



Virtual world activity in UK universities and colleges

Zombies can't fly: the enduring world of the virtual

John Kirriemuir (editor)
www.silversprite.com

March (Spring) 2012

“The fact that you can distribute a virtual world server and viewer on a USB stick, including documentation, that you can make it a downloadable package, allowing you to basically hand over a virtual world to every student is an incredible thing. It allows you to create an MRI scanner in its actual environment and distribute it at will. Or an airplane cockpit. Or a nuclear power plant. Completely independent, doesn't even need internet access.

A world in the palm of your hand. That's just amazing.” - Ferdinand Francino, Glasgow Caledonian University.

“The core Second Life application was for accountancy training - not the first thing you think of using Second Life for.” - David Burden, Daden Ltd.

“To get the full potential of virtual worlds, they have to stop being a 'ghetto' type activity. Barriers have to be broken down between virtual worlds and the wider web, and usability has to dramatically improve.” - Dr. Daniel Livingstone, University of the West of Scotland.

“We now have lots of data on teaching and learning experiences from the evaluations we have done of various projects. Overall, it is like any form of teaching and learning experience. If the experience has been well thought-out and enthusiastically driven by the teaching staff, it is successful. If not, it isn't.” - Liz Falconer, University of the West of England.

Originally self-funded and published
by the Virtual World Watch project



Summary

As with previous snapshots, the responses show a mixed picture of virtual world use and institutional attitude in UK Higher Education, from the positive:

*"We seem to be moving into a phase where virtual worlds are taken very seriously as potential environments for learning which means, as an institution, we don't waste time trying to repeatedly convince ourselves any more."*¹

...to the negative:

*"My personal view is that the downturn in interest reflects a combination of effects arising from the financial squeeze on universities and the need to concentrate on the provision of hard evidence of academic quality in order to justify the new tuition fees our institutions wish to charge."*²

Second Life remains the predominant virtual world of use amongst survey respondents, as it has been in UK academia for over half a decade. However, other worlds such as OpenSim (in particular) and Open Wonderland are being explored and used by an increasing number of academics, partially due to their functionality and partially as they do not exhibit the restrictions and costs of using Second Life. On the subject of Second Life; while comments about this particular virtual world were mixed or positive, comments regarding Linden Labs were pretty much all negative, due in large part to the increased cost of 'land'.

When asked about what happened when students encountered virtual worlds, most respondents reported good experiences. The steep learning curve of virtual worlds, and the expectations of video game playing students, were themes in those who reported mixed virtual world experiences amongst their students.

Institutional support, such as IT provision and virtual world access, staff time, virtual world technology acceptability, and funding for staff and infrastructure e.g. Second Life island space, remains varied across UK universities. Some institutions provide significant support and internal funding; others provide nothing and academics persevere through their own devices. Despite this, some UK academics who have had little or no support have persisted in using virtual worlds in their teaching and/or research for several years.

There is enthusiasm, research, and a (wide) variety of ideas (and some disagreement) on how virtual worlds should be integrated with other technologies. The SLOODLE³ project, which integrates the virtual environment of Second Life or OpenSim with the Moodle learning management system, was mentioned positively by several respondents.

Future predictions varied amongst the respondents. Some were handicapped, or disenfranchised, from further use of virtual worlds further due to a squeeze on funding or other institutional resources, or a change in priorities within their host university regarding what staff should be doing. They were understandably pessimistic about the future use of virtual worlds in academia, by themselves and others. Others saw a continuing use of virtual worlds in teaching and academia, an optimism shared by several first-time contributors to a snapshot.

Several participants called for more research, and the highlighting of the resultant data to make a stronger case for the use of virtual worlds in education.

¹ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

² Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

³ SLOODLE (Simulation Linked Object Oriented Dynamic Learning Environment) project.
<http://www.sloodle.org/>

1. Background

(Updated: 4th August 2012)

1.1 This report

Virtual World Watch was an online micro-service, operated on and off from 2007 and 2012. For much of that time it was funded - either as a compiler of stand alone reports, or as a more cohesive service - by the Eduserv Foundation⁴. Since 2011, the service has been largely unsupported and has produced a few more stand alone reports.

This is the final snapshot (or other) report by Virtual World Watch. The report you are currently reading has gone through several amendments, as well as a limited / experimental print version. It won't be amended further, but will remain archived and freely available online.

As with the other snapshots, and other reports, produced by Virtual World Watch:

- Feel free to use them as you see fit.
- Though freely available, copyright of text submitted by academics remains with them. At the very least, please acknowledge any quotes to whoever made them.
- If contacting academics who are quoted in this report, please do so responsibly. Also note that their comments were submitted some time ago, so their work, use of virtual worlds and opinions may have changed or evolved in the meantime.
- If citing, a reference or link to the archive for this and the other Virtual World Watch reports would be appreciated⁵.

1.2 Zombies?

Yes, zombies.

This report was compiled from the autumn of 2011 through to the spring of 2012. During that time, various media, culture, TV and films were recycling the concept of 'zombies'.

The most notable of these is the AMC series "The Walking Dead"⁶ where, in a virus enraged world, most people⁷ are infected and have become zombies. Those few who are not zombies do the usual pulling together, squabbling, running, and generally killing zombies in a variety of inventive ways, to stay alive. Until the next episode or series, anyway.

There's a scene in the first series where one of the non-zombies is just fed up, has had enough. After slaying various zombies, another one refuses to die. He finally kills it, with the seriously annoyed exclamation of something like "Just DIE and STAY DEAD. PLEASE."

He does kill it, but (of course) in the next scene there's another zombie. And in the next episode, and so on...

⁴ Previous Eduserv projects. <http://www.eduserv.org.uk/newsandevents/research/projects>

⁵ As of August 2012, Virtual World Watch materials are archived at <http://www.silversprite.com/>

⁶ The Walking Dead. <http://www.amctv.com/shows/the-walking-dead>

⁷ Avoiding plot spoiler.

The scene was a reminder of a recent UK university workshop on technology in education. It was floor time, and various attendees were introducing what technologies they used, and why, and how they were getting on with them. One academic described how her class went into Second Life and used the environment to collaboratively develop content and communicate. It sounded good, especially when she pointed out that the constraints of time and location on the students meant it was the only 'place', real or virtual, that the class could come together.

From one of the other attendees (who sat there the whole day with contemptuously folded arms) came the moan "Oh god. Universities are STILL using Second Life? Please, for the love of god, why won't it just DIE?"

Hence the zombie reference. Though, unlike zombies, avatars can fly. And do rather a lot of other things, without the need to feed on brains or normal human flesh⁸. And, behind every avatar there's a 'real' human being.

In response to the moaner, another delegate turned round and pointed out to him that if Second Life was so bad as he probably thought, then why indeed are universities and academics STILL using it? As section 2 of this snapshot report shows, more than a few have been using Second Life for several years, even over half a decade, for teaching and research.

Open-minded scepticism about technology in education is healthy. Essential, arguably, to reducing the chances of time and resource being devoted to inferior teaching or research.

Closed-minded scepticism is, however, unhealthy and disruptive to the research process, rarely adding anything of use to the debate. Though I have some sympathy for closed-minded sceptics, as they seem to be permanently unhappy people in life, they aren't useful to the academic process.

Whatever the issues or problems with the closed-minded sceptic at that conference (he'd go on to rail against other technologies, and became Billy No-Mates during the breaks), he will be disappointed to learn that Second Life and virtual worlds haven't gone away, and neither do they look like doing so for the foreseeable future.

1.3 Data collection

Data collection took place over the autumn and winter of 2011/12, with several contributions being amended in the spring of 2012.

Responses were received from 42 organisations or academics; of these, 33 made it into the snapshot report. Some of the rejected submissions were excluded for the same reasons that previous submissions from the same correspondents were, including:

- Sending merely a bibliography of papers and articles, with no context or other information.
- Sending corporate-speak submissions i.e. full of vacuous jargon and phrases, with little or no useful (or usable) content within.
- Submitting completely in the future tense e.g. instead of detailing student experiences with virtual worlds, speculating on what they might be if the academic ever used the technology.
- Writing one word answers or phrases in response to all of the questions.
- Sending a long and negative essay (rant) about Linden Labs, while ignoring all of the survey questions.

⁸ Side point. If zombies are all so hungry, why don't they just eat each other? Also, you never see any of them drink; why do they not die off within a few days from dehydration? Never mind.

All of the responses included in this snapshot report were from the UK. The call for submissions was made on several mailing lists to which academics in Eire subscribed to, as well as directly to identified academics in that country who may have been interested in replying. Unfortunately this resulted in only 2 returns, neither of which were suitable for inclusion.

Editing has been light, with only obvious misspellings, innuendo and foul language removed. Extra footnotes and links, and acronym expansions, have been added in a few places for clarity and context.

The average length of an included snapshot survey response was 644 words. The quickest time a response came in after the first public announcement was 41 minutes; the slowest was 3 months and 4 days.

1.4 Virtual World Watch: a brief analysis

After looking at various funding and financing options on and off for the last couple of years, it was a not difficult decision in the end to finish the micro-service. The reasoning is thus:

1. Operating Virtual World Watch on the cheap - popping up for the occasional snapshot, trying to get by on a wing and a prayer with no technical or editorial support - can be done. But it ends up being an unsatisfactory, problematic, service. Also, cheap is still not the same as free. Some funding is required for hosting costs and, well, to eat.
2. Operating Virtual World Watch properly requires a good bit more funding. "Properly" means:
 - Running a continuous news and dissemination service.
 - Comprehensively surveying virtual world activity, which would require going 'deep' into every UK university and uncovering activity which otherwise wouldn't be reported.
 - Having regular (at a minimum, every 6 months), well-edited, snapshots that also contain information about non-respondent activity.
 - Providing an updated gateway to resources which UK educators wishing to use virtual worlds have said they needed, such as pointers to relevant guides, sources of funding, and events that are worthwhile to attend.
3. The level of funding to do it properly requires a time-consuming (with no guarantee of success) hunt in the mid-range tiers of formal funding. Even if successful, after informal discussions with a few people from UK education funding bodies, it would likely be conditional on changes which would reduce the comprehensiveness of activity coverage. For example, focusing resources on glossy print reports which highlight a few instances of virtual world use, rather than free-to-all online reports which give airtime to many more.
4. Virtual World Watch - and the people who contributed to it - have established several facts beyond doubt (see achievements, below). There's less of a need to keep re-stating and re-showing these.
5. Instead, as virtual world use in UK universities and colleges has been happening for several years now, there is (and should be) *evidence*⁹ of how effective this particular technology is, in learning situations. Bringing this scattered evidence together, adding to it, and synthesizing it so particular audiences can make more sense of it, is needed more.

⁹ See www.silversprite.com (where Virtual World Watch reports are also archived) for more consideration on what evidence actually is.

Some other models of virtual world activity dissemination arguably work better than the current Virtual World Watch. Two in particular stand out.

1. Jane Edwards of the JISC West Midlands Regional Support Centre runs a series of well-attended "show and tell" events for people in universities and colleges who use virtual worlds in that particular region. These have shown a high degree of activity in the area, and the events form a local "social glue" for practitioners.
2. Virtual world technologies seem better focused to relatively specific subject domains. Midwifery is a prime example, where several universities in the UK and New Zealand developed "virtual birthing centres" and formed a community of practitioners. This makes sense; content can be shared or exchanged, co-dissemination ramped up, experiences shared, and a highly focused community can coalesce and make the most of this particular technology in a specific subject domain.

The raw statistics for the Virtual World Watch service were:

Snapshot reports:	10 (totalling 236,931 words)
Other reports:	3
Presentations at events:	18
Tweets:	301
Website posts:	229

Accurate online viewing and download statistics are impossible to generate and would be taken with a pinch of salt anyway (e.g. what is a "view" and how many people read a downloaded report). Suffice to say that each of the reports was downloaded a five digit number of times, with snapshot four (Autumn 2008) being the most downloaded. Even after periods of several months of inactivity, the website still received a significant daily amount of traffic and report downloads.

Over the five years, Virtual World Watch:

1. Showed, through examples, that teaching using virtual world technologies in UK universities across a very wide range of subject domains was possible.
2. Showed, through longitudinal reporting, that virtual world technologies were being successfully used in UK universities by the same people across several academic and calendar years.
3. Provided, through the snapshot reports, proof that virtual worlds could and were being used in teaching and research; proof that more than a few academics used to make their case internally and externally for funding and support.

This was not the original intention of Virtual World Watch, but ended up being a rather happy by-product of the reports.

