

Classrooms of the future, incorporating virtual worlds

A Round Table to explore new ways of teaching

Torsten Reiners^{1,2}, Carl Dreher², and Heinz Dreher²

¹Information Systems, University of Hamburg, Germany

²Curtin Business School, Curtin University of Technology, Perth, Australia

Abstract: Virtual worlds are an emerging technology with rich social, commercial, and pedagogical applications. They are particularly popular with youth and young adults. This presents today's educators with the challenge of keeping pace with the learners of tomorrow. Do we need a new pedagogical model to integrate virtual worlds in the curriculum? Do we still need a real classroom? We would like to discuss issues such as these at a round table with academics who are interested in emerging technologies. Furthermore, the discussion will be a forum to exchange current projects and interests, and therewith, opportunities to establish research partnerships.

A number of issues are pertinent to the integration of virtual worlds into modern education. A key question is whether we need a new pedagogical model to integrate virtual worlds in the curriculum? Another hot topic is whether it is necessary to transfer all learning material into the three dimensional scenarios? Do we need parallel Learning Management Systems that are accessed from the virtual worlds and the real world, or should both worlds run without deeper integration? How can a lecturer take advantage of virtual worlds? Do we still need a real classroom? Do we need to think in a different way regarding learning experiences?

Over the last year, an emerging technology for distance learning has developed, mainly in the area of gaming and socializing. Virtual worlds are becoming an increasingly popular medium for gaming and socializing, but also for conducting commerce and education. Immersive environments such as these are likely to make considerable impact on the teaching and learning field. Educators all over the world are confronted with issues such as these, and have developed responses by creating numerous sites within the virtual worlds, holding lectures using avatars, assigning collaborative design projects, and surveying the online behavior of students and lecturers. Nevertheless, the authors notice that the technology and new learning paradigm is still a subject that most educators feel unsure about. Faced with demanding schedules, most educators either do not know how to start or would rather wait for a ready-made solution than invest research and teaching time in exploring new frontiers. The proposed round table aims to bring academics together and discuss subjects such as those listed in point form below. Furthermore, projects from the University of Hamburg and Curtin Business School are presented as examples of how to extend the classroom by several dimensions and define new learning experiences:

- What is the "right" virtual world? The number of virtual worlds is growing and manufacturers open new ones with different foci like sports, movies, toys, or gaming; see KZero (2008) for an overview of existing and coming worlds. The discussion could focus on how to decide if Second Life is a better choice than

Croquet, for example, how to get started, and which criteria are most important for a proper selection.

- The majority of virtual worlds are inhabited by the avatar of children or young adults. Consequently that the coming generation of students are experienced and proficient with these media. Students might expect to find these environments at a modern university, particularly in the area of distance learning. Therefore, in order to optimally engage students, we have to stay up-to-date with the technology and be ready for when virtual environments will be part of daily life.
- How can a lecturer take advantage of the virtual environment? It is as easy to create avatars and to socialize in the virtual world as it is in the real classroom. Besides being online, the social experience is not markedly different. However, we can augment the pedagogical process by using the technology to increase motivation, improve learning behaviors and cognitive performance, among other benefits. We have several examples of how classes are taught in interactive and dynamic online settings, where student's capabilities are developed by having international speakers, tasks to solve, or new worlds to discover. In particular, group assignments in virtual worlds provide new advantages because students can work synchronously on the same project, independent of their location, using a large variety of communication options.
- Is it useful to merge the virtual and real world using dedicated interfaces? Examples are information systems that visualize the information in an interactive 3D environment. These range from new kinds of weather maps, to container terminals that map the real action, to a sophisticated environment where everyone can investigate a modeled process from any perspective, e.g. van carrier driver. Further examples are production lines, where a product is ordered in and for the real world, but actually produced in the virtual world; see e.g. Burmester et al. (2008) for container terminal, Ebeling et al. (2008) for Supply Chains, or Hafner (2008) for jeans production.
- Lectures and online courses require assessment of the students to verify the learning success and development. Second Life is used for teaching and general assessment concerning the submission of 3D objects. Nevertheless, it is of interest to provide further more advanced assessment methods and integration in existing Learning Management Systems. Ideas of assessment that goes beyond multiple-choice and submitting objects are demonstrated.

Conclusion

New technologies have to be established and need to be explored. This round table explores the idea of virtual worlds, because it is about bringing people together and building a social (research) network to merge ideas and effort, and to achieve the breakeven point where the technology is used in parallel with the traditional classroom or e-learning. Without doubt, this discussion also welcomes critics, as constructive criticism clearly highlights needs for further research. Note that this round table proposal is not providing much specificity with respect to examples or scenarios, as we expect a group of interested academics to join us with thoughtful questions and their own experiences.

Expertise

Torsten Reiners is currently the coordinator of activities in Second Life regarding the University of Hamburg. In this context, he initiated several student projects being located on the “University of Hamburg” Island. In addition to his publications about virtual worlds in education, he is also consultant for Second Life in three Australian projects. Heinz and Carl Dreher have started using Second Life to model the processes of electronic assignment submission, assessment and feedback return. The three authors are collaborating to establish an online automated assessment laboratory in a virtual world, which is integrated in the web-based ‘real-world’ counterpart as well as demonstrating all associated processes. The Automated Assessment Laboratory in the Curtin Business School was established in 2007 to explore the range of automated assessment tools and strategies now becoming available.

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