Chapter 9

Students’ Perceptions About Delivery of Game-Based Learning for Virtual Patients in Second Life

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ABSTRACT

This chapter describes the use of the nominal group technique to assess students’ attitudes to game-based learning in the delivery of virtual patients in Second Life.

Two groups of undergraduate medical students (Yr 3, n=14) were invited to participate. The research question posed was: “In your opinion what are the advantages and disadvantages of learning in Second Life compared with other methods?” Thirty items were generated in each group, then reduced to 10 items. These were classified into 3 themes 1) learning experience, 2) clinical exposure, and 3) technical experience. Results from the first group focused on the learning experience highlighting its importance for clinical diagnosis and a structure for learning. The second group focused on the clinical exposure although they were ambivalent about the advantages of this type of delivery mode. Results show interesting findings highlighting the virtual patients developed follow a very linear approach which is not challenging enough for medical students at that level.

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INTRODUCTION

Anecdotal evidence from teachers suggests that the impact of gaming on millions of learners, who grew up playing best-selling games such as SimCity is starting to be felt (Squire 2002). According to Prensky (2001), these learners or ‘digital natives’ are native speakers of the digital language of computers, video games, mobile phones and any other digital technology that easily become available. Some authors recognise the fact that these learners have a cognitive style characterised by multi-tasking while learning, with short attention span during learning and an exploratory and discovery approach to learning (Asakawa & Gilbert, 2003; Bain & Newton, 2003; Prensky, 2005). However, the term ‘digital native’ has been recently expanded by Prensky (2009) to fit a wider audience that has grown up in the era of digital technology. Prensky defines a new term ‘digital wisdom’ emphasizing that the use of digital technology in our everyday lives makes us wiser.

Digital tools already extend and enhance our cognitive capabilities in a number of ways. Digital technology enhances our memory, for example, via data input/output tools and electronic storage. Digital data-gathering and decision-making tools enhance judgment by allowing us to gather more data than we could on our own. (Prensky, 2009)

Video and computer games are in many ways a ‘perfect’ learning mechanism for this group (Prensky 2006). Learning by games results in the acquisition of new knowledge, the transfer of learning, the development of intellectual skills (abstraction, anticipation, strategy-building, problem-solving, spatial representation, function-movement relationship), and the development of behavior and attitudes (Whelan, 2005; Sauve et al, 2007).

The term game-based learning has emerged as a generic name for the use of games for learning or educational purposes. It has also been termed ‘serious games’, and includes fully immersive virtual worlds, in which learners can take on virtual presence within these worlds (Joint Information Systems Committee 2007). Gee (2003) also observed how successful game play and experiential learning opportunities have been shown to share common aspects.

The game-based learning activities for the delivery of virtual patients were designed based on the four-dimensional framework developed by De Freitas and Oliver (2006) and discussed by the authors in other publications (Toro-Troconis et al, 2008), which provides a close relationship with the systems of Activity Theory (Kuutti,1996). The learning types described by Helmer (2007): Demonstration, Experiential Learning, Diagnostic activities, Role-Play and Constructive Learning were also taken into account for the design. And finally, it is worth highlighting the last three influential factors taken into account in the design which were described by Begg (2005): Emergent Narrative, originally described by Murray’s (1997), The Responsive Environment and the Psycho-social Moratorium originally described by Gee (2003).

The framework focuses on four main dimensions in advance of using games and simulations (De Freitas & Oliver, 2006):

- particular context where learning takes place, including macro-level contextual factors.
- attributes of the particular learner or learner group.
- internal representational world of the game or simulation and
- pedagogic considerations, learning models used, approaches, etc.

The Faculty of Medicine at Imperial College London developed a Respiratory Ward in Second Life with a series of virtual patients’ activities following the framework and modes of representation mentioned above. A range of game-based elements