4. Helped highlight virtual world use in the UK Higher and Further education sector.
5. Provided information to academics in specific subject domains about activity and other academics using virtual world technology in that domain.
6. Promoted virtual world use in UK education, through presentations, to several thousand practitioners and non-practitioners in the academic, public and private sectors.
7. Provided an extra avenue or platform for people on funded projects to disseminate results of their work.
8. Highlighted certain activity within the UK education sector to anyone who found, or went to, the website, irrelevant of their sector or geographic location.

2. What's happening?

2.1 The question

The opening question of the survey was:

What are you doing with virtual worlds?

First questions usually result in the longest and most enthusiastic answers, before respondents run out of steam.

2.2 Half a decade plus

Many correspondents indicated activity in virtual worlds for several years. For some, their time using this particular technology was (so far) five or more years.

"We have been active in virtual worlds since mid 2006.

As curator, I have been running the Arts Council England funded 2ND LIVE programme in Second Life, to complement my real life role as performance curator at Exeter Phoenix.

As an artist, I have been exploring walking and site-based practices in Second Life and real life (e.g. commission for ANTI Festival, Kuopio, Finland). As an educator, I've been teaching in Second Life as part of 'Interdisciplinary Spatial Practices' (level 2 UG module). And as a Knowledge Transfer possibility, I've been running workshops for other artists (e.g. 3-day workshop for Live Art Development Agency as part of DIY programme)."¹⁰

"The virtual world activities here at Bromley College started in 2006 using Second Life and then in 2009 OpenSim. The virtual world activities have been driven by the initiatives of two lecturers – Clive Gould and Barry Spencer.

At the present time we have a single virtual worlds activity (Comenius) running at the college, currently in the stages of full participation:

Comenius Overview and Rationale: Provide a collaborative face-to-face working environment. Explore the practical use and reliability of web 3 technology. This project will be used to enhance student communication and social skills both within the college and as part of the Comenius project which links us with two colleges in Holland and one in Belgium. Students will be able to communicate through the Internet and share ideas and resources."¹¹

"I am developing training, and teaching and learning, materials and specialise in photo realistic replicas, including scripted functionality, of equipment in their actual environment since it is built with a specific purpose and training how to use it is not one of them.

Virtual world replicas allow students to familiarise themselves with the equipment so they need less time on it in the real world. Saving time increases availability of the equipment (to patients, for instance) and frees time for the tutor. If you save 30 minutes per student by using a Virtual Machine this amounts to 80 hours per semester in a cohort of 160. That is two weeks. I have been doing this since 2006.

I have also *used* virtual worlds to *teach about* virtual worlds. Two years, 4 semesters.

¹⁰ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

¹¹ Barry Spencer, Programme Area Leader, Bromley College.

Glasgow Caledonian University has decided to stop the central development and support of virtual worlds. The PVC of Teaching and Learning has decided that development in general is not a core business of the university. Schools are now individually responsible for (development or procurement of) virtual worlds for teaching and learning.

The Eye in the Sky project consisted of the creation of various 'virtual eyes' showing the progress and stages of several disorders, like the cause and effect of short and long sightedness and the corrective actions with sight lines, wet and dry ARMD and accommodation and age-related cataract, including a number of animated cross sections. This project is now dormant, and parts of it are no longer available. Which is a pity since it was very promising, as research by students showed.

Two students who collaborated with me on this this project handed half the class a usb stick with the accommodation virtual world on it and checked differences with the other half of the class who didn't have access to that material. I quote from their reports:

Virtual eyes highlighting structural changes in the eyes during accommodation and age-related cataract [...] There was a statistically significant difference in the overall test performance between the two groups (independent t-test, $t_{27}=4.043$, $p<0.05$), with the virtual world group demonstrating a significant higher score. 70% of the students found virtual learning motivating, 80% said they found it interesting and 80% recommended its use as a supplementary learning tool.

...and...

This pilot study demonstrates that virtual reality technology is a useful tool for teaching [...] The findings of the study show that virtual worlds helped the students perform better in describing the signs than the lecture group. It also corresponds with the answers to the questionnaire whereby all the students found the Virtual Eye helpful to conceptualise the understanding. It shows that understanding of the orientation from the lecture on its own may not be fully grasped by some students. Kinaesthetic learning comes into play whereby the learner can self orient when using the Virtual Eye and grasp more information.

You can check out screenshots and videos of the Eye in the Sky project^{12 13}. This website was intended to be the user guide for teaching staff, including FAQ and all that (I still hand code that [naughty word] myself, actually) but development stopped."¹⁴

"The University of Portsmouth has been using Second Life since 2006. We currently have 3 Islands (UoP Island, Chmi Island and Enterprise Centre).

UoP Island is predominantly used for School of Computing student work; the majority contains a mix of materials to introduce students to Second Life and student coursework and dissertation work. Within the Island there is also a small area with the outputs from a project undertaken for the then HEA ICS Subject Centre on teaching tools for Second Life, and an area in which we are prototyping (with students) tools for teaching Forensic IT – this includes a Crown Court.

Chmi Island is used by the Centre for Healthcare Modelling and Informatics as a workplace telecare showcase, showing ways in which IT can be integrated into the workplace to provide healthcare support for employees and their families.

Enterprise Centre is awaiting development by the Portsmouth Business School to support their student placement activities.

¹² Eye in the Sky project. <http://www.gcu.ac.uk/cuthere/eyesky/>

¹³ Eye in the Sky project. <http://www.wintermuve.nl/eyesky/>

¹⁴ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

Kevin Curtis in the School of Creative Technologies has been using Open Wonderland as part of a European Interreg project looking at developing problem-based learning to students.”¹⁵

“Currently I’m developing teaching and learning resources for postgraduate and undergraduate Psychology courses at University of Derby. I’ve been working with Second Life since 2006. Specifically we’re using virtual worlds to simulate real life experiment mock-ups. Simulations, such as a virtual neonatal ward, are assisting students to see how real world environments are related to Psychological theory and practice.”¹⁶

“Virtual worlds have some use here in teaching; we are also developing and evaluating tools to integrate virtual worlds and virtual learning environments (i.e. SLOODLE). I’ve been doing this stuff for around five years now.

Over the last year I was involved in a JISC LTIG project ‘Supporting Learning in Virtual Worlds with VLEs’¹⁷. This was with partners at Imperial College London, The Open University and The University of Ulster. With pilot studies across four universities in engineering, computing science and medicine, and with pilot groups using virtual worlds to support learning through simulation, informal discussion groups and through clinical role-play, the project was able to explore a range of the different ways in which web-based learning environments can be used to support learning in virtual worlds.”¹⁸

Some developers for UK academic sites have been active in virtual worlds since, well, since virtual worlds were around.

“We are still focussed on using virtual worlds for education/training, and building/data visualisation. I’ve been in Second Life since 2004, and in virtual worlds since VRML back in 1997.

Our big project in the education space at the moment is working with Academy 360¹⁹ up in Sunderland. They are a through school – 5 to 16 – and we are working with them to create a successor to the PIVOTE virtual world authoring tool. The new system will be far easier to use and allow you to not only build the logic and 2D content of a learning exercise on the web, but also to design the 3D environment using the equivalent of a 2D ‘kitchen designer’ drag and drop system.

Our initial scenarios include a beachcombing exercise – where teachers will be able to lay out the beach from a set of library objects, and a classroom management exercise – again with a library of school type assets. Working with the school means that we are getting real user input from the word go, and we are also collaborating on the project with the educationalists at the University of Hull. We hope to have a first public release early in 2012.

Another project we had this year was creating a distance learning space for Hamdan Bin-Mohammed eUniversity in Dubai. This was a conventional, if futuristic looking, teaching space, which brought their Moodle system into Second Life using shared media, and we then developed a HUD system which let the teacher ‘push’ pages to the students, and enable the students to raise questions through a HUD based ‘hands up’ mechanism.

Something else we did that was a little bit different for a University in Florida was to create an Second Life to SMS gateway, so students from Second Life chat could SMS message their teachers for help, and the teacher could reply back into Second Life via SMS – with everything

¹⁵ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

¹⁶ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

¹⁷ Supporting Learning in Virtual Worlds with VLEs. <http://virtualworldsandvles.jiscinvolve.org/wp/>

¹⁸ Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

¹⁹ Academy 360. <http://www.academy360.eu/>

being logged. The core Second Life application was for accountancy training – not the first thing you think of using Second Life for.

We are also continuing to support projects at places such as Coventry University, the University of Leicester, the University of West England, University of Central Florida and City University of New York.”²⁰

2.3 Biding their time

A few respondents, previously users of virtual worlds in teaching, are currently treading water with this particular technology and awaiting more active days.

“Virtual World activities are still on hold as the immediate demands of teaching and management steal all my time. However, we are just looking at developing some distance learning provision in the Art and Design area, and I will be insisting that virtual worlds are part of the delivery mechanisms.”²¹

“The sad fact is – there’s nothing to report. Leeds is currently inactive in Second Life although we are maintaining the Education UK island region. It is paid for until June 2013, so we may yet develop something new if I can find staff sufficiently interested to do so.

In the meantime, the Edge of Life artificial life ecosystem persists but is not being actively developed; we still have a music venue with resident DJ which holds charity fund-raising events now and then; and one or two members of staff have small intermittently active projects that they are working on. Nothing substantive and no live teaching this year.”²²

“I have been working in virtual worlds for The Open University since 2006, during which period we have seen institutional use expand and contract. Currently contracted, mainly due to finance and major changes within the university, but sleeping rather than dead – we expect to see activity pick up again at some point in the future.

Personally, I am just continuing to write up research and encourage new publications to the Springer Immersive Environments series²³, I’ve chaired the ReLIVE11 conference²⁴ and I’m keeping up with other conferences to see what others are doing.”²⁵

“I used to be active in virtual worlds in a Scottish University, since around 2007, but since taking a career change earlier this year I’ve stopped that particular strand of work.

However, now looking at this from a student perspective (trainee gardener), who has an assignment coming up in which I have to design and plan a vegetable plot, I’ve begun looking at how to simulate that in a Virtual World, so that I can see the layout, growth patterns, sizes and spacing.”²⁶

²⁰ David Burden, Manager, Daden Ltd.

²¹ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

²² Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

²³ Springer Series in Immersive Environments. <http://www.springer.com/series/10095>

²⁴ ReLIVE (Researching Learning in Immersive Virtual Environments) 11 conference. <http://www.open.ac.uk/research-conferences/relive11/>

²⁵ Anna Peachey, Eygus Ltd for The Open University.

²⁶ Kathryn Trinder, ex-virtual world academic trainer, now student of horticulture.

2.4 Teaching

Teaching within virtual worlds continues apace in several UK universities.

"We are using a virtual world to enhance our teaching on taught postgraduate programmes (Certificate / Diploma / Masters) in Equine Science²⁷ at the University of Edinburgh's Veterinary School, which is taught online at distance."²⁸

"At the moment, we are running 2 modules for students in virtual worlds. The 'Media Futures' module²⁹ for undergraduate media students is now entering its 4th year of delivery, and has not significantly deviated from how it has been described in previous snapshots.

This academic year, we have established a new module called 'Identity in Virtual Worlds', which is a combined honours programme elective open to students from any discipline. This module is a modified version of 'Media Futures', which is designed to fit with students from a variety of subject areas."³⁰

"I started using Second Life in 2007, started teaching there in 2008 and swapped to New World Grid (running OpenSim) at the start of 2011. I continue to use the latter for teaching a brief course on microbial informatics for Honours students, running Honours projects and providing Masters students with a 'taster' session."³¹

"We use virtual worlds for teaching Project Management and performing research on identity and other aspects of virtual worlds.

These activities are well documented online³². I currently supervise one PhD and one Masters by Research on virtual world aspects."³³

"I am one of a group of Design lecturers at the Open University who are partners in a European Lifelong Learning project, ARCHI21³⁴. ARCHI21 is looking at learning language in the context of design and architectural teaching. Work began a year ago, but my group has used virtual worlds previously for some experimental design teaching."³⁵

"We've been active in virtual worlds since 2007 and our main focus at the University of the West of England is on using virtual worlds for simulations of experiences it would otherwise be difficult, impractical, unethical or just dangerous for our students to experience pre-qualification. Subjects now being covered include environmental health, nursing, emergency response training, sociology, counseling in psychology and business ethics. We're planning to develop midwifery, animal training and automotive engineering scenarios in the coming year.

²⁷ Equine Science virtual graduation at Edinburgh University.

<http://www.ed.ac.uk/schools-departments/vet/news-events/news/eqsci-graduation>

²⁸ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

²⁹ Media and Communication BA at Newman College.

