

Chapter 6

A Pedagogics Pattern Model of Blended E-Learning: A Step Towards Designing Sustainable Simulation-Based Learning

Michel Labour

Univ Lille Nord de France, France & UVHC, LSC, France

Christophe Kolski

Univ Lille Nord de France, France & UVHC, LAMIH-UMR CNRS, France

ABSTRACT

In this chapter, we examine blended e-learning design based on user feedback commonly found in grass-roots educational practice. After outlining three approaches to understanding blended e-learning, we present Marcia Bates's informational process approach to bring together the design theory of Christopher Alexander and the instructional theory of Jean Houssaye. This results in our pedagogics pattern model to transcribe blended e-learning practice in a hands-on way to both instructional designers and educational practitioners using e-learning to satisfy the emotional and cognitive needs of learners. The Model takes into account the dynamics between technology-bounded determinism of e-learning and users' need to develop their personal emotional and cognitive preferences. We present case studies demonstrating the viability of our approach in simulation-based learning in Human-Computer Interface design, and writing an online troubleshooting wiki about network computing in English. The study used a qualitative method to evaluate feedback data in the form of tutor self-reports, learners' reports, examination results, and a collective analysis of three experienced tutors-researchers.

INTRODUCTION

In this chapter we look at how successful grass-roots blended e-learning design can be modeled and communicated to generate e-learning design. With the advances of the Web 2.0, teachers and

learners increasingly participate as both users and co-developers of digital resources. This has created a growing awareness of the intricate relationship between design, instructional practices and modelling theories. Indeed, for Steen (2008, p. 526) designing successful e-learning is part art and part science in that it draws from an understanding of instruction

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theory, and the knowledge and skills that users' wish to appropriate. This begs the question, however, of *what to do once blended e-learning has apparently been successfully crafted as a desirable educational experience?* We respond to this question by proposing a hands-on framework for e-learning designers, developers and instructors wishing to transpose a successful experience to different contexts.

Our touchstone is to go beyond the pure technology of e-learning, on the one hand, and blended learning as a *de facto* "compromise" position, on the other hand. Oliver & Trigwell (2005, p. 21) point out that blended learning is often little more than a compromise position of the dominant features of purely e-learning and face-to-face interaction. We take up this point and redefine blended e-learning based on user feedback "patterns". With this in mind, the chapter is divided in five sections.

The first section (Background) examines three different approaches to blended e-learning, followed by Alexander's "design pattern" movement and Houssaye's included-middle "Pedagogic Triangle" linked together by the informational process perspective of Marcia Bates to create our Model. The second section (Method of our study) presents the rationale of the method used in our study. The third section (*pedagogics pattern* model) lays out the five basic facets of our Model. The fourth section (Applications of the *pedagogics pattern* model) presents the results of our case studies to highlight the operational viability of our Model. The final section (Future Research Directions) discusses the possibilities our Model affords and some research issues it raises.

BACKGROUND

In his article, "Theory construction in design research: criteria, approaches, and methods", Ken Friedman (2003, p.7) argues that design involves solving problems, creating something new, or transforming less desirable situations to targeted situations by studying "why" and "how"

things work *via* a theory-drive framework. In doing this, designers can move between individual cases and broad explanatory principles when tackling set problems. We apply this insight by starting with an overview of blended e-learning approaches.

Blended E-Learning

Tutors have been combining educational technologies and face-to-face interaction for at least the last 30 years (cf. Bliuc, Goodyear, & Ellis 2007, p.231). It is around the year 2000, however, that "blended learning" came to the fore (Bliuc *et al.* 2007, p.231). In their well-known article, "Can "blended learning" be redeemed?", Oliver & Trigwell (2005) question the conceptual legitimacy and the exactitude of blended learning as an operational concept by asking what exactly is meant "blended"? To answer this we look at three approaches to blended e-learning.

First, there is the approach portrayed by the emblematic World Bank Institute (WBI). For the WBI blended e-learning is a way of creating an educational experience "cost effectively using a mix of integrated distance learning technologies (...) traditional face-to-face meetings, classroom activities (and) a variety of instructional strategies such as action learning and participatory learning" (WBI 2008). This view of blended e-learning focuses on a Return On Investment logic (cf. Bliuc, Goodyear, & Ellis 2007, p.231-232). Little mention is made of the emotional or affective quality of the learning experience for its learners and tutors (instructors).

The second approach to understanding blended e-learning comes from wishing to make traditional distance learning more attractive. Bliuc *et al.* (2007, p.231-232), and Reiser (2001) suggest that blended e-learning is a response to the failure of pure Computer Assisted Learning. Recent studies, however, show that pure online, and blended e-learning continue to co-exist today without one cannibalising the other (cf. Allen, Seaman & Garrett 2007).

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