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Pedagogy, Education and Innovation in 3-D Virtual Worlds.

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Introduction
Pedagogy, Education and Innovation in Virtual Worlds

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Virtual worlds such as Second Life are no longer the preserve of the stereotypical geek, nor are they just technical or social curiosities that educators and other stakeholders in schools can safely ignore. Gartner, Inc. (2007) estimates that by 2011, 80 percent of active internet users, including Fortune 500 enterprises, will have a "second life" in some form of virtual world environment. It also seems clear, however, that virtual worlds in whatever form will be a widely used knowledge- and social-interaction tools and will become another part of the social-technical system people use for teaching and learning in the foreseeable future.

These virtual environments have gained a cultural currency among the general population – and among the youth of today and 30-somethings in particular – that is reflected in continual references to them in more traditional forms of popular broadcast media. One result of this heightened awareness within the general population has been an increase in the number of virtual environments targeted - with varying degrees of educational and pedagogical intention - at children, adolescents, and adult learners in general. Some recent and diverse manifestations of this increased activity have been the approximately 300 educational institutions which have established some kind of presence in Second Life, the Children in Virtual Worlds Conference held at the University of Westminster, and the US Federal Consortium for Virtual Worlds. Increasingly, school districts, colleges, and universities are establishing virtual buildings and campuses in which they are offering courses, lectures, recruiting events, summer camps, and conferences.

In contrast to the blogs, essays, and published reports promoting and contesting the potential educational impact of virtual worlds, research has increasingly begun to focus on the particular affordances of more established virtual environments, such as Second Life and World of Warcraft, to inform changes and innovations in pedagogy. This new research focus on the actual teaching and learning practices and on their assessment in the virtual learning environment is occurring across traditional domain disciplines and in both formal and informal social contexts. For this special issue, educators, curriculum designers, and researchers in the learning sciences already working in these virtual environments have much concrete experience to bring to our dialogue on effective pedagogies and educational best practices.

This special issue of the journal examines the influence that learning in virtual worlds has on a variety of topics in education, including student achievement, literacies, curriculum, and instruction in K-12 settings as well as in higher education and research. The authors, who are both learners and teachers themselves, investigate what instructional affordances of virtual worlds educators are already using effectively as well as what limitations and constraints have presented themselves. Furthermore, some of the papers in this issue address how real world educational ethics and research practices translate in virtual worlds.

The special issue explores the breadth of designs, pedagogies, and curricular innovations that are actually already being applied to teaching and learning in virtual worlds. Our authors describe a virtual instructional Canadian border simulation at Loyalist College, a learning model for virtual world residents with disabilities, simulation-based training on video and media studies curriculum, operations management, classical music education, Second Life physics, visualizing atomic orbitals, computer science programming, and sports coach education. Several papers describe educational application for children, including entrepreneurship education for young children and the learning experience for gifted elementary students. Others look at the training of educators, including counselor skill development and training for pre-service education students. The roles of educator and researcher can be conflated, as seen in the study on educators and librarians as information providers in Second Life. Research methodologies are examined, including using visual methodologies for fieldwork in Second Life. In addition to the peer-reviewed research papers, interactive online exhibits are also described and included.

We received many submissions for this special issue, and we deeply appreciate the authors' creativity and efforts to contribute to our growing understanding of teaching and learning in virtual worlds. We especially want to extend our profound gratitude to all of the educators and scholars who volunteered to peer-review the papers selected for this highly competitive special issue. Your efforts contributed to the excellence of the collection presented here.

Keywords: pedagogy; education; innovation; virtual worlds.