<http://www.newman.ac.uk/single-and-combined-honours/632/media-and-communication>

³⁰ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

³¹ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

³² Sanf Oh (Marc Conrad) online. <http://sl.sanfoh.com/>

³³ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

³⁴ ARCHI21 project in Second Life. <http://secondlife.com/destination/archi21>

³⁵ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

Next year our biggest development will be the MA Education in Virtual Worlds³⁶, which will run entirely in virtual worlds. It will be based in Second Life, but will also explore a range of other types of virtual world. It goes to validation in March 2012 with a planned Sept 2012 start³⁷

“UEL has had a presence on Second Life since 2008 in the form of UEL Island, and more recently UEL HABitat owned by the school of Health, Sport and Bioscience. Second Life has not been widely adopted across the university, but some staff and students in healthcare and psychology have been using it quite extensively.

The main focus of interest on UEL HABitat is the virtual polyclinic, which continues to be used by herbal medicine and physiotherapy students, and is soon to be used by podiatry students from UEL and Plymouth University under a collaborative arrangement. Each discipline has its own area where students interact via their avatars with virtual patients and surrounding objects to practice procedures and develop their clinical reasoning skills.

Second year Psychology students on an elective module ‘Psychology of physical illness’ upload posters to a designated area in their school’s conference suite on UEL island and spend a morning discussing them with staff and students from their module and beyond. Using Second Life in this way extends the reach that a physical poster display would typically have. It also removes inhibitions that students might otherwise have in face to face conversations. A few psychology staff also use Second Life for tutorials; one recently reported that students repeatedly rate Second Life higher than most other aspects of his module delivery.”³⁸

2.5 Research

Some academic respondents mainly used virtual worlds for research activities.

“Teesside University, Middlesbrough, UK and Future University Hakodate, Japan have spent the past two and a half years on a PMI2 initiated research project in the development of metrics for evidencing the processes of learning (witnessed as measurements of Bloom’s six cognitive processes and four knowledge dimensions) within virtual worlds.

Previously we communicated within Second Life but over the past year we have been working in our own OpenSim space. Metrics for learning are being recorded, analysed and interpreted from tasks that involve problem solving, communication and collaboration in our virtual space. The context for these iteratively designed and quantifiably measured tasks has been the programming of LEGO Mindstorms robots to follow predefined circuits.

We have a Research Group called iVERG³⁹. See the website which also has links to our 2010 and 2011 conferences.”⁴⁰

“The SWIFT⁴¹ project, run by GENIE (based within the Department of Genetics at the University of Leicester) and funded by the Higher Education Academy, is a 3-year research project which is investigating the effectiveness of using Second Life for genetics education.

³⁶ MA Education in Virtual Worlds, University of the West of England.
<http://www.uwe.ac.uk/eic/virtualWorldsMA/>

³⁷ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

³⁸ Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

³⁹ iVERG (International Virtual Environments Research Group). <http://www.iverg.com/>

⁴⁰ Dr. Michael Vallance, iVERG research group.

⁴¹ University of Leicester SWIFT (Second World Immersive Future Teaching) project.
<http://www2.le.ac.uk/projects/swift/>

We are running 3 different scenarios/experiments with first and second year biological science and medical students. In these we have progressed from a fairly simple health and safety lab with some interactive items, to a self-directed training area and individual working where students get to grips with performing a genetic screen for inherited conditions, to a scenario where students work in groups to develop a medically important protein. In two cases we have used the PIVOTE system along with Second Life to provide interactive exercises for the students.

We are 2 and a half years into the 3 year research project, which is due to end in August 2012."⁴²

"My involvement with virtual worlds grew fairly slowly. About two years ago I started a part-time PhD loosely based around games-based learning. As my research has progressed I've strayed from that start point into virtual worlds, but of course there can be significant overlap between the two."⁴³

"I am currently conducting interviews in-world for my PhD pilot and recruiting for phase 1 of my study. The PhD is investigating the way people access health information in virtual worlds, and the influence on real life health behaviour. Next semester I will be using Second Life for formative problem-based learning scenarios with masters nursing students who are learning to take diagnostic history, physical examination and make decisions about investigation and interpretation of those investigations. This includes the use of volunteers who access Second Life from their home and allows the students to take their real life health history.

I hope to collaborate with some international colleagues and am always looking for others to collaborate with (so especially if you don't have land and want to get involved please contact me (Second Life:Kali Pizzaro)

I have also founded an international virtual world health community of practice which includes nurses, midwives, learning technologists and builders – again if anyone wants to join, IM me in-world.

I have been in virtual worlds for 2.5 years."⁴⁴

"The main focus of the Serious Games and Virtual Worlds team⁴⁵ at the University of Ulster is on Engineering Education.

Our research looks at the integration of virtual worlds, virtual learning environments and external hardware (sensors, test instrumentation, circuit boards), and the use of gameplay mechanics in this context.

We are looking at creating engaging collaborative/competitive group/team based learning experiences to teach electronic and electrical circuit theory.

We have also started to look at the use of intelligent tutoring systems in the context of virtual worlds and the nuances/affordances this offers e.g. how can these sort of systems be used effectively in 3D virtual environments.

We've been working with virtual worlds for over four years."⁴⁶

⁴² Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

⁴³ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

⁴⁴ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

⁴⁵ Serious Games and Virtual Worlds team, University of Ulster. <http://sgvwtv.ulster.ac.uk/>

⁴⁶ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

"We are starting the second year in developing an adaptive 3D virtual environment called Project IVY⁴⁷ (Interpreting in Virtual Reality). Project IVY is designed to address the needs of future interpreters and users of interpreters in higher education, vocational training and adult learning contexts. Our project uses 3D virtual environment technology to create an innovative virtual educational space that supports the acquisition and application of skills required in interpreter-mediated communication.

Our aim is that the project will provide a learning environment which uses the potential of 3D technology to enable learners from different contexts and different educational sectors and to meet and interact, learn with customized digital content and apply their knowledge; this fosters experiential and autonomous learning in a virtual setting, and supports collaborative learning through simulation and live interaction. Project IVY is adaptable to other educational contexts.

The project partners are the University of Surrey (UK, co-ordinator), University of Bangor (UK), University of Cyprus (Cyprus), University of Poznan (Poland), University of Tübingen (Germany), Steinbeis GmbH & Co. KG für Technologietransfer (Germany), and Bar Ilan University (Israel).

Full trials of the system will commence early 2012; results will be published during 2012. The project is funded by the EU Lifelong Learning Programme."⁴⁸

2.6 Meeting in-world

Amongst other activities, academic virtual worlds are a common, and obvious, place for other academic virtual world practitioners to meet.

"I have been in Second Life since 2007 and for most of that time I have been working on our island. The island is run for staff and students at the University of Worcester but it is not an official site of the University.

The first activity we started on the island was the research meetings. These meetings eventually evolved into our current education research seminars approximately two years ago. The resulting machinima are then posted to the Digital Literacy Blog⁴⁹ for those who did not have time to attend. The Research Seminars are held on the last thursday of every month during the academic year on the island.⁵⁰ Seminars are held at 1200hrs (lunchtime) UK time (4am SLT), we found this the most popular time with people on the European side of the Atlantic.

That makes it sound as if we are trying to exclude others from the meeting but far from it; it is really fantastic when we get people from all over the world joining us. We find that most of the non-British people who attend are from East Coast America but we have a few Antipodeans, others from West and East European countries and others from as far away as Japan. If anyone would like to present and discuss their work they are more than welcome to do so, all they need to do is contact Bluesky Larkham. We welcome everyone from seasoned conference presenters to new PhD students.

Hovering in the sky above the island we also have the Library of Babel, where students can experience a book in a very different way. This installation has been created under the direction of Liz Swift who is Subject Leader for Drama in our Institute of Humanities and

⁴⁷ Project IVY (Interpreting in Virtual Reality). <http://www.vmg.cs.bangor.ac.uk/IVY/>

⁴⁸ Dr Robert Gittins, School of Computer Science, Bangor University.

⁴⁹ Digital Literacy Blog of Tim Johnson. <http://digitalliteracywork.wordpress.com/research-seminar-at-uow/>

⁵⁰ University of Worcester Second Life island. <http://maps.secondlife.com/secondlife/University%20of%20Worcester/145/188/25>

Creative Arts. Liz says this is an Exploration of Narrative Collaboration and Control [which creates] an immersive experiential narrative work based around ideas from Jorge Luis Borges' short story, *The Library of Babel* (1941)' – at least that's what she said in her article 'Losing the Plot'⁵¹.

Dr Barbara Mitra, Senior Lecturer in Media and Cultural Studies, and I are carrying out some research into identity. This research is based around a first year module (Introduction to New Media) to help students explore the relationship between identities in 'real' or corporeal life and identities in virtual worlds. The research also addresses the issues lecturers experience in relation to students' reactions and behaviours to being in Second Life.

There are also two institutes where lecturers are interested in writing virtual worlds into new modules they are currently creating. Maybe this is an indication that with the current pressures on costs and space, the use of Virtual Worlds is becoming an interesting option."⁵²

2.7 Games technology

Though virtual worlds such as Second Life and OpenSim are not games (though they can contain games), there's an overlap in both the technology, and the underlying research. This results in game and virtual world academics often inhabiting the same research and development space.

"We are using games technology (specifically the Source Engine and Unity) to create games for training purposes. Depending on your predilection, the products we create are either Serious Games or Persuasive Games, and we have been creating a series of products under the umbrella branding of Maritime City for internal use since late 2009 / early 2010."⁵³

"We have been using Second Life for discussions and meetings during some of our online and mixed mode courses since 2007, and we still do this. It means that the students can reflect on their own experiences of virtual worlds when we are discussing topics like learning practices in online communities. A surprising percentage of them have little or no experience of virtual worlds or online games. Plus the online and distance learners describe it as more sociable than the conventional virtual learning environment we use.

We have also used Second Life for a number of meetings connected with our work with the Higher Education Academy's Special Interest Group on games and virtual worlds in higher education. The SIG has convened two Second Life meetings and two real world events over the past year, and there's a further SIG event in Edinburgh that's just happened.

We are still playing World of Warcraft, and we writing about methodology, learning practices and pedagogy in MMORPGs."⁵⁴

2.8 Making for academia

A few respondents aren't academics (or currently active in academia) themselves but make things (items, structures, software) for UK academics.

"As we have been doing since 2008, we are still providing a complete design and development service for virtual worlds including creating learning activities, bespoke items, scripted systems

⁵¹ Swift, E. (2010) *Losing the Plot – an Exploration of Narrative Collaboration and Control in Second Life* in *International Journal of Performance Arts and Digital Media*, Issue 6, Volume 2.

⁵² Tim Johnson, Senior Lecturer, IHS, University of Worcester.

⁵³ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

⁵⁴ Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

and entire islands/worlds. Most recently this has included Second Life projects for the Universities of Edinburgh and Leicester.

For the University of Leicester and their Second Life SWIFT⁵⁵ project, we developed a custom holodeck system. This involved creating an in-world system that allowed different gardens to be rezzed and derezzed at the touch of a button, as well as intelligent teleporting and interactive boards.

We developed a series of detailed, intricate, custom-made objects for the Virtual Easter Bush Farm Second Life stables for the Royal School of Veterinary Studies, University of Edinburgh. This included a tack room and feed room and a set of informational posters and video screens.

As far as in-house developments go we are creating all sorts of content for our Second Life marketplace store⁵⁶, which so far features an Albert Einstein avatar!

In the New Year we are hoping to run a small self-initiated project within Second Life around the issue of phobias and desensitization. We will be building a set of realistic spaces and scenarios (dentist, clowns, flying and heights to name a few) that address certain common phobias. We will then run a small study to investigate whether visiting these spaces in the virtual world, help desensitize people in the real world and in turn help with the phobia."⁵⁷

"All of my projects are shortlived, so the answer to this question varies year by year. This year I'm helping West Chester University of Pennsylvania develop an introductory course for their students who are about to undertake a module in Science Ethics. I'm also doing some guest lecturing on the subject of identity in virtual worlds on a couple of courses, one undergraduate, one postgraduate.

I'm also hoping to use some of the Theatron 3⁵⁸ resources (the Roman ones) to support Italian language learning. This year is a bit short on teaching but I'm currently editing two books of conference proceedings and doing the occasional presentation on work that I've previously conducted. I also helped out on a couple of virtual world conferences."⁵⁹

2.9 A little bit of everything

Some academics, individuals and research groups, use virtual worlds across a range of academic activities.

"Maintaining a university-owned island since 2007, which has recently been completely redesigned to better fit our needs.

Developing and evaluating learning scenarios with various organisations for a multitude of disciplines such as project management, health and social care management, child nursing, adult nursing (Coventry University), medical simulations and medical training (North Western Medical Deanery).

