Interactive, Interdisciplinary On-line Learning in Risk Management: Using Second Life for Transatlantic Education

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Social and organizational complexity generates an endless set of risks, but there are limited resources to manage them. There is rarely a single authority to make a binding risk management decision; instead the nature of the risk often requires collaboration, coordination and trade-offs between disparate and often competing stakeholders. The challenge is not merely a technical one. There are many social, legal, business and environmental issues that impede successful risk management. These challenges require imaginative solutions that take a broad approach to understanding and managing risk.

The Foundations of Risk is an online risk management course recently co-authored by Drs. John Quigley and Calvin Burns from the University of Strathclyde's Business School (UK), Education Technologist Howard Ramsay, also from Strathclyde, and Dr. Ron Pelot from Dalhousie's Department of Industrial Engineering and Dr. Kevin Quigley from Dalhousie University's School of Public Administration. The course is a 12-week, professionally-oriented course; it includes a strong theoretical foundation, practical case studies, video tutorials, and on-line discussion fora. The course is highly interactive and is taught using risk management tools and techniques from statistics, psychology, sociology and anthropology, respectively.

This year we received a contribution from the Canada School of Public Service's Innovative Public Management Research Fund to offer this course to public servants in Ottawa. In addition to our regular on-line material, for this pilot, three tutorials were included that occurred in the virtual reality platform Second Life. The course was also offered in two sections – one in French and one in English.

The Second Life Component

Second Life - www.secondlife.com - is an online "virtual world" where users are represented in a 3D environment on their computer screen and are able to move their avatars around and interact with others using textual or voice communication. In Second Life users are represented by avatars which can be made to look similar to their real life appearance. These basic accounts are adequate for most engagement although paid-for accounts allow much greater avatar customization and ownership of virtual land on which buildings can be placed.

A company or institution that uses Second Life will generally rent an area (in effect, server space) and will then have complete control over whose avatar can enter that area and what they can do. The rented area can then be customized with classrooms, lecture halls, meeting rooms or any other type of learning space. Avatars are able to move about the rooms, sit and otherwise engage with their environment and the other avatars.

Second Life has been found to give particular benefits in education especially where students are spread geographically and find it expensive or otherwise impractical to meet face-to-face. While face-to-face classrooms often look to on-line resources to supplement in-class learning, on-line classes are often searching for ways to create the connections that a face-to-face classroom provides. Compared with other on-line conferencing systems such as Skype or WebEx, Second Life can enable a more immediate social experience with greater engagement from a feeling of presence in this on-line world.

In other ways, Second Life is immature, however. Students sometimes comment on the lack of body language as avatars are limited in what aspects of physical self-expression they can use. Since control of avatars is through a keyboard and mouse, moving beyond the basic movement controls can be challenging for some users. Second Life is powerful networking software, which requires relatively complex connections to the Second Life servers and this can raise issues of firewalls and correct connectivity for some users who may attempt to access Second Life from government or commercial systems. Often participants find it simpler to connect

from their own home PC which has a simpler set-up and fewer firewall issues. More employer support is one possible solution to this problem. If, for instance, participants could work at home on the days in which Second Life sessions are run, it would probably help participation rates.

Second Life Results

We introduced the course and Second Life to students at a two-day, face-to-face workshop in Ottawa in January. The on-line part of the course started immediately thereafter. There were three sections to the course – rational approaches to risk, risk perception, and the role of institutions. Each section took approximately four weeks to complete. We ended each of the three sections with a Second Life session in Strathclyde's Second Life lecture hall or seminar room. The first and second sessions were conducted in a conventional lecture hall format. After a brief introduction by the professors, pre-assigned groups each made presentations on a pre-assigned task or answered pre-assigned questions. For the third session, the avatars sat in circles and discussed pre-assigned questions. Each session lasted about one hour. There were anywhere from five to ten participants at each session.

We surveyed students at the end of the course and asked them if the Second Life Sessions enhanced their learning experience. In addition to rating their overall experience with the workshop, students were asked to assess their comfort level in each of the sections of the course, including Second Life. The results were largely positive. The first session (rational approaches) seemed to be less successful – students gave it 3 out of 4 – but this section generally was less popular than the other sections due to the quantitative methods we used, which the students found more challenging. Moreover, it was the first session and it may be that it takes some time to become accustomed to the software. The second and third sessions scored 3.6 and 3.8 out of 4, respectively. (Ten students completed the survey.)

From the instructor's standpoint there are also some challenges. Second Life does not really provide the same visual cues as a real life encounter. There can be silences, for instance, during which the instructor wonders whether or not people are silent because they are confused or because they understand and simply do not have any questions. We discovered that in the lecture format, it is better if the avatars stand up before they speak so it is clear who we should be listening to. Like any lecture, the instructors also have to come prepared; it is helpful to have a few slides and to pre-assign some questions so that there is some structure to the interaction. Finally, as with any adult education environment, the instructor also needs to give participants ample time to speak and engage with the others.

We feel we tested a number of things in this course that were new for many participants: interdisciplinary approaches to risk; new risk frameworks; Second Life; 12 week on-line learning; video lecturing; workshops; courses in both official languages; and transatlantic engagement. On balance we are satisfied that this was a very successful pilot and we look forward to offering the course again soon.

Goodbye, Aileen Patterson!

In July, after 5 years as the SRI Administrator for the Centre for Learning and Teaching, Aileen Patterson is now the Office Manager in the Biology Department here at Dalhousie. As well as being responsible for overseeing the administration and distribution of SRI forms and reports, and working as the CLT budget officer, many of you will have spoken with Aileen when making last-minute requests for SRI reports. Aileen's organization and efficiency, as well as her friendly and helpful disposition, will be much missed in the CLT Office. Everyone here wishes Aileen every success in her new position!