

LEARNING TO TEACH ONLINE



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CASE STUDY

Teaching using scenario-based simulations in Second Life

Featuring: Simon Kear, University of Leicester

Context

- A small group of part-time distance learning students from around the world participating in the [MSc in Occupational Psychology](#)

Description

- All students are off-campus and never meet each other or the teacher face-to-face
- Students used the virtual world to engage in simulated activities that they would be expected to perform as part of their profession

Technology

- [Second Life](#), a 3D online virtual world

Written Simon McIntyre

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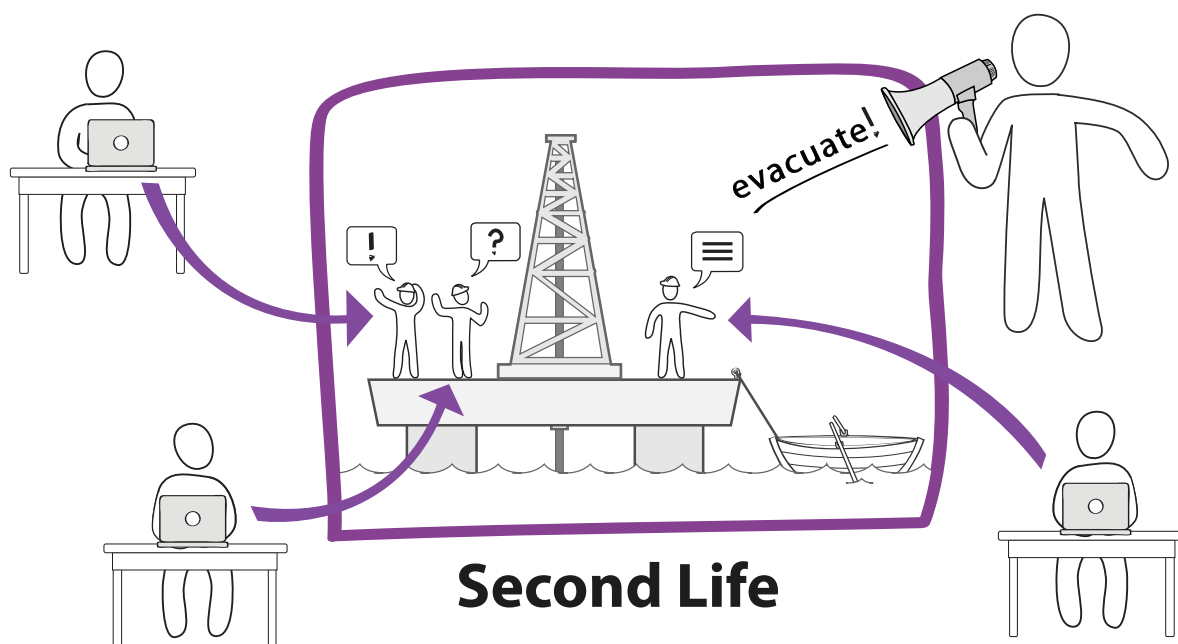


Aims and overview

This case study examines how the University of Leicester utilised a virtual oil rig in the online world Second Life, to help students develop an emergency evacuation strategy for an oil rig. This was conducted as part of the [DUCKLING research project](#), involving students in an online masters degree in occupational psychology. The unique learning opportunities offered by virtual worlds are discussed, along with common technical difficulties that can potentially inhibit student learning.

What is a Second Life?

Second life by [Linden Lab](#), is a virtual online world where users can interact, create, collaborate and socialise. It is often used in education to facilitate scenario based learning or role playing activities that could not be conducted in the physical world. Users can create and control online characters called [avatars](#), with they can explore the virtual world and interact with other avatars from around the world. Institutions or individuals can buy their own [islands](#), where they can build their own mini worlds, creating landscapes, buildings, and integrating a wide range of interactive learning activities, documents, videos, sound, and other media. Users can also buy ready made objects or structures, and even run businesses in Second Life.