Development and evaluation of a virtual medical simulation replicated from a paediatric scenario at the Smart Hospital based at University of Texas Arlington.

⁵⁵ University of Leicester SWIFT (Second World Immersive Future Teaching) project.
<http://www2.le.ac.uk/projects/swift/>

⁵⁶ Gemixin Second Life marketplace store. <https://marketplace.secondlife.com/stores/12229?id=12229>

⁵⁷ Gemma McLean, Developer, Gemixin Ltd.

⁵⁸ Theatron 3. <http://cms.cch.kcl.ac.uk/theatron/>

⁵⁹ Mark Childs, Teaching Development Fellow, Coventry University.

Teaching employability skills to students using the virtual world Second Life.

We are currently nearing completion of one four-year research project (CURLIEW), which looks at the socio-political impact of virtual world use in higher education. The three PhD students on the project will be finishing theses on pedagogical design in virtual worlds, student perspectives of virtual worlds and the impact of using virtual worlds on learner identity. A further output from the CURLIEW project will be a synthesis of data across all three projects.”⁶⁰

“I have been involved with learning, teaching and conducting research in virtual worlds since 2008.”⁶¹

“Since 2007 I have been (based on our island, Infolit iSchool):

- Teaching a first year undergraduate Information Management class. This year this meant introducing them to Second Life, supporting them in creating team exhibits focused around a presentation, on mini-islands, and then setting up interviews so that each student could do a research interview. This year they were interviewing mostly students at Gwinnett College Georgia, USA, a collaboration facilitated by (SL) Grizzla Pixelmaid. This year there were 40 students in this class. This is a video of delegates at a SL conference⁶² visiting the mini-islands in October 2011.
- Having sessions with Masters students in an optional class Educational Informatics. They learn the Second Life basics, and visit educational locations. For the last couple of years they have had to attend at least one session at the Virtual Worlds Best Practices in Education conference and report back on the session in Second Life.
- Organising events of interest, in particular, to librarians and educators. There is a list of past events⁶³ online.
- A regular event currently is a Second Life journal club; see a snippet from the first one⁶⁴. These are now usually held in the journal club room on Infolit iSchool.
- This is a video of snippets⁶⁵ of the mini conference held in Second Life to celebrate the launch of my department as part of the iSchools association, in June 2011 (we had speakers from two iSchools in the USA, a discussion led by a librarian here and a talk from Professor Ford at my iSchool plus fireworks at the end).
- I am co-supervising a PhD student (Ridvan Ata, Second Life Ridvan-Researcher) who is investigating teaching in Second Life.
- I attended various events in Second Life, so I have been using it for networking and personal development.
- I revised the 3D model of the SCONUL Seven Pillars of Information Literacy (free on the island, see below for the smaller free standing model and the wearable 7 pillars hat) and also encouraged additions to the Health Literacy Corner on Infolit iSchool.”⁶⁶

⁶⁰ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

⁶¹ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

⁶² Visitors to Infolit iSchool team islands. <http://www.youtube.com/user/sheilawebber#p/a/u/0/IIWsbAJDXs>

⁶³ Infolit iSchool past events. <http://infolitischool.pbworks.com/w/page/19904119/Past%20events>

⁶⁴ Infolit Journal Club in Second Life. <http://www.youtube.com/watch?v=HFXacpAGzjE&lr=1>

⁶⁵ iSchool launch day in Second Life. <http://www.youtube.com/watch?v=xNJSyZH175g&lr=1>

⁶⁶ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

3. Which worlds?

3.1 The question

The second question was:

Which virtual worlds are you using? Why those in particular?

As with other snapshots, this provides an opportunity for respondents to compare and contrast virtual worlds they have tried, or considered, within the constraints of funding and technical support and know-how.

3.2 Second Life

As with all the previous snapshots, Second Life remains the predominant virtual world of choice in respondents to snapshot requests.

"Second Life – it was the easy (and intriguing) option when I started."⁶⁷

"We are using the Virtual University of Edinburgh (VUE) on Second Life as our colleagues in the University are experienced with this and can provide support for us using it."⁶⁸

"We are still using Second Life for delivery of our modules and students are also required to engage with gaming worlds. Second Life is primarily used as it has one of the largest active communities out of all of the social worlds available. Students need to be able to interact with a range of other users and environments within the virtual world that we use, and Second Life currently provides the best opportunity for this. Gaming environments are also used, as this provides a basis for students to analyse differences between the two environments."⁶⁹

"Second Life is still the most commonly used virtual world. This is mainly because of it being the world where most of the people I'm working with set up their spaces, and haven't had a particular reason to move. I think the legacy of Second Life will continue for quite a while, even if people are becoming disenchanted with it. The West Chester project is in OpenSim. I think WCUPA chose this so they could have a private space for their work, and only started this year."⁷⁰

"We are using Second Life, primarily because of our links with the Beyond Distance Research Alliance⁷¹ (BDRA) which is based at the University of Leicester. The BDRA under the former directorship of Gilly Salmon already had an island in Second Life which they were using for their MOOSE project⁷², and for this reason, we used the technology with which we were most familiar and in which we had already invested quite a lot of resources."⁷³

⁶⁷ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

⁶⁸ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

⁶⁹ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

⁷⁰ Mark Childs, Teaching Development Fellow, Coventry University.

⁷¹ Beyond Distance Research Alliance. <http://www2.le.ac.uk/departments/beyond-distance-research-alliance>

⁷² MOOSE (MOdelling Of Second life Environment) project.
<http://www2.le.ac.uk/departments/beyond-distance-research-alliance/projects/moose/>

⁷³ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

"We are using Second Life on the main grid. We're using this virtual world because we have an extensive virtual campus and most of our systems are designed around the existing virtual builds."⁷⁴

"We are using Second Life, due to ease of access and the flexibility it offers in terms of developing our own learning scenarios. As a learning and teaching environment, it provides greater flexibility in terms of learning space design and islands/areas for students to explore."⁷⁵

"I have been using Second Life, particularly because of its communities, networking opportunities, diverse user-groups and spaces (islands), and the immense scope it offers for learning and conducting research."⁷⁶

"I am still using Second Life. Reasons are:

- Do not need to be a technical expert to build simple items (like the SCONUL model) or to use the functions in Second Life, or to do very simple hacks on things that other talented people have made. This to me is a big plus over e.g. OpenSim where you need SOMEONE with technical expertise involved. My eyes pixelate over when people start talking about IARS and OARS.
- Huge variety of high-quality content which enables you to customise your environment at low cost. The standard of creation on things like buildings, furniture, plants is very high indeed now with some creators.
- Places to go, people to see, events to attend. This is of particular relevance to the Educational Informatics students.
- International community (exploited through the partnership with Gwinnett College this year).
- There seems to be a good chance Second Life still be here next year, unlike some other worlds that have come and gone.

I am in Second Life recreationally; sightseeing, doing virtual home decorating, trying on outfits. There really are always new things to explore. I wouldn't be using Second Life for teaching if I did not think there was a pedagogical aim (and I do think that, especially for the information managers and librarians I teach), but the fact that I LIKE being in Second Life obviously influences me too. By contrast, I do not spend much me-time on Wimba and Blackboard

When VWER had an OpenSim area I did toy with that, but I did not devote much time to it, and then it closed. I've visited some other areas, and I will have to look at alternatives more seriously when the island rental is due next autumn."⁷⁷

"I am currently using Second Life; I suppose this is partly because this is where I started off and partly because of all the work we have put into the island. I had quite a few dismal discussions with friends when the Lindens stopped their support of education but at the moment I still feel this is the most mature virtual world and, as a result, it offers the best experience for students.

I do not want students to be shut off from the rest of the corporeal world or the virtual world. They need to experience what it is like to be online in a virtual world, they have to learn to

⁷⁴ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

⁷⁵ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

⁷⁶ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

⁷⁷ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

manage both their avatar and their interactions with others. Worlds like this are one of the potential areas they will work in once they graduate and the university has a responsibility to produce employable people. Students need to develop skills in communication, behavior and understanding of ethical stances required in this type of 3D social media. Even though these worlds are virtual, real communities exist within them and from my experience do offer genuine friendship and support.”⁷⁸

Other respondents have also mentioned that they use Second Life and that OpenSim currently has an unacceptable technical requirement.

“We are using Second Life as we have an area within the grid. We have no support to create an OpenSim grid, which is beyond my capabilities.”⁷⁹

“We have been using Second Life, though on reflection OpenSim might have been a better choice. However, using OpenSim would mean someone looking after a server, which could be a challenge too far.”⁸⁰

“We’ve used Second Life exclusively for our developments so far, as it is easy to access, one of the better and more intuitive virtual worlds for development, and is where most HEIs are active, so the opportunity for collaboration is greatest there.”⁸¹

3.3 OpenSim and Second Life

Some respondents use both of these virtual worlds in their research or teaching activities.

“I mainly use OpenSim these days, although I do still have a premium account in Second Life. I justify the latter in terms of the availability of premium-only sandboxes and a wider range of Second Life specific building tools.”⁸²

“I am using OpenSim and Second Life. The first allows me complete control and total freedom, can be hosted on internal servers, within the firewall and doesn’t have (if not allowed) external users but can also be distributed (server, viewer and documentation) on a USB stick, made available for download and copied to the hard drive of individual computers. Content can also be exported to Second Life, which you use for external exposure or if hosting your own server (including web based user registration) is too complicated for the internal organisation.

Glasgow Caledonian University was using Second Life and Open simulator for the reasons mentioned above.”⁸³

“I did log into Second Life the other day, but this is a rare event. I am waiting for OpenSim to get to version 1 beta at least before daring to build any provision around it. It’s just too unstable and fiddly at the moment.”⁸⁴

⁷⁸ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

⁷⁹ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

⁸⁰ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

⁸¹ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

⁸² Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

⁸³ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

⁸⁴ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

The University of Edinburgh uses Second Life and OpenSim across a range of departments and activities.

"As well as its Second Life regions (currently 7 in use) the Virtual University of Edinburgh⁸⁵ (Vue) has had access for the last 5 years to an OpenSim-based grid "Openvue"⁸⁶ – running on 3 server computers hosted within the Artificial Intelligence Applications Institute (AIAI) in the School of Informatics in the University of Edinburgh.

Most of its regions are accessible over the "HyperGrid" by avatars in other OpenSim grids. Vue also has regions on other OpenSim-based grids with open avatar registration – on OSGrid and New World Grid (regions NewVue and NewVCE). A Freeswitch server provides voice support on the Openvue, Newvue (New World Grid) and OSGrid.

Openvue is being used for experimentation and feedback to the OpenSim development community, often running the very latest development version of the OpenSim server software.

Openvue and the Open Virtual Collaboration Environment projects at Edinburgh have also supported the development of an entire OpenSim region with meeting rooms, lecture theatre, expo pavilion and classrooms, along with presentation screens and a link up with web portals. This OpenSim Archive (OAR) file is freely available and has been ported between the Openvue grid, OSGrid, New World Grid and the MOSES Grid⁸⁷.

Two years ago some work took place in the School of Informatics to test Moodle linkups to Second Life using the SLoodle classroom kit. This work is now being retried using Moodle 2.x and Second Life and OpenSim virtual worlds. A new PhD student project in the School of Informatics starting in Autumn 2011 has started to look at intelligent classroom educational technologies involving I-Rooms⁸⁸ and Moodle/SLoodle."⁸⁹

3.4 Moving from Second Life to OpenSim

Cost issues may move some academics away from Second Life and towards OpenSim.

"To date it has been relatively straightforward to cover our Second Life costs but in anticipation of a much tighter funding regime, we continue to look at OpenSim as an alternative. However, due to network configuration conflicts, we are as yet unable to carry out a thorough investigation of OpenSim, and therefore hope to retain at least one island on Second Life until mid 2013.

In resolving the OpenSim issues we may be able to draw on the experience of the Europe-wide Pandora project⁹⁰ 'Advanced Training Environment for Crisis Scenarios' which counts UEL amongst its partners and is using OpenSim."⁹¹

⁸⁵ Virtual University of Edinburgh. <http://vue.ed.ac.uk/>

⁸⁶ Openvue. <http://vue.ed.ac.uk/openvue/>

⁸⁷ MOSES grid at the University of Edinburgh. <http://openvce.net/moses>

⁸⁸ i-Room. <http://openvce.net/iroom>

⁸⁹ Austin Tate, Director, Artificial Intelligence Applications Institute, University of Edinburgh.

⁹⁰ PANDORA EU project. <http://www.pandoraproject.eu/>

⁹¹ Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

"We have used OpenSim this year for the first time. We were using two providers: 3DMetaverse⁹² and ReactionGrid⁹³. They are both fine and I can recommend them. Details about these can be found on a paper I published at ReLIVE11⁹⁴.

