

## Chapter 13

# How Are Australian and New Zealand Higher Educators Using 3D Immersive Virtual Worlds in Their Teaching?

**Mark J. W. Lee**

*Charles Sturt University, Australia*

**Sue Gregory**

*University of New England, Australia*

**Barney Dalgarno**

*Charles Sturt University, Australia*

**Lauren Carlson**

*Charles Sturt University, Australia*

**Belinda Tynan**

*University of Southern Queensland, Australia*

### ABSTRACT

*Numerous papers have been published reporting on specific applications of 3D immersive virtual worlds in higher education, but there have been few attempts to systematically analyse and document views, experiences and applications across the sector. Presented in this chapter are selected results and findings from a questionnaire (n = 117), which was administered as part of a DEHub-funded scoping study of the use of 3D immersive virtual worlds in Australia and New Zealand for learning and teaching in distance/online, face-to-face and blended settings. The overall research design of the scoping study is discussed, followed by selected information from the questionnaire responses about the 100 subjects in which the technology was reported to have been used. This includes statistics on the subject levels, discipline areas, delivery modes, virtual world platforms used and whether the virtual world-based tasks were compulsory and/or assessable. Finally, the chapter reports on data collected from a subset of the respondents who provided more detailed information about their subjects in a number of areas, namely the nature of the in-world activities undertaken by students, the funding and support obtained for the initiative, whether dedicated development was carried out, views on the most successful aspects and the problems encountered.*

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## INTRODUCTION

Commentators have been predicting for a number of years now that 3D immersive virtual worlds such as Second Life will radically impact higher education—see, for example, the 2007 edition of the well-known *Horizon Report* (New Media Consortium and EDUCAUSE Learning Initiative, 2007) and the 2008 and 2009 editions of the Australia–New Zealand version of that report (Johnson, Levine, & Smith, 2008; Johnson, Levine, Smith, Smythe, & Stone, 2009). To date, however, reported use has mainly occurred in isolated ‘pockets’ of innovation in which highly committed and enthusiastic academic and support staff have devoted large amounts of their own time to pilot tools, environments and activities that they passionately believe will improve student learning within their subjects. There has been no previous attempt to comprehensively map the higher education field in Australia and New Zealand to determine exactly how widespread the use of such environments actually is. Similarly, there has been no attempt to collate the experiences of the wide range of academic and support staff who have used the technology in their teaching in order to distil the key take-home messages for others.

In this chapter, selected results and findings from the first phase of a scoping study of the use of 3D immersive virtual worlds in higher education in Australia and New Zealand are presented. The first of its kind in the region, the study parallels and complements studies completed in other parts of the world. It is being carried out under the umbrella of the Virtual Worlds Working Group (VWWG) within the Distance Education Hub (DEHub at <http://www.dehub.edu.au/>) research consortium and seeks to provide DEHub, the VWWG and the wider higher education community with a collection of implementation exemplars, as well as broader guidelines and recommendations.

The purpose of the scoping study is twofold: to provide realistic information to higher education practitioners considering the adoption of 3D

immersive virtual worlds in their teaching; and to provide researchers with a timely portrait of the field in Australia and New Zealand. The study has collected descriptions of applications of 3D immersive virtual worlds by higher educators throughout the two target countries in an effort to develop an understanding of how the technology is being used for learning and teaching across institutions and disciplines. Besides reporting on the characteristics of the virtual environments and learning tasks used in these implementations, a major goal of the study has been to encapsulate the views and perceptions of educators, including those with personal experience using such environments in their teaching and those who had considered their use.

This chapter begins with a review of relevant literature, before outlining the overall aims, objectives and research methodology of the scoping study project. Next, statistics from a questionnaire are reported that tell of 3D immersive virtual world use in 100 subjects at higher education institutions across Australia and New Zealand. This is followed by more in-depth, largely qualitative analysis of data collected from the teaching staff responsible for some of these subjects, who described the level and nature of support and funding available to them, whether a virtual environment or space was developed specifically for the application, the types of learning designs they used with their students, what they perceived to be the most successful aspects and the problems they encountered. The chapter concludes with a summary of the salient issues and findings, particularly as they apply to practitioners and their institutions.

## BACKGROUND AND LITERATURE REVIEW

Virtual reality applications allowing humans to experience and interact within synthetic digital environments have been in existence for more than 25 years (Collins, 2008). Yet it has only

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