Chapter 5
Learn in Your Avatar:
A Teacher's Story on Integrating Virtual Worlds in Teaching and Learning

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ABSTRACT

A Malaysian Smart School document has vividly described components that will make up future classrooms in 2020. Nonetheless, such components can currently be implemented using Virtual Worlds (VW), specifically Multi-User Virtual Environment (MUVE). Integrating virtual worlds effectively in teaching and learning can be very daunting, especially when the tool requires a steep learning curve on the part of the teacher. This chapter aims to describe a teacher's journey of integrating Virtual Worlds or MUVEs in her teaching and learning, both for adult learners and Malaysian secondary school. The technology integration is based on continuous self-reflection of TPACK (Technological, Pedagogical and Content Knowledge) framework. The description will include the strategies used in learning to learn; learning to teach in virtual worlds; and also lessons learned during the learning process of using the technology.

THE IDEAL VISION: MALAYSIAN FUTURE CLASSROOM

By 2020, teaching and learning scenarios could be very much different from the one we have today… Students would learn in a community-led process (involving parents, teachers, university lecturers, professionals, industry members who actually make up the community) and would have access to the best teachers and the best educational material anywhere in the country…The learning environments would be formed through a programme of interconnected networks that increases communication, connectivity, shared, and experiential learning…Virtual reality teaching and learning experiences would become common through tele-immersion. Using tele-immersion, three-dimensional virtual images of the teacher

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could be projected to a student's home. The teacher and student could meet and interact online in real time (Smart School Roadmap, 2005, pp. 52-56).

The concept of future classroom described in the Fourth Wave of Malaysian Smart School implementation can currently be enacted through the use of existing Virtual Worlds (VWs) in teaching and learning. The following illustration in Figure 1 shows how a teaching and learning session takes place in a virtual world.

As illustrated in Figure 1, teaching and learning activities can be carried out in the VW as virtual learning spaces where 3D avatars can be present in 3D replicas of real places (e.g. Activeworld, Second Life, OpenSimulator/OpenSim), or 3D fictional places built by other avatars. In virtual worlds, avatars can walk, run, fly or teleport to different replicas of countries or places in the virtual worlds. Avatars can virtually be present together to complete tasks or outcomes. In this scenario, a session of building virtual objects in the virtual world was taking place among a few avatars—two learners, the teacher, and an invited technology expert.

DEFINING VIRTUAL WORLDS (VW)

Virtual Worlds (VW) refer to "A synchronous, persistent network of people, represented as avatars, facilitated by networked computers" (Bell, 2008). These 3D worlds are continuously gaining popularity as entertainment tools. By September 2010, virtual world users around the world has reached to one billion, with the majority of users comprises of kids and tweens age 10-15 years old (Kzero Report, 2010). Many educational institutions and Special Interest Groups (SIG) choose to use VW, specifically MUVE (Multi User Virtual Environment), or also termed as 'open virtual world' as supplements to existing face-to-face classrooms. In MUVEs like Second Life and OpenSim, individuals enter a virtual space/context in their avatars; interact with digital objects, communicate with other avatars or intelligent agents; and take part in scenarios that are similar to real world (Dietrtle, 2009). Aldrich (2009) differentiates VW from gaming and simulation 3D virtual environment; thus, social VW depends on the user to create content for its environment.

Virtual worlds, as variants of virtual reality, are claimed to offer many educational affordances. O'Driscoll (2007) listed seven learning possibilities of using VW in teaching and learning: a)The Sense of Self; b) The Death of Distance; c) The Power of Presence; d) The Sense of Space; e)The Capability to Co-Create; f) The Pervasiveness of Practice; and g) The Enrichment of Experience. These possibilities make VW as a powerful tool for teaching and learning as in the specific virtual space regardless of different geographical areas, learners are able to be virtually present, collaborate, and engaged to rich learning content. Educational institutions are also increasingly using virtual worlds for professional developments for teachers and as supplement to classroom practices. Similarly, in the field of distance education, there is an increasing trend of using VW and MUVEs, for both formal and informal learning (Smith & Zane, 2009).

TPACK (TECHNOLOGICAL, PEDAGOGICAL, AND CONTENT KNOWLEDGE) OF TEACHERS

To start using virtual world in my teaching and learning, as a teacher, I need to evaluate my existing knowledge on technology, pedagogy, and content. TPCK (Technology, Pedagogy, and Content Knowledge) is a theory of teachers' knowledge (Mishra & Koehler, 2006) and consists of domains that need to be considered by teachers to effectively integrate technology in classrooms. TPACK can impact the teaching and learning strategies and the approaches in which teachers choose to facilitate learning. A teacher should aim to achieve the triad,