The reason we moved from Second Life was because of their poor customer support. The person who maintained the avatar that owned our island decided to give up this avatar and Linden Lab was not able to transfer the island to another avatar. This is well documented in various communication I had with them. Therefore we have to decide at very short notice to switch to a different provider."⁹⁵

"Now OpenSim. We used Second Life to begin with but were disappointed with several aspects."⁹⁶

"We are using Second Life, but moving to OpenSim and Unity. OpenSim for the cost and flexibility. Unity as we are doing a lot of work in games."⁹⁷

"We are provisionally using Second Life, and exploring OpenSim for future projects. Second Life is public facing and reasonably accessible by students, lecturers and other participating institutions."⁹⁸

3.5 "My God, it's full of worlds"

Some academics and researchers use, or experiment with, several virtual worlds.

"I've experimented with Second Life and OpenSim, but currently I'm spending most time with Open Wonderland."⁹⁹

"Second Life and OpenSim. Second life with viewer 2 facilities represents a more fully immersive experience. OpenSim, while not at the same level of deployment, does have the advantage of cost and minimal port requirements."¹⁰⁰

"We are still firmly based in Second Life as despite some of the negative reports it has been receiving recently and issues with costs, it is still proving to be a worthwhile platform for many.

We have also been experimenting with OpenSim, so that as and when clients do require us to develop for that platform, we will be fully experienced. I feel at the moment, a lot of people are tempted with OpenSim (especially since the Second Life price changes) but are put off with the complexity, and the lack of readily available content and large user base that Second Life offers.

⁹² 3dmetaverse. <http://www.3dmetaverse.com>

⁹³ ReactionGrid. <http://reactiongrid.com/>

⁹⁴ Leaving the Lindens: Teaching in Virtual Worlds of Other Providers. <http://sl.perisic.com/relive11/>

⁹⁵ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

⁹⁶ Dr. Michael Vallance, iVERG research group.

⁹⁷ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

⁹⁸ Dr Robert Gittins, School of Computer Science, Bangor University.

⁹⁹ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

¹⁰⁰ Barry Spencer, Programme Area Leader, Bromley College.

We have also been playing around with Open Wonderland and creating custom virtual worlds using tools such as Flash and Unity so that we can offer clients a range of virtual world options.”¹⁰¹

“Second Life because I always have, OpenSim because it’s flavour of the month with educators generally, Minecraft because it’s engaging the kids and that’s fascinating.”¹⁰²

“We are using Second Life for both historical reasons (it was there when we started looking at Virtual Worlds) and for practical reasons (it is readily and freely available, it provides a rich environment for students to explore and learn from, there is a wealth of material available to support the work we do in Second Life, plus we have invested time and money in it).

We use Open Wonderland as part of a cross European research project. With Opensim – we are investigating this as an alternative, cheaper environment to Second Life.”¹⁰³

“Second Life and OpenSim. We have a much reduced presence in Second Life due to their increased costs and our reduced ability to get funding in current climate.

I started in Second Life; it’s very easy to get started (still is really), very flexible for a wide range of tasks. The ability for Second Life objects to communicate with internet at large is very useful for developing new features and tools.

OpenSim has developed fantastically well – but it’s still having issues with getting everything working with the complex multi-domain and very firewalled network setup at the University of the West of Scotland. For example, I can very easily run OpenSim on staff domain – but then it is only visible within that domain. To run on the public web, I am reliant on technical support. Such support here is very constrained; they are willing to help, but limited in time available.

Student projects last year also included one project using Half-Life 2 with Garys Mod to develop a game. A bit tangential, but there is quite a bit more game based learning/serious games work at the University of the West of Scotland that doesn’t quite fall into the ‘virtual worlds’ domain.

One member of staff is currently exploring Open Wonderland. ICT are providing some support and have made a server available. This is early days, however, and further work has yet to be done before it is available to additional staff and to students – but the plan is to explore how we can make use of the platform to provide additional support to students.”¹⁰⁴

“Second Life, OpenSim and beginning to get involved with Unity and HTML5. We love the flexibility and ease of development in Second Life, and OpenSim then lets us not only run that locally but also to add server code functionality, either direct, or through region modules, or through mechanisms like the bounty we recently paid to have the osNPC functions fixed.

Some clients though want something more closed down and installable, and Unity seems a good route for that. And HTML5/WebGL looks like it could be a good next step on the road to a standards based, zero foot print virtual world architecture – I think we’re more attracted to that than the OpenSim/Unity hybrids.”¹⁰⁵

¹⁰¹ Gemma McLean, Developer, Gemixin Ltd.

¹⁰² Anna Peachey, Eygus Ltd for The Open University.

¹⁰³ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

¹⁰⁴ Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

¹⁰⁵ David Burden, Manager, Daden Ltd.

3.6 Other responses

Creating your own virtual world is also an option for some academics.

"We are creating our own, rather than using off the shelf worlds like Second Life. The reason for this is due to the content; currently, Maritime City is based in the training of healthcare professionals (specifically, in the current scenario set, social workers and childcare professionals) and as such we require the avatars in the world to be extremely realistic.

This means we need to have a lot of control over the facial and body animation, something that not all current virtual worlds provide, but that is more prevalent in games engines such as Source."¹⁰⁶

Our gardening respondent is considering which of several virtual worlds is most appropriate for her needs.

"I would have done it in Second Life so that I could easily get 'vegetables' and not have to build those myself, but as I no longer have land there I'm looking at OpenSim or Kitley instead as these are accessible to me. OpenSim I'll have control over and should be able to take my work into college to show my tutors easily (USB key style). I need to refresh myself on what's available in Kitley.

I was considering using it for Horticultural Mechanisation as well, but I ran out of time. (A giant hydrostatic transmission set up, 4 stroke engine, or cylinder mower would have been great for understanding it better!)"¹⁰⁷

¹⁰⁶ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

¹⁰⁷ Kathryn Trinder, ex-virtual world academic trainer, now student of horticulture.

4. Help

4.1 The question

The third question related to the academic environment of the responder:

What support do you get in your institutions in your use of virtual worlds?

The word 'support' was taken to mean different things e.g. funding, Second Life island purchase, technical facilitation, by respondents.

4.2 The positive

Institutional support varies. Some academics are pleased with what they receive, or positive about the attitude exhibited by their host institution.

"The support from University of the West of Scotland has been really good. I've been given access to the technical infrastructure I need to progress my research, and my colleagues are very supportive. On my Christmas wish list would definitely be more time for research!"¹⁰⁸

"We have excellent support from our e-learning advisor in virtual worlds at the University."¹⁰⁹

"Our institution has supported us in purchasing some island space and if anyone wants to use some of this, quite happy to arrange something if anyone wants to get in contact with me! Also, the fact that we have established the elective module shows a degree of support from our institution.

We do still have a variety of ongoing technical issues each year with regards to providing access to Second Life on campus. These are usually related to ICT infrastructure changes, with Second Life always being low down on the list of priorities when rectifying problems that are related to these changes."¹¹⁰

"We've had excellent support in the past, and the only reason we are not getting much at the moment is because we've stopped asking."¹¹¹

"Actual use ... none, although there are three rooms at Coventry which are equipped to run Second Life, which I can have access to. But there is a lot of support for research into virtual worlds. Both the Learning Innovation Group¹¹² and the Serious Games Institute¹¹³ regularly run forums and discussions where people come together to talk about their work in virtual worlds and that's a lot of help in keeping motivation and interest going and in learning things."¹¹⁴

¹⁰⁸ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

¹⁰⁹ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

¹¹⁰ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

¹¹¹ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

¹¹² Learning Innovation Group. <http://cuba.coventry.ac.uk/learninginnovation/about/>

¹¹³ Serious Games Institute. <http://www.seriousgamesinstitute.co.uk/>

¹¹⁴ Mark Childs, Teaching Development Fellow, Coventry University.

"A lot now. We have three islands in Second Life and a great deal of interest and support, both practical (fees, innovation funding etc.) and ideological (e.g. support for the curriculum development of the MA in Education in Virtual Worlds). We seem to be moving into a phase where virtual worlds are taken very seriously as potential environments for learning which means, as an institution, we don't waste time trying to repeatedly convince ourselves any more."¹¹⁵

Several respondents specifically mentioned internal or institutional funding:

"We are given provision of server space for Open Wonderland work. Also, payment of the costs of two Second Life islands (the cost of the 3rd is covered by external funding)."¹¹⁶

"The Department is funded to work within Second Life and we are interested in expanding our provision as use increases with our online/distance learning students. We also have received support from central University funding and research councils for specific development work."¹¹⁷

"Virtual worlds are now an integrated part of our teaching and are therefore funded as part of the usual expenses, similar as this is the case e.g. for software licenses. In particular, OpenSim based solutions are much cheaper in setup and maintenance fee."¹¹⁸

"Our IT department has installed Second Life onto the university server so that it can be accessed from any computer on campus, and we receive funding to keep the university island maintained monthly. The department is currently exploring the possibility of updating Second Life to the newer viewer."¹¹⁹

"We have the use of two islands in Second Life – Bangor University and Surrey University, partly funded by the project."¹²⁰

"The Second Life islands we are using were set up by one of our partners, plus the OU has had its own island for some while. The reasons for this are lost in the midst of time, but probably because this was seen as the most popular virtual world. My institution supports virtual world development; it even hosts a conference on the subject of learning in virtual worlds (ReLIVE), though we are a long way from virtual worlds being a mainstream activity."¹²¹

"Funding; support, understanding and encouragement to explore; and colleagues contribute as critical friends and reviewers. I have also received funding from JISC and was awarded a two-year Teaching Fellowship from the Centre for Excellence in Teaching and Learning at The Open University, UK."¹²²

¹¹⁵ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

¹¹⁶ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

¹¹⁷ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

¹¹⁸ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

¹¹⁹ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

¹²⁰ Dr Robert Gittins, School of Computer Science, Bangor University.

¹²¹ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

¹²² Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

4.3 The unknown and the mixed

One respondent, after a recent change of institution, has not yet dug in to the virtual world possibilities at their new place of study:

"No idea as a student of the Scottish Agricultural College, but as we now share a campus at Ayr with the University of the West of Scotland, I may be chatting to Dan Livingstone soon.

I'm not aware of any SAC activity in Virtual Worlds, but there must be lots of possibilities, especially thinking back to the work Ferdinand was doing at Glasgow Caledonian University with the Sustainable House, as there is a course here on Sustainable Building."¹²³

Several respondents gave a mixed reply to the question of how much support they received local, especially regarding the issue of campus-wide access to Second Life.

"It is getting better. We still don't have free and unlimited access for students to Second Life across campus, but things are changing slowly. IT is very helpful when we need access, it is granted and they are very good at getting new viewers installed on the computer system and in upgrading computers in named areas where we are planning to use Second Life.

Of course, the ideal solution would be for students to have free and unrestricted access, and I feel that this is a real possibility in the future.

With regard to support from teaching staff, this is variable. Some are very interested in it and are keen to see how they can use the technology for elements of their course, but there are others who think it is some kind of slippery slope into hell from which the students will return without having learned anything at all."¹²⁴

"The Information School, together with the School of Education, have paid rental on our Second Life island to September 2012. A couple of my colleagues support my teaching in Second Life (by co-tutoring in sessions).

We still aren't allowed the Second Life browser on the desktop at my university, so there is still limited access to Second Life for my students on campus: which, as the majority can't easily access it from home, continues to be a pain."¹²⁵

"Technical support have agreed to set up OpenSim & Open Wonderland. This is proceeding, but slowly."¹²⁶

4.4 The "You're pretty much on your own, mate"

Other respondents report little or no institutional support, be it financial or staff, and it's left to the academic to do their own thing.

"None to date. There has been one other active member of the University (in European Law). There has been a little more activity very recently, through an interdisciplinary 'Bridging the Gaps' initiative (the impact of this is not clear yet)."¹²⁷

¹²³ Kathryn Trinder, ex-virtual world academic trainer, now student of horticulture.

¹²⁴ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

¹²⁵ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

¹²⁶ Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

¹²⁷ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

"I'm 'the support' for our little community. I am hoping that our University will agree to keep our island as more and more lecturers are hoping to use it as mentioned above. The island was originally set up with monies provided through our then Director of Learning and Teaching, the Head of E-Learning and some money from a small research activity funded by JISC.

Unfortunately we will come to the point in June 2012 when we will have to stand on our own two feet. Obviously, students and staff can enter and use a virtual world without any help or support from a university – after all many people do every day – but a great deal of tools and support are already provided on our island and students need a 'home' they can feel comfortable in."¹²⁸

"Although I had a small startup grant, I'm pretty much independent these days. One of the regions I use is an educational freebie, the other low-cost and only used intermittently for classes (though it is normally open and hypergrid-enabled for anyone interested)."¹²⁹

"Glasgow Caledonian University has stopped the central development and support for virtual worlds. Schools are now individually responsible for (development or procurement of) virtual worlds for teaching and learning.

