-to-face and online PBL to offer opportunities to educators in higher education seeking to confront pedagogical challenges in their on-the-ground practice.

It is useful here for the context of the study discussed in this chapter to make explicit definitions of the key principles involved: transformative pedagogy, problem-based learning and blended learning. From a definitional perspective, descriptions of transformative pedagogy originated in the adult education literature and Myers (2006) believes it has been regarded as an approach to teaching that encourages students to grapple with disorienting dilemmas, critically examine their assumptions related to the contradictory information, seek out additional perspectives, and ultimately acquire new knowledge, attitudes and skills in light of these reflections – all in order to experience personal and intellectual growth.

Many definitions currently exist in the literature for blended learning; however, the definitions seem to converge around the idea of synthesizing E-Learning with the more traditional forms of teaching and learning, drawing together the “e” with the classroom, the laboratory, the seminar and the tutorial setting. PBL is an educational strategy that involves the presentation of significant, complex and “real-world” problems to students that are structured in such a way that there is not one specific correct answer or predetermined outcome. The blended learning used in this study has been described as a form of complex blending in that it combines face-to-face and online PBL. Savin-Baden (2006) has concluded that the objective of combining PBL and E-Learning is in itself complex. She also recognises that this terminology is problematic since it offers little indication “about the ways in which technology is being used, areas where students interact, which tools are used, how learning materials are selected and applied and the extent to which any of these fit with PBL” (p. 4).

Issues, Controversies, Problems

Blended PBL is a growing field of study whose impact is becoming increasingly relevant in higher education in a period of continuing rapid change and within a set of global challenges. These challenges affect the teaching staff in higher education today, and as a result, the faculty/academic development experts who are charged with easing their transition through the sea-change in how education is delivered. There is currently little evidence of any comprehensive studies into the transformational potential of constructivist blended PBL in faculty/academic development; critical research to date has been sporadic at times but widespread and plentiful in addressing such issues as what is blended learning or PBL and how online PBL occurs.

Although the PBL tutorial is the central and key learning encounter in PBL curricula, and the integration of technology has increased in practice in recent years, surprisingly very little research has been done on what actually happens in blended PBL tutorials. The purpose of this study is to provide research-based information about the realities of delivering a constructivist PBL programme using technology. Central to this study is the role of interactivity and technology in supporting it in the contemporary PBL tuto-