Chapter 2
Learning as Immersive Experience: Learning and Teaching Practices in Virtual Worlds

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ABSTRACT

As virtual worlds come of age, their potential for applications supporting teaching and learning is becoming increasingly recognised. This chapter outlines a transition of learning, centring on the uptake of new tools for supporting Technology Enhanced Learning (TEL) in universities and colleges. In particular, the use of technologies such as virtual worlds is increasing the pedagogic toolkit of teachers and tutors, providing unique opportunities to support and enhance teaching and learning. In particular, the use of virtual worlds to reach remote, distance, and online learners is creating new opportunities for face-to-face engagement and motivation with difficult-to-reach groups. To evidence and explore this potential, this chapter documents the main findings from several studies which focus upon defining and examining the key components which contribute towards the efficacy of an ‘immersive learning experience’. This includes the main findings of the UK JISC-funded MyPlan project, wherein Second Life, a desktop virtual world, was used to support career decisions and educational choices among two groups of learners, the first from a college and the second from a university. These findings are compared to those arising from the UK Technology Strategy Board-funded Serious Games: Engaging Training Solutions (SG-ETS) project, which sought to develop and assess three high-fidelity serious games. The chapter focuses upon four specific components of virtual worlds and immersive learning techniques: personalisation through learner modelling, integrative feedback, intrinsic motivational quality, and what the authors term ‘social

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**INTRODUCTION**

Traditional practices of learning and teaching have often centred upon a traditional classroom setting wherein tutor and pupil interact through dialogue, text-based activities and regular assessments. This practice has of late begun to alter in the light of a range of related social, economic and political reasons, and taking greatest shape in the development of a set of tools often referred to as technology-enhanced learning. Within this set of tools lie social software applications such as Wikipedia and Facebook, 3D learning environments such as those developed within Second Life, and visual mapping tools, as well as mobile delivery devices such as mobile phones and PDAs.

However, underpinning all these substantial changes to our learning practices, two core inter-related trends are emerging: the greater empowerment of learners and more flexible delivery of content. Together, these trends are set to revolutionise teaching practices and instructional design, with broad implications not just for the role of tutors - a fact that has long been acknowledged, at least in the TEL literature - but also and significantly upon the institutions themselves, in terms of how they are constituted, managed and supported, as well as funded and organised. Consequentially, and inevitably, this impacts upon the actual face-to-face practices of teaching and learning, and hence upon the learners experience (Creanor et al., 2006), which lies at the heart of learning strategies and practices.

The authors of this chapter have been undertaking several lines of research reflecting these changes and anticipating the longer term changes that are implicated. In a range of studies, we have been analysing more closely what learning is and how it can be best designed and delivered, co-constructed and mediated. In these studies we have come up with several hypotheses, which we are in the process of testing in different contexts of learning and with different learner groups in the UK and in Mexico to get a broader cultural understanding of the way that learning takes place. This work has involved modelling learner groups (Jarvis & de Freitas, 2009), evaluating different learning theories and models in different learning contexts with game-based learning and user studies testing the tolerances of virtual worlds for learning practices (de Freitas et al., 2009). Through these studies we have found four powerful components of game-based and immersive learning: the capabilities of personalising learning through modelling learner requirements, the importance of the role of feedback to learners in terms of empowerment, the reinforcing and encouraging aspect of motivation which is well supported through interactive 3D spaces, and the central benefit of what we call social interactive learning, presenting opportunities for peer learning in the context of more open and exploratory 3D worlds.

These four components are focused upon in this book chapter which brings together the key findings of three studies, with a focus upon a UK Joint Information Systems Committee-funded study as part of the MyPlan project (de Freitas et al., 2009). This study focused upon approaches to using virtual worlds for supporting career decisions and educational choices through a virtual mentoring and fact finding exercise. The study included two learner groups, college students (18-21 age group) and mature higher education students (over 18), the main findings highlighted technical issues and a need for additional support structures but in the main demonstrated potential with respect to supporting social interactions particular within distributed groups of learners.
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