I do not know in how far the individual virtual world projects are going to be supported."¹³⁰

"None! I do all the support, and even have my own WAN network.

My university blocks the ports required to run Second Life or a Second Life client like Hippo. And I am not the IT guy at my university. Just an enthusiastic researcher.

The IT support (or lack of) is no different though to my situation in the 1990's in UK and Singapore when using computer technology (WWW, software, CD-ROMs, AV projectors, etc) in class. Universities will wholly support virtual worlds in the near future. They just need to switch off their BlackBoard LMS server first."¹³¹

The specific needs of institutional technical support, and cooperation, sometimes depend on the virtual world(s) in use:

"Given the problems encountered with the demands of port access for Second life, we were able to make use of a proxy bypass option for one teaching room. With the arrival of OpenSim and its much reduced port requirements, we now have access to this facility in a number of teaching rooms."¹³²

"We have been fortunate to have an extremely supportive environment for using this type of technology from all levels of the university, from DVC level down to local school level. We have a great deal of input from all manner of areas within the university as well as outside experts, which is extremely valuable!"¹³³

Others indicated that funding comes from outside the host institution.

¹²⁸ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

¹²⁹ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

¹³⁰ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

¹³¹ Dr. Michael Vallance, iVERG research group.

¹³² Barry Spencer, Programme Area Leader, Bromley College.

¹³³ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

"Our research is mainly externally funded."¹³⁴

"Currently very low because previous (supported) exploratory activity wasn't picked up by the university mainstream and there is no further budget for that sort of continued watching brief. However there remain pockets of interest that are including virtual world activity in funding proposals... we shall see."¹³⁵

"Not applicable since we're a private company, but we still get the impression that our clients find it an uphill struggle in their institutions – private and public. The recent ReLIVE conference had a good summary of the challenges – near and long term."¹³⁶

"Unfortunately due to restructuring there is no longer a university team, only local school support. However, much is still done by me and a school technician when we can fit it in. I have also had help from the Second Life community, which has been really amazing."¹³⁷

¹³⁴ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

¹³⁵ Anna Peachey, Eygus Ltd for The Open University.

¹³⁶ David Burden, Manager, Daden Ltd.

¹³⁷ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

5. The good and the bad

5.1 The question

Question four was a two-part positive-negative one. Though we've already asked about virtual worlds in question two, from previous experience asking about them in different ways usually elicits more responses.

What do you like/dislike about the virtual worlds you are using?

Despite the respondents to Virtual World Watch snapshot reports being famously frank¹³⁸ and open, the balance of comments they have submitted has been *roughly* 40:20:40 to positive:neutral:negative over the years - neither hysterically evangelical, or Whinging Pom¹³⁹, in overall impression.

So, there's no surprise in seeing decent batches of positive, and negative, observations about people's use of virtual worlds.

5.2 The positives about virtual worlds

Several academics gave positive comments on multiple virtual worlds, or virtual worlds in general.

"Creative possibilities (in terms of space and event) not available (for reasons of cost or practicality) in real life ('not possible in real life' attitude). It also offers a side-step to examine real life methods afresh."¹⁴⁰

"Likes: Technical capabilities. Proven track record in use in demanding applications. Constant updates with new features."¹⁴¹

"I think the main advantage of Second Life is the ease of use (comparatively), massive user base and the in-world content that has been amassed over the years.

Of course if you are looking to create a 'closed' virtual space for learning and teaching for example, then OpenSim and OWL can have huge advantages."¹⁴²

"The fact that you can distribute a virtual world server and viewer on a USB stick, including documentation, that you can make it a downloadable package, allowing you to basically hand over a virtual world to every student is an incredible thing. It allows you to create an MRI scanner in its actual environment and distribute it at will. Or an airplane cockpit. Or a nuclear power plant. Completely independent, doesn't even need internet access.

A world in the palm of your hand. That's just amazing."¹⁴³

¹³⁸ One JISC programme manager, after reading two of the previous snapshots, remarked "So there's zero censorship of what people send you, then?" (which is nearly, but not totally, accurate)

¹³⁹ Urban Dictionary definition of 'Whinging Pom'.
<http://www.urbandictionary.com/define.php?term=Whinging%20Pom>

¹⁴⁰ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

¹⁴¹ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

¹⁴² Gemma McLean, Developer, Gemixin Ltd.

¹⁴³ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

"I love the immediacy and innovation that they inspire. I believe they still represent a fantastic development and rapid prototyping environment for educationalists."¹⁴⁴

5.3 Positive comments on Second Life

There were plenty of positive comments about Second Life in particular, though perhaps less so about Linden Labs (the owners of this particular virtual world).

"I like the friendly community spirit that can be found in Second Life; you feel as if you are in a 'real' place. This feeling of being 'real' is probably supported by being able to socialise in clubs and groups with people with similar interests, and the ability to create and buy goods that further define your identity."¹⁴⁵

"What I like about using Second Life is the ability to link in real-time with students from across the globe and to see them in virtual person."¹⁴⁶

"As mentioned, Second Life provides a large active user base that is essential for the success of the modules, and this is the primary reason why I like using this. I do usually have a natural leaning towards using fully open source systems that are free of constraints, and if the future of accessing online resources lies within the realms of a metaverse / 3D web, I would prefer it if this did not lie in the hands of Linden Labs!"¹⁴⁷

"Second Life provides an easy entry to using virtual worlds as there is a range of materials (books and on the web) to support new users, it is easy to find (direct students to) materials in world on how to build, texture etc, there is a wide range of freebies available which helps both students and staff starting out, and there are lots and lots of examples to look at and investigate. Anything is possible in terms."¹⁴⁸

"One of the main advantages of Second Life, from a research perspective, is also its popularity, meaning that there are several research seminars and conferences available in-world. Unless there is a mass move to another virtual world, Second Life provides an opportunity to engage in a research community in a way that few other virtual worlds do."¹⁴⁹

"Second Life likes: diversity of spaces and user groups; opportunities for attending events and networking; as a platform for demonstrating the affordances of virtual worlds in education and business domains; in-world currency which enables carrying out learning activities in the business and management domains."¹⁵⁰

"Like: I like the immersion and communication in Second Life which allows me to create authentic, more engaging teaching, learning and assessment strategies. The access to a large international community is also very important to me."¹⁵¹

¹⁴⁴ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

¹⁴⁵ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

¹⁴⁶ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

¹⁴⁷ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

¹⁴⁸ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

¹⁴⁹ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

¹⁵⁰ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

¹⁵¹ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

“The great thing about working in-world is engaging with students in a different way. Our project centres on design and building, and the building tools in Second Life let everyone experiment collaboratively in a way that is not easily achieved in other media. The in-world experience also lets students portray themselves in a way that both anonymises and expresses at the same time. The avatar names tell everyone lots about how people want to be seen rather than assumptions being made on the basis of real-world physical characteristics; Cyrano de Begerac might be set in a virtual world if it were written today.

Our students enjoyed the informality and playfulness of the virtual world, whilst at the same time seeing it as a place to which they could return to collaborate and build their ideas. The virtual world has also proved to be a good place for assisting the development of language; the informality of the setting seems to foster constructive interaction around this aspect of learning.”¹⁵²

5.4 Positive comments on other virtual worlds

With academics gradually using this particular option, some positive comments came in.

“Here is my ‘like’ section for OpenSim:

- Can run simple builds (server and viewer) on a memory stick (sim-on-a-stick).
- Can import/export regions (as OAR files, e.g. freebie Universal Campus) and inventory folders.
- Additional scripting commands not available in LSL (OSSL).
- Travel to other grids via the Hypergrid to find inspiration or garner freebie resources, e.g. FleepGrid for avatar components.”¹⁵³

“The most positive is its flexibility and security. My design students build in this space and my programming students modify scripts to meet the requests of participants undertaking the activities.”¹⁵⁴

“I like the fact that Open Wonderland is java-based, which removes any problems around allowing network access or installing a special viewer.”¹⁵⁵

5.5 Mixed comments on Second Life

Some responses weren’t strictly positive or negative in nature.

“I cannot think of anything I particularly dislike but I do wish the Lindens would value the dependability of educationalists a little more. There are things that would be helpful too, such as being able to run Second Life on mobile devices or an interface that helps the average lecturer to build what they need. One of the things that prevents a technology from becoming

¹⁵² Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

¹⁵³ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

¹⁵⁴ Dr. Michael Vallance, iVERG research group.

¹⁵⁵ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

mainstream is their 'incompleteness'¹⁵⁶. Which of the things I have mentioned might we consider prevent Virtual Worlds from being perceived as complete?"¹⁵⁷

"I dislike the costs and the loss of the education discount in Second Life, but I do like the way it works, the flexibility it offers and the fact that there is a support system out there (somewhere) if you are in dire straits."¹⁵⁸

"We like the accessibility and collaboration aspects of Second Life, but it could be more robust. It still has a tendency to shut down regions with little warning, which is an issue for scheduled teaching."¹⁵⁹

"Dislikes include, I suppose, the inevitable wish that land was cheaper so that we could afford more space for staff and students. I also wish that it was less demanding in terms of computing and graphics power, but then I can see how that is the down side of a strength (e.g. the huge number of different graphics in Second Life).

I would be fine with Second Life needing a dedicated browser (it only takes a moment to boot it up, and it boots up automatically) if only we had it on the campus computers. I like the commercial side of Second Life; I think it adds to the richness and complexity and there is lots you can do with no Linden [the in-world currency], if you want to."¹⁶⁰

5.6 Negative comments on Second Life

With the sun comes the rain.

"Second Life is still not 100% solid – especially voice, but the new mesh support is great, and viewer 3 looks like what viewer 2 should have been. But having got used to OpenSim where I can develop worlds on the train I find it hard to see why I should spend much more time in Second Life – although you do miss the social side.

The OAR capability is stunning, being able to save whole builds off and email them to people, and the emerging osNPC functionality will mean that we can finally populate the virtual world with virtual people."¹⁶¹

"Dislike: The cost; if it was lower I am sure it would be guaranteed full time but at the moment it is really year to year. Although in the grand scale of things it is still low.

I also dislike the high computer specifications of Second Life; if it was browser based that would be a game changer. Although I know some are not keen if the quality of the world goes down."¹⁶²

¹⁵⁶ Wiefels, P. (2002) *The Chasm Companion: A fieldbook to Crossing the Chasm and inside the tornado*, Capstone Publishing Limited, Oxford.

¹⁵⁷ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

¹⁵⁸ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

¹⁵⁹ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

¹⁶⁰ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

¹⁶¹ David Burden, Manager, Daden Ltd.

¹⁶² Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

"The cost – I jettisoned my island after 2.5 years and significant personal expense. There is a steep learning curve for new participants."¹⁶³

"What can be problematic is some students have technical issues with using Second Life due to the specification of their home computer."¹⁶⁴

"The negatives include limited avatar numbers and uncertain allocation of ownership of objects. I simply don't want participants deleting structures. Building and testing is time consuming.

Several aspects of Second Life have been disappointing:

- Second Life occasionally being unavailable (especially in Japan when Linden Labs did their maintenance during our daytime hours).
- The cost of Second Life.
- Security worries in Second Life; with OpenSim the virtual world is only accessible on my server. This has appeased my cautious university administrators plus now I can safely invite schools into the space for demonstrations.
- The constant need to update Second Life. This was such a pain when using university computers. It was simply not possible to get immediate updates due to admin password required, etc. Nightmare!
- Second Life closing the TeenGrid and that reinforced our belief in a lack of true ownership. In our OpenSim space everything is ours and controlled by us!
- OpenSim support is excellent and I prefer the spirit of communication among the OpenSim community. OpenSim is also customisable."¹⁶⁵

"Second Life is less appealing and less interesting since the apparent take-up of voice by so many within the Second Life and education community."¹⁶⁶

"Second Life (dislike): the constant concern about its sustainability, stability and support to educators, and to education, in general."¹⁶⁷

"Second Life is very restrictive and difficult to adapt to the demands of our project. Developing good text display systems are particularly difficult. Manipulating audio and synchronized media would be much easier using other platforms. Only the public facing attributes of Second Life help to drive the project."¹⁶⁸

"The difficulties are that for newbies it takes time to get the hang of moving around and their inventories; the costs of owning an island have increased substantially; running it over a university network can be challenging (but on the other hand it can be run from a stick)."¹⁶⁹

¹⁶³ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

¹⁶⁴ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

¹⁶⁵ Dr. Michael Vallance, iVERG research group.

¹⁶⁶ Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

¹⁶⁷ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

¹⁶⁸ Dr Robert Gittins, School of Computer Science, Bangor University.

¹⁶⁹ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

5.7 Negative comments on OpenSim

There may be a gradual movement to OpenSim, especially from Second Life, but this doesn't mean it escapes the critique of UK academic practitioners.

"Current projects (Comenius¹⁷⁰) make exclusive use of OpenSim. My principle issues are in the lack of full physics engine implementation and the availability of a viewer that supports Shared Media."¹⁷¹

"OpenSim is too difficult to install and configure, and is too unstable to rely on. When it is ready, it will be the perfect solution, and the fun can start again. Second Life is good for those students that are into such things already, particularly those exploring identity, but it's too distracting and unwieldy for the masses."¹⁷²

"OpenSim is OK, but it is not Second Life i.e. the context and immersion Second Life offers does not seem to happen in the OpenSim."¹⁷³

"The usual things, e.g. clunky interface and lag. I freely admit that the latter could be mitigated by improved sim design/implementation and my 'pushing the envelope' a little less. Problems have been compounded lately by what feels like the continuous introduction of new features on the server and viewer. That said, my main problems have come about due to rare extrinsic factors such as server room cooling failures closing our entire local network, i.e. just bad luck."¹⁷⁴

5.8 Other negative comments on virtual worlds

A few respondents mentioned the learning curve of virtual worlds and Second Life.

"I dislike the steep learning curve for educationalists and students."¹⁷⁵

"There is a steep learning curve in terms of development. The learning curve is not quite so steep with general use of Second Life (especially since the new viewer) but still requires at least several hours of orientation for new students and staff to feel comfortable in-world."¹⁷⁶

And a few others had more general comments about virtual worlds.

"The downside is that java applications always look like java applications! I'm hoping that won't be a limiting factor."¹⁷⁷

¹⁷⁰ Comenius: Europe in the classroom.

http://ec.europa.eu/education/lifelong-learning-programme/comenius_en.htm

¹⁷¹ Barry Spencer, Programme Area Leader, Bromley College.

¹⁷² Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

¹⁷³ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

¹⁷⁴ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

¹⁷⁵ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

¹⁷⁶ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

¹⁷⁷ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

"The usual. Installing clients, frequent updates, network/firewall problems, and support when using open source technologies."¹⁷⁸

"What I don't like about working in-world are technical problems that are hard to figure out; microphones not working; viewers that don't correspond to expectations or instructions and trying to sort those things out at a distance for a minority of students whilst keeping the majority engaged. I am also not very good at moving around. Fortunately if you are with a bunch of novices no-one minds if you bump into them.

Working in-world on a dedicated island feels quite safe but I have been scared off random tours in the wider world by avatars who appear to have Tourettes syndrome. The experience of landing in the Second Life general induction area, into a circle of avatars perched on the fence like evil crows ready to pick the bones of new arrivals, was quickly decided against when we trialled it before our students came in."¹⁷⁹

"Dislikes: Constant updates with new features (breaks existing work sometimes!). Restrictive licensing."¹⁸⁰

Mark has some comments on Second Life viewers, and virtual world interface design in general:

"Some minor things: OS still is limited in the range of things you can use to personalise your avatar, I still haven't found an AO, and since I'm working on identity-building and how this affects learning, having access to a range of clothes/skins/etc is really important. Second Life is still laggy sometimes. I have to load my outfit when I log on using Phoenix or I apparently appear as just a wee white egg.

The main issue though is the design of the viewers. There seems to be a more and more pervasive belief that interfaces that are icon-driven rather than text are easier to use. That might be true for most people, but not all. I recently switched to Phoenix and it was so easy to pick up. There was a tab on the bottom toolbar that said 'radar' so I knew there was a radar I could use; an icon somehow representing radar wouldn't have been so obvious.

Then I tried Firestorm and it only has icons. I find learning which icon means what function takes a lot of trial and error, and recalling what they represent when I'm using the viewer introduces enough of a delay that the interface stops being so intuitive. If I leave it for a few weeks I have to learn them all over again. So if there was one plea to designers it would be to make technology easily user configurable."¹⁸¹

But, this section concludes with arguably the most accurate (and most often thought) observation on experimentation with virtual worlds.

"Overall, they are very time consuming – and I am finding I never have quite enough time! They all have a range of limitations, but lack of time is really my biggest problem."¹⁸²

¹⁷⁸ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

¹⁷⁹ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

¹⁸⁰ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

¹⁸¹ Mark Childs, Teaching Development Fellow, Coventry University.

¹⁸² Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

6. Living the experience

6.1 The question

The next question asked about the people being taught, and how was it for them:

If teaching using virtual worlds, what's the experience been like, for you or the students?

Most academics responded about the experiences of their students.

6.2 Student good times

Many of the academics who responded about student experiences reported mostly or wholly positive outcomes.

"I have found that in using virtual worlds my teaching was able to take full advantage of problem-based learning scenarios in support of collaborative learning for my students, activities that are realistically not bound by the traditional demands of time and location.

Generally speaking the response of students in using both Second Life and OpenSim have been sufficiently encouraging. There are a number of historical student survey reports that can be accessed in-world in my sim^{183,184}

"So far being with students in Second Life has been quite good fun. The students generally enjoy it but do not realise they are learning and therefore often see the virtual world as irrelevant to their studies. I think that as we develop what we do with the students in the module to help them explore identity, they will appreciate why Barbara decided to use it."¹⁸⁵

"In the small scale testing we have completed so far, we are extremely happy with the results. The use of the game allows us to work in similar areas, educationally, to role-play without some of the drawbacks. Anecdotally the students have been extremely positive, both in terms of 'wow' factor and the actual educational content of the game. A series of more in-depth analyses of how the game has been received by the students is in production and will be published in the next year."¹⁸⁶

"It's been a lot of fun. We had a complete sim and were going to build a moon base where every student was taking care of one component (a mess hall, a kitchen, a power plant, a control room), progressing from building to scripting to the more advanced elements like particle systems, flexible and sculpted prims. Students had a USB stick to host their OpenSim virtual world server and create various things, some of which were subsequently exported to Second Life. Most students enjoyed the module and the approach and some of the result were absolutely amazing. Check out Glasgow Caledonian University West (if it still exists)."¹⁸⁷

"Positive. The students are generally highly engaged, very open to trying new technologies and interested in trying new approaches to learning."¹⁸⁸

¹⁸³ Sim of Barry Spencer. <http://slurl.com/secondlife/Star%20Beach%20Island/209/222/23>

¹⁸⁴ Barry Spencer, Programme Area Leader, Bromley College.

¹⁸⁵ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

¹⁸⁶ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

¹⁸⁷ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

¹⁸⁸ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

"Mostly positive. At first the students are a bit puzzled but once they get more involved they have reported that they really enjoyed the experience and felt they were learning, which was evident in their summative exam. I am about to submit a paper for publication which will report the findings of an action research project I conducted between 2009-2011 in Second Life. Hopefully that will be accepted and of interest to people."¹⁸⁹

'Steep learning curve' and similar phrases are regularly used by lecturers reporting on the virtual world experiences of their students. This snapshot is no exception.

"This is a paper in itself but generally the experiences have been rewarding. We have developed the space in an iterative manner, meaning that as each task is undertaken we get feedback and then build tools to meet the demands of better achieving task success.

There is a steep learning curve though as it takes about four tasks for new participants to become focussed upon task activities and comfortable with avatar controls and synchronous communication. As a researcher I capture screen data, communication data, and I have objects which obtain avatar feedback of task process (which is linked to a CSV database on my server). Our research evidence indicates that a virtual world context for experiential learning supports the development of cognitive processes of students when collaborating in the solving of LEGO robot circuit programs. The development is not linear though."¹⁹⁰

It's also good to see some academics accumulating data from student teaching and learning experiences.

"We now have lots of data on teaching and learning experiences from the evaluations we have done of various projects. Overall, it is like any form of teaching and learning experience. If the experience has been well thought-out and enthusiastically driven by the teaching staff, it is successful. If not, it isn't.

The overwhelming outcome of evaluations so far has been positive, both from the point of view of the students learning in a way that gives them the chance to have new experiences, and from the tutors being able to see their students learn in a physical sense."¹⁹¹

A long response from the Open University points to some online resources of interest.

"We have had a very positive experience; a case study with our computing students is published"¹⁹².

I regularly have meetings with my MSc and PhD part-time students in Second Life. I also arrange in-world rehearsals for them ahead of a conference presentation or viva examinations.

Since 2009, we have been conducting research on the design of learning spaces in virtual worlds. We have developed empirically-grounded guidelines for the design of learning spaces¹⁹³ and most recently, we have developed guidelines for navigation and wayfinding in learning spaces¹⁹⁴.

¹⁸⁹ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

¹⁹⁰ Dr. Michael Vallance, iVERG research group.

¹⁹¹ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

¹⁹² Supporting distributed team working in 3D virtual worlds: A case study in Second Life. <http://oro.open.ac.uk/23512/>

¹⁹³ Design of learning spaces in 3D virtual worlds: an empirical investigation of Second Life. <http://oro.open.ac.uk/21538/>

¹⁹⁴ Designing navigation and wayfinding in 3D virtual learning spaces. <http://oro.open.ac.uk/29864/>

In our empirical research in virtual worlds, we have faced several challenges related to ethical considerations, real-world and virtual identities of the participants, privacy of the participants, communication modalities (voice, text and use of gestures), logistics of conducting user-based studies, choice of techniques for a particular research context, skills and training needs of researchers, and so on. In this paper¹⁹⁵ we have consolidated our experiences via two case studies from our research projects in Second Life. Although our experiences are based on conducting empirical research in Second Life, we hope that our experiences and discussions in this paper will also be useful for researchers who aim to conduct research in avatar-based virtual worlds other than Second Life.

I have recently set up a wiki¹⁹⁶ where I have started collating resources which would be useful for virtual world researchers and for those conducting research in gaming environments. I will soon be sending a request to the community to send me resources so that this wiki can become a useful site for virtual world researchers."¹⁹⁷

6.3 Curates egg

Some academics reported a mixed student experience when they tried to use virtual worlds, especially Second Life.

"Staff and student evaluations of the simulations indicate a general level of satisfaction and highlight the advantage of Second Life over paper based or role-play exercises in the classroom. However, there are ongoing challenges, not least the fact that a significant minority of students still struggle to master Second Life and the skills required by staff to operate and configure the environment beyond the core development phase. Reliance on Second Life development expertise is a further consideration in the current climate."¹⁹⁸

"I have had some very positive experiences teaching in virtual worlds and some very negative – like teaching anywhere really. The sense of presence that it brings to a group of students can be enormously enabling, but for some that is the thing that makes them feel uncomfortable. I think the digital literacy requirements for participation are intimidating and should not be underestimated, but eventually this will cease to be a problem as new generations roll through."¹⁹⁹

"I have enjoyed using Second Life – I feel it is a stimulating and engaging teaching tool. The student feedback has been mostly positive, though a small number have not engaged with it, mainly due to technical problems."²⁰⁰

"There's a mixed reactions from students – some fly, some don't. Students are also often surprised by the 'ghost town' nature of Second Life. Experiencing the virtual world really needs more time than really able to give it."²⁰¹

¹⁹⁵ Conducting empirical research in virtual worlds: experiences from two projects in Second Life. <http://oro.open.ac.uk/25134/>

¹⁹⁶ Conducting research in virtual worlds (wiki). <http://conducting-research-in-virtual-worlds.wikispaces.com/>

¹⁹⁷ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

¹⁹⁸ Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

¹⁹⁹ Anna Peachey, Eygus Ltd for The Open University.

²⁰⁰ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

²⁰¹ Stephen Hodge, Senior Lecturer, Centre for Intermedia, University of Exeter.

“Very, very mixed. Some really take to it, some really love it, and some really hate it. I’m getting better at anticipating which is which, but sometimes the irrationality of those that don’t like it still takes me by surprise. I did a demo for a set of language teachers last year, and they all loathed it. None of them could see the point, even though they could interact with people speaking German, Spanish, Italian etc. They latched onto the fact that they were using text speak versions of those languages, but couldn’t be convinced that that’s a valid form of language too.

I thought I’d heard every criticism there was so would be able to anticipate them, but the gainsayers are always coming up with new ones. And of course, many students don’t want to hear rational arguments. It’s bewildering, but analysing the negative responses is one of my research interests, so it’s all useful data.”²⁰²

“I have taught using Second Life and for the most part, the experience has been a positive one for both myself and for the students. Naturally, some students dislike it – but for the most part, they not only enjoy it, but seem to like the fact that the university is trying out new things. I find teaching in smaller groups is much better. Recently I took a class of 35 students into Second Life, and although they were doing the work in smaller groups and on their own, it was very difficult to support them properly and to keep track of who was doing what and where.

Time is also an issue when using Second Life – everything takes much longer and that is a factor that we are only just beginning to realise the full implications of when trying to adapt some of the teaching materials for Second Life. It all takes so much more time – and perhaps because the students find it more fun, they don’t take it as seriously and also spend time ‘playing’ with their avatars rather than performing the tasks. As the students I teach only get a very small amount of time in Second Life, this novelty factor does not wear off, and so has to be worked around.”²⁰³

“The experience of using virtual worlds is often varied. The inductions we provide to students are essential. They often are being utilised within much of education only as a ‘bolt-on’ to existing teaching and learning provision. The experience is mixed in terms of student success and educational outcomes. Further research is required to establish a good evidence base for their mainstream use. The perception that they are ‘high-end’ technology and elitist needs to be managed. Within HE e-learning provision there exists a very mixed profile of technology-enhanced learning provision across and within institutions.”²⁰⁴

“Cathy: I haven’t done any teaching using virtual worlds, but several testing and orientation sessions. I’ve noticed there are some people that instantly connect with Second Life and find it fascinating, and are enthusiastic to explore and learn. Then there are others that find it very difficult to feel comfortable, and need heavy encouragement. It’s very difficult beforehand to establish who is going to adjust quickly to Second Life and who is going to struggle.

Gemma: The experience of teaching in Second Life, for me, has varied according to the technological capabilities of the campus-based computers. Since I teach on a voluntary module, most students are at least open to the potential of using Second Life as a learning environment. With a smaller class, it’s easier to manage differences in student Second Life abilities and encourage students to support one another.

Students engage enthusiastically with the content of the module and clearly enjoy using Second Life as a learning environment, primarily because of the diversity of islands available, allowing them to explore areas related to their disciplines and personal interests, as well as

²⁰² Mark Childs, Teaching Development Fellow, Coventry University.

²⁰³ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

²⁰⁴ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

engaging in multi-disciplinary work. However, students can very quickly become frustrated and discouraged by technological problems, such as computers crashing.”²⁰⁵

Some academics battled through.

“The students are doing it, but I don’t think they are particularly excited about this.”²⁰⁶

Minimalist:

“Amazing. Frustrating. Powerful. Irrelevant. Serious. Silly.”²⁰⁷

6.4 Gamers as virtual world participants

A recurring comment in several snapshots are the attitudes and perceptions of video and digital game players when they encounter virtual worlds when in ‘student learning’ mode.

“If I didn’t like teaching in virtual worlds, I wouldn’t do it. You do have to be prepared for the unexpected and I think the students mostly adapt to that. The real benefit, of course comes from being able to help students develop their own builds. The sense of ownership that engenders is a joy to behold and, as many others have observed, some students do show significant gains in confidence from the experience.

On the other hand, some do have a tendency to compare it to the Sims and not entirely favourably.”²⁰⁸

“Computer science students are often underwhelmed. Games oriented students in particular are often disappointed by how clunky Second Life is in comparison to the latest version of Call of War: Shoot them In the Face IV, or whatever. Providing a good *reason* for using virtual worlds is something that really has to come at the start of a class, or there are real challenges engaging students. To an extent, this is true for doing anything outside the norm with students; for example, with other students we have to carefully explain why we are asking them to blog.”²⁰⁹

“We don’t do formal teaching so our experiences have been around introducing students to Second Life and letting them explore and build. We have found with this type of usage that students split into 2 groups – love it or hate it. Those who hate it tend to have a strong gaming background and feel the graphics quality is too low and the interface not game-like enough. Those who love it tend to do so because they can see the potential.”²¹⁰

Having said that, one respondent had positive comments about gamer students using virtual worlds.

“Our students are very enthusiastic about the experience that they had in-world. Interestingly, none of them really knew about virtual worlds before we invited them to join our experiment. Our students are all mature, so maybe that ignorance is to be expected, but our European partners tell us that the young students that they work with need to be convinced about virtual worlds. Those who take most naturally to the environment are gamers, but gamers are a small

²⁰⁵ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

²⁰⁶ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

²⁰⁷ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

²⁰⁸ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

²⁰⁹ Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

²¹⁰ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

minority and their coolness is, apparently, questionable. The challenge is how to break down the perceptual barriers to in-world participation.”²¹¹

6.5 Other responses

Sufficient preparation and planning are regular comments from snapshot respondents.

“Probably pretty much the same as in previous years that I’ve answered this question, except that this year I’ve had assistance in the classroom from my PhD student, and it has made the classroom teaching a bit less stressful and more interesting (having discussions about Second Life teaching with another interested person – mostly those discussions have taken place within Second Life only, before).

Teaching in Second Life requires a lot of planning (thinking about what might go wrong, designing interventions that are meaningful and achievable), but then a lot of my teaching (in any environment) requires a lot of planning because I have moved away from doing lots of straight lectures in face-to-face teaching to constructivist, inquiry- and problem-based approaches.

The possibility of working with people who are geographically remote, as tutors in Second Life, is a great thing. In particular this year I have valued the contribution of (Second Life) Pancha Enzyme (Edinburgh University).

I think the virtual world generation still hasn’t reached university, at least not in the UK. In terms of spontaneous reactions this year, I would say they varied from ‘cool’ ‘so pretty’ to reactions that indicated – ok, this is something we have to do.”²¹²

A few other responses were neutral or ‘watch this space’.

“It’s early days for me just yet – I’m currently planning a pilot study to assess feasibility for a large-scale implementation. Watch this space.”²¹³

“Some provisional interpreter student meetings have been conducted in Second Life.”²¹⁴

“Not applicable – although again from our clients feedback there is still some polarisation of student views, but after they’ve actually been exposed to the environment and use it the net feedback is far more positive. We just need to make it a lot easier to get in and do stuff.”²¹⁵

One academic commented on his own experience of using virtual worlds in lecturing.

“For me its fantastic, really enjoy it and I really consider it as a massive upside to working as a lecturer at Newman. It’s also provided some interesting opportunities in relation to collaborating with others. Dr. Mark Childs from Coventry University has really helped out by actively contributing to the modules that we provide, and research work is currently being undertaken to look at student experience on these interventions.”²¹⁶

²¹¹ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

²¹² Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

²¹³ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

²¹⁴ Dr Robert Gittins, School of Computer Science, Bangor University.

²¹⁵ David Burden, Manager, Daden Ltd.

²¹⁶ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

7. Worlds plus

7.1 The question

The penultimate question concerned extending the functionality of virtual worlds:

Any thoughts on the integration of virtual worlds with other learning technologies?

A few respondents ducked out of replying (but then again, there's normally a tail-off of replies further down the questionnaire), while others sent replies of some detail.

7.2 Moodle and SLOODLE

The course management system Moodle²¹⁷, as well as its integrated sibling SLOODLE, were mentioned in several responses so we'll start with them.

"I'm not quite sure what you mean by this question. One of my colleagues, Dr Daniel Livingstone, has worked extensively with a mashup of Second Life and Moodle called SLOODLE. I think that's an interesting direction to take. Open Wonderland supports a variety of technologies for in-world collaboration, and I see that as essential for enabling learning in virtual worlds."²¹⁸

So, speaking of Dr Livingstone...

"Yes. In brief, to get the full potential of virtual worlds, they have to stop being a 'ghetto' type activity. Barriers have to be broken down between virtual worlds and the wider web, and usability has to dramatically improve.

Rather than try to repeat them all here, can I direct people to SLOODLE²¹⁹ and VWAV²²⁰ and The final report of the latter is also available online and has two conclusions:

First, across the range of pilots, students have generally responded enthusiastically to virtual world based learning activities – whether individual or group simulations, tutor groups or role-play. This provides some support to prior claims on the uses of virtual worlds for learning and teaching.

As specifically regards the integration of virtual worlds and virtual learning environments, integration with VLEs does not require the use of specific software, but can be as simple as providing adequate scaffolding and guidance on VLE for VW activities – but students do not always read instructions. Thus, it remains important to use signage or other guidance within the virtual world itself: design not just of the learning tasks but of the surroundings can be very important for self-guided use of simulations, as it is easy to get lost in a 3D environment such as Second Life.

Second, SLOODLE has now been tested on one of the very largest production Moodle environments in the world. From this, and the close code review by core Moodle developers that preceded this, we have greatly increased confidence in the reliability, security and performance of the SLOODLE software.

²¹⁷ Moodle course management system. <http://moodle.org/>

²¹⁸ Jim Scullion, Lecturer, Faculty Of Science and Technology, University Of The West Of Scotland.

²¹⁹ SLOODLE. <http://www.sloodle.org/>

²²⁰ Virtual Worlds and VLEs. <http://virtualworldsandvles.jiscinvolve.org/wp/>

Yet the Open University experience offers a conclusion that the institutional reviews necessary in order to implement anything on the virtual learning environment should not be underestimated – getting additional software added to an institutional VLE may take many months and require multiple approvals before it can proceed. Tighter integration between virtual worlds and virtual learning environments (such as by using SLOODLE) can support enhanced formative and summative assessment, and allow tutors to more easily track student progress. It can also benefit students by allowing them more rapid feedback than might be the cases if virtual worlds and virtual learning environment activities are separated.”²²¹

Richard in the West Midlands is intrigued by SLOODLE.

“I’ve been playing around the SLOODLE integration via a Moodle test server that I’ve set up. It’s satisfying my desires to mess around with something techie and also provides an interesting point for student reflection in assessments. However, I think this type of thing still has a long way to go before it provides a meaningful and attractive proposition for student use.”²²²

Other academics are either looking at, or using, Moodle or SLOODLE.

“SAC is now using Moodle ... so ... watch this space.”²²³

“UEL is in the process of changing from Blackboard to Moodle VLE, so we will be taking a closer look at SLOODLE, the main interest from academics at this stage being in linking MOODLE and Second Life for assessment purposes.”²²⁴

“Ask the SLOODLE people; they know better than I do. It’s certainly bound to be happen somehow (providers of these Learning Environment are under pressure to ‘add value’ to their systems, and doing virtual worlds is an obvious extension). But I wouldn’t be able to predict how it will happen exactly.”²²⁵

“I think it is a very good idea to integrate virtual worlds with learning management systems such as Moodle, both in terms of assessment for staff and as back-up if there are technical problems!”²²⁶

7.3 Virtual Learning Environments

VLEs, or Virtual Learning Environments, were also discussed by several respondents.

“Lots. Virtual Worlds need to be embeddable within a VLE, need to be able to exchange data with a VLE, and to be able to embed the VLE on screens with the world.

However a virtual world experience is very different to standard VLE content (slides, quizzes) so we’ve never been particular advocates of sucking existing VLE content out and representing it in the virtual world. One insight we had at the ReLIVE content was not so much ‘what would happen if Second Life dies’ but rather ‘what would have happened if Google’s Lively had lived’.

²²¹ Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

²²² Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

²²³ Kathryn Trinder, ex-virtual world academic trainer, now student of horticulture.

²²⁴ Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

²²⁵ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

²²⁶ Cathy Tombs and Gemma Tombs, Learning Innovation Applied Research Group, Coventry University.

Imagine being able to drop users into a bespoke virtual world from every page of your VLE – perhaps HTML5/WebGL will give us that.”²²⁷

“They need to get mobile, or on the web with less requirement for programming skills, and require less bandwidth on PC/Mac. Of course that is only for individual educators; others may not agree who are capable builders and can script.”²²⁸

“It would be good to integrate this into our VLE.”²²⁹

“Now that we have Shared Media in Second Life and I assume it will arrive in OpenSim in the near future, I see little need for actual integration from a technical perspective. Using recent trials at my Coders Central base in Second Life, students are now able to collaborate in real time coding exercises with full access to our VLE features such as forums, content and assessment.”²³⁰

One respondent doubted the usefulness of virtual world and learning environment integration.

“I guess it depends on what you mean by integration? With the web-on-a-prim facilities in Second Life now, we can give the impression of integration fairly well. To be honest, I can't see a reason for a virtual world to be 'part' of a virtual learning environment for example, and in any case that's not what virtual worlds are for. They are open, collaborative spaces, rather than controlled spaces for private student-tutor transactions.”²³¹

Tim Johnson from the University of Worcester provided a long thought-piece which considered how effectively lecturers used VLEs.

“My thoughts on the integration of virtual worlds with other learning technologies are not technical ones. I think we need to stop making virtual worlds 'special'. Once virtual worlds become just another social media that can be used as a learning and teaching tool, the sooner we will start to appreciate how we can integrate them with other learning technologies. One of the main things I would like to see is the integration of virtual