The University of Leicester developed an island in Second Life called Media Zoo, and bought a ready made oil rig which they installed just off-shore. This rig was used as a location in which students studying an online Masters of Occupational Psychology could develop and implement a workplace emergency evacuation strategy, and then participate in a role play evacuation, enabling them to reflect upon the effectiveness of their plan in context.

Case study outcomes quick summary

Key benefits

- Students responded positively to the experience
- The virtual world provided an effective space for collaboration and peer learning in a simulation scenario
- Students can register and create a Second Life avatar, and participate in the virtual world for free
- Working within the virtual world gave students a sense of authenticity that they could not have experienced by conducting the exercise on paper or using discussion forums
- Students would never have an opportunity to conduct this exercise within a real world industrial complex because of financial and occupational health and safety issues

Key issues to consider

- Training needs to be provided to help students become familiar with, and navigate within the online world
- It is difficult to ensure all off-campus students will have sufficient hardware or broadband access to run Second Life effectively. In this instance, 30% of students dropped out of the Second Life component of the class due to such technical difficulties
- Being able to construct interactive virtual environments can take considerable time and skill to perfect. However people are available for hire who have these skills, or structures such as the oil rig used in this case study can be bought ready made
- [Buying an island in Second Life](#) to develop your own educational environments can prove expensive. At the time of publication an island costs US\$1000 with a US\$295 per month maintenance fee. This cost is not passed onto students, who can access islands for free

Motivation for using Second Life

Simon Kear is the Keeper of the [Media Zoo at Leicester University](#) in the UK. He was asked to help create and assist in the facilitation of a Second Life learning scenario for students within the Occupational Psychology online degree at The University of Leicester. Senior Lecturer in Occupational Psychology, Dr Andrew Shepherd describes the reasons for choosing Second Life as such:

- It was felt that Second Life would add an immersive, synchronous and engaging element to what had been a very dry part of the class which was previously conducted via online discussion forums
- It offered the opportunity to simulate professional work environments that students would otherwise not encounter during their study
- There was potential to carry out demonstrations of people doing jobs, opportunities for students to engage in the jobs themselves and opportunities for students to engage in investigatory process, including consultancy
- The technology offered the possibility of collaborative learning experiences that could not be done face-to-face without significant costs and dangers.

Planning

The main aim of the Second Life scenario was to help students develop their ability to work with their peers in contexts that resembled real work scenarios, while at the same time offering an opportunity to apply the key principles taught within the curriculum such as teamwork and collaboration, systems, etc. The following were important aspects in the planning process:

- The [Salmon 5 stage model](#) was used as a basis for the pedagogical design in the Second Life environment. These steps provided a framework from which activities were developed for different stages of the learning process. These include: 1) Access and motivation; 2) Online socialisation; 3) Information exchange; 4) Knowledge construction and 5) Development
- Learning activities were carefully designed to promote collaborative knowledge construction and peer review, and role play was utilised to provide a sense of immersion in the scenario
- For more information regarding the planning of this project, please refer to [in the University of Leicester's Duckling Project Final Report](#).

Teaching

The oil rig scenario was run over an intensive three day period. Students were required to visit the rig individually and as a group in order to advise the 'rig workers' (role playing teachers) on how to develop an evacuation plan. Students volunteered to participate in the scenario, which had two purposes: to work together as a health and safety team, and to develop an evacuation plan for the oil rig. Simon Kear offered the following additional observations:

- It was important to provide students with guidance and support for getting used to Second Life. At the start of the class, students were led through activities to help them create avatars, navigating and communicating in the virtual world
- Students could wander around the oil rig, conducting safety assessments and working together to develop what they considered to be an effective evacuation plan for a real oil rig
- Towards the end of the course, Simon modified the online environment, creating obstacles, fire and obstructions to passages to simulate an emergency situation. Students did not know that an emergency was going to occur on the rig
- This gave them a chance to apply their evacuation plan in an emergency context, complete with the uncertainties, confusion and sights and sounds of a real emergency
- Students were able to then reflect and analyse their evacuation plan with a greater level of depth and authenticity than would have been the case without the first hand experience of the emergency
- Despite student engagement and satisfaction with the experience, some teachers and students involved felt the barriers caused by the complexity of technology, sometimes hampered the overall effectiveness of the learning experience within the Second Life environment.

Conclusion

There were significant technical issues apparent in this case study that should be taken into account if planning your own teaching within Second Life. However, the potential for virtual worlds to engage students, and to provide a sense of realism and authenticity for scenario or simulation based learning activities was clear. There exist many opportunities to create replicas of real world locations and contexts, as well as being able to fashion worlds not governed by the laws of physics or reality. The technology can offer great possibilities if all of these factors are taken into consideration as part of the planning process.

Additional information

University of Leicester Duckling project

www2.le.ac.uk/departments/beyond-distance-research-alliance/projects/duckling

University of Leicester Second Life Media Zoo (a Second Life island where the oil rig is located)

<http://bit.ly/eglZ4b>

University of Leicester Case Study: Second Life in Occupational Psychology

<http://bit.ly/dOC2q4>

University of Leicester Case Study: Second Life in Education

<http://bit.ly/i2hCO9>

Additional reading*

Boulos, M. N. K., Hetherington, L. & Wheeler, S. (2007). [Second Life: an overview of the potential of 3-D virtual worlds in medical and health education](#). Health Information & Libraries Journal, 24(4), 233–245. doi: 10.1111/j.1471-1842.2007.00733.x

Girvan, C., & Savage, T. (2010). [Identifying an appropriate pedagogy for virtual worlds: A Communal Constructivism case study](#). Computers & Education, 55(1), 342-349.

Hew, K. F. & Cheung, W. S. (2010). [Use of three-dimensional \(3-D\) immersive virtual worlds in K-12 and higher education settings: A review of the research](#). British Journal of Educational Technology, 41(1), 33–55. doi: 10.1111/j.1467-8535.2008.00900.x

Nie, M., Witthaus, G., Armellini, A., Salmon, G., & Mukherjee, J. (2010). [DUCKLING Final Report](#): University of Leicester.

Salmon, G. (2009). [The future for \(second\) life and learning](#). British Journal of Educational Technology, 40(3), 526-538.

Salmon, G., Nie, M. and Edirisingha, P. (2010). [Developing a five-stage model of learning in Second Life](#). Educational Research, 52(2):169-182.

**Note: Some readings are held in subscription only databases. In most cases accessing the link from your institution's network will enable access*

Acknowledgements

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Second Life www.secondlife.com appears in this episode in a non-commercial context in accordance with the Linden Lab Snapshot and Machinima policy http://wiki.secondlife.com/wiki/Linden_Lab_Official:Snapshot_and_machinima_policy.

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Keeper of the Media Zoo, Beyond Distance Research Alliance

Dr Andrew Shepherd

Senior Lecturer, School of Psychology

Dr Alejandro Armellini

Senior Learning Designer, Beyond Distance Research Alliance

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www.online.cofa.unsw.edu.au

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Simon McIntyre
LTTO Project Leader
s.mcintyre@unsw.edu.au
Phone +61 2 8936 0631

Karin Watson
Co-Project Manager
karin@unsw.edu.au
Phone +61 2 8936 0631

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About the project

The [Learning to Teach Online](#) project is a free professional development resource designed to help teachers from any discipline, whether experienced in online teaching or not, to gain a working understanding of successful online teaching pedagogies that they can apply in their own unique teaching situations. It hopes to encourage dialogue, discussion and the sharing of ideas about online learning and teaching across disciplines and between institutions around the world.

About COFA Online

COFA Online is an academic unit at the College of Fine Arts (COFA), The University of New South Wales (UNSW), Sydney, Australia. It has been innovating online pedagogy, academic professional development and effective online learning strategies since 2003.

About The University of New South Wales

UNSW has an enrolment of approximately 40,000 students, and is the leading international university in Australia with over 10,000 international enrolments from over 130 nations. UNSW was also ranked as the top university in 2009 in the Australian Government Learning and Teaching Performance Fund for the quality of its teaching.

Australian Learning and Teaching Council



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