

VIRTUAL WORLDS IN EDUCATION

Virtual Worlds open up a whole new range of opportunities for educationalists, lecturers, teachers and students. Having a completely malleable digital world at your disposal offers the chance to create unique learning experiences, unhindered by the limits of real-world physics, or (to an extent) time and budgets. From lectures on the moon or inside of a combustion engine to experiencing different cultures and time periods Virtual Worlds have the potential to change much traditional learning.

Virtual Worlds are well suited to experimental, collaborative and problem based learning. They offer a safe environment where students can explore and make mistakes – with minimal or no repercussions Virtual Worlds are also ideal places for informal learning, where students can learn from information embedded in the environment.

The Campus - Imaginary or Real?

Many clients initially think about recreating their whole campus in a virtual world. Whilst this can have its merits the creative opportunities of virtual worlds (and sometimes technical limitations) suggest that a more imaginary and open space approach is better. What may work best is to have a few real-world points of reference, but to leave significant space for novel environments.

The Virtual Classroom

There are at least 3 new types of virtual classroom that can be created in most virtual worlds:

- A “conventional” classroom, but one whose windows open out onto a “virtual” environment matched to the lesson
- An empty classroom whose interior can be instantly changed to reflect the lesson, “holodeck” style

- An entire space which is created to provide a unique learning environment, from medieval hovel to volcano caldera

With a relatively small virtual space a number of flexible virtual classrooms can be created to support a wide range of teaching activities.

Technology Integration

It makes sense to leverage an establishments existing investment in technology. Virtual worlds can make ready use of existing video, audio and PowerPoint. They can also be integrated into Virtual Learning Environments (eg Moodle), and eLearning tools and standards such as SCORM and Labyrinth.

Staff and students can also easily capture video, images and text chat from within the worlds to include in assignments and post to intranets, blogs, wikis or the web.

Choice of Worlds

There are now a number of virtual worlds to choose from. As well as Second Life, other virtual world options include platforms such as Forterra's Olive, QWAQ and Multiverse.

Decisions as to which to use should be based on a variety of factors including capability, security and cost. Second Life offers probably the simplest route into Virtual Worlds, and with Closed Islands on the Teen Grid students can be offered a completely protected environment accessible only by you, and which prohibits their moving out onto the rest of the Teen Grid.

Second Life also makes it easy for staff and students to get involved in the creation and maintenance of the world, reducing costs and increasing involvement.

STUDENTS GO ON LOCATION IN SECOND LIFE



Daden have recently completed a project for Birmingham City University in Second Life. The build is part of the LiVE project (Learning in a Virtual Environment) researching the use of a three-dimensional virtual environment for learning and assessment. The study is being led by the University's Technology Innovation Centre (TIC) together with their Learning Technology Development Unit.

The project will see students undertake film production exercises using Second Life as part of their BSc (Hons) Film Production and Technology degree course. Students are required to 'scout' a filming location to determine the resources and risks involved in shooting a particular scene on location.

LiVE Project Co-ordinator, TIC's Jerry Foss, has over 30 years experience through research roles in the telecommunications industry, where he was instrumental in the development of virtual reality projects. Jerry says:

"The location scout exercise enables us to assess problems and opportunities that we believe could benefit from a three-dimensional environment for collaborative working".

A virtual environment enables camera angles, scenery alignment, actor positions and other items to be planned and experimented with in advance. Similarly, the crucial health and safety considerations of location filming can also be tested and assessed without risk, before the task is undertaken in the real world.

The trial re-creates TIC's Millennium Point campus, where students will also undertake a real-world location scout. Second Life was selected by the LiVE project team for its accessibility and ease of use by trial participants. It also provides established tools for constructing virtual buildings and artefacts

The build was completed in a two month time frame. It contains approximately 17,000 building blocks (prims)

spread out over 2 sims (islands). Daden developed all the textures used in the build by taking numerous pictures (including panoramic shots) of the building and actual materials used at Millennium Point in Birmingham, UK.

By carefully reviewing the floor plans, against these photographs, Daden were able to recreate the actual structure, including the angles, the vertical and ceiling components. The photographs enabled us to get a real feel for the building, which was particularly important as some of our builders were not based in the Midlands. The many reflective surfaces in the build also required some special work both with texture creation, and the subsequent lighting of it. Placement, colour and intensity all had to be taken into account. This attention to detail and clever use of lighting within the public places, means the Second Life version is as stunning a building as its Real Life counterpart.

The elevators, which cover 5 floors, are coded specifically to behave as real life elevators. Thus they are programmed to handle multiple riders and floors, and queue calls in a similar manner to most real life elevators - but without the breakdowns or maintenance issues!

"To supplement the building we also had to create the camera equipment that the students would use. Some of it we built from scratch - such as the signs and cones. Others equipment like the cameras and lights were sourced from an in-world cameraman.

However his devices were passive and we needed equipment that the students could interact with. So we enhanced them to make the lights go on and off when touched. We also added a recording icon to the camera so that the tutor knew he was getting "through the lens" shots from the camera itself when students submitted their work." says Daden's Managing Director, David Burden.

The island is currently closed to the public. Should you want a private tour then please contact us.

Case Study Teen Second Life

The Open University undertook a study to evaluate the educational potential and pitfalls of Teen Second Life. The study aimed to find out more about how 14–19-year-olds use Second Life, and used 149 students from the National Association of Gifted and Talented Youth (NAGTY) as a sample. The study found that the level of engagement was comparable to other media. Of the 68 per cent of students visiting the island, 41 per cent spent more than an hour.

Access was an issue particularly for some students. But those who could access the Second Life site Scheme Park [<http://www.scheme.ac.uk>] and participated with the wiki and forum developed a wide range of Second Life skills (such as moving around the environment, scripting and producing movies in-world and constructing objects), skills which were found to have transferable value. In particular the study highlighted communication, teamwork, leadership and creativity as the particular skills supported through the activities. Interestingly, those who used the wiki and forum showed higher levels of performance than those who just participated in Scheme Park.

Notably, students that found social aspects of life problematic at school found that Scheme Park provided a more secure and safer environment within which to explore social relationships, leading to enhanced confidence and the development of social skills.

Quote from student:

'I think that what Scheme is doing through breaking down the barriers between teachers and students making it hard to see where one stops and the other begins, is fantastic, because when everyone is on the learning curve together, it brings about less of a feeling of segregation and a greater feeling of equality, and this leads to trusting people more...'

Source: "Emerging technologies for learning. Pg 66. Vol 3,(2008)"

DADEN
LIMITED

If you think that virtual worlds could help you deliver a better educational experience to your students then we'd be more than happy to come and present to you, your staff, and even your students, to give you a better understanding of what this technology can offer now, and where it might be going in the future.

Contact Daden on 0121 698 8520 or email them at education@daden.co.uk