

## Chapter 89

# Pedagogical Potential of Virtual Worlds: Challenges and Opportunities

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### ABSTRACT

*Every year, the number of people using virtual worlds is increasing. Virtual worlds and their avatars is a unique 3D experience for users. It is expected that virtual worlds will soon become the primary platform for all online activities. Looking at the increasing usage of virtual worlds, educators have started to use virtual worlds in their classes. Virtual worlds have the potential to provide a plethora of opportunities for meaningful learning. The objective of this chapter was to explore the potential applications of virtual worlds to enhance teaching pedagogies. This chapter explored many strengths and weaknesses of virtual worlds in academic settings. Some important issues were highlighted and specific recommendations were provided to make virtual worlds a more powerful and effective environment for student learning.*

### INTRODUCTION

Globalization, information expansion and international competition has resulted in many new challenges for today's learners (Cheng, Chow & Mok, 2004). Galarneau and Zibit (2007) claims that 21<sup>st</sup> century skills, such as critical thinking, generic skills, collaborating with others, and social awareness, are critical success factor for knowledge workers. Traditional educational systems that are content-oriented and teacher-centered do not provide meaningful learning (Slator et al, 2002; Galarneau & Zibit, 2007). Teachers must provide students' opportunities to interact with others and show them how the knowledge they gained in the classroom can be linked with the real life experiences. This would ensure that students are able to internalize this knowledge and able to apply it in a variety of contexts (Law, 2005).

Virtual worlds can help provide meaningful learning by making learning a discovering and reflecting process. Teachers can focus on teaching students how to learn, think and create. Learning becomes a fun experience that involves active user participation. Users use avatars, digital representation of per-

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sonalities. By conducting classes in virtual worlds, teachers can enable students use their avatars to ask questions, solve problems and interact with others. Visualization can help increase students' engagement and understanding of various topics of interest. Students across borders can take part in these virtual worlds and due to lighter consequences of failure, students freely engage in risky activities to explore and try new things (Gee, 2007).

After this introduction, section 2 analyzes various case studies to identify the current use of virtual worlds in education. Section 3 explores various challenges and opportunities of this use. Section 4 studies implications and provides specific recommendations to make virtual worlds a more powerful and effective learning environment for learners. Concluding remarks are provided in section 5. Some future research areas are discussed in section 6.

## **CURRENT LANDSCAPE OF USE OF VIRTUAL WORLDS IN EDUCATION**

Galarneau and Zibit (2007) claims that MMOGs (massively multiplayer online games) can help develop 21<sup>st</sup> century skills in players as a by-product of game playing. Everquest is a MMORPG in which group formation is essential to succeed in game. As such, players of this group do teamwork and collaborate with other groups to maximize chances of success. Virtual worlds also support the development of social skills. Interaction between users is essential so that they get the answer needed to create and share knowledge. Beavis (2004) claims that in this process of knowledge discovery some players become experts and establish themselves as authority. Doing so, they not only contribute to the virtual world environment, but also gain invaluable social knowledge that can help in their emotional development. Through game playing and information sharing, players learn to distinguish between what is valid and what is not. This ability is a key 21<sup>st</sup> century skill. Players also learn how to self-organize into groups, negotiate, and mediate conflicts (Beck & Wade, 2006; Galarneau & Zibit, 2007).

Virtual world users are committed to a common endeavor. Their affiliation is not with a particular race, class, ethnicity, or gender (Gee, 2007). Virtual worlds provide their users unique ways to establish their presence and identity. For example, a teenager can lead team of professional football players in a virtual world game. This could not be possible in real world. People can use virtual worlds to discover their hidden talent such as leadership skills. One drawback of their use in learning is that they are not specifically designed for some particular learning objectives. As such, teachers looking forward to use them in teaching would need to customize an existing virtual world to suit their pedagogical purposes.

Foreman and Borkman (2007) claims that virtual worlds can be successfully reformulated to achieve learning goals predictably and consistently. Teachers can use them to help students develop their understanding of various principles. Virtual worlds can provide their users structured interactions within a set of scenarios. According to Foreman and Borkman (2007), teaching in virtual worlds should be divided into different levels. Students must demonstrate their learning of some topics before they could be allowed to go to the next level. The current practices of assessment of student ability are centered on teachers and their tests. The traditional assessment method is an old but relatively effective method whose validity and reliability can be checked. One advantage of virtual worlds is that no external assessment is needed. However, teachers should be cautious because the student assessment tools used in virtual worlds have not been validated yet. Some studies provide guidelines on how assessment can be implemented in virtual worlds (Ketelhut et al, 2006; Redecker & Johannessen, 2013; Yu, 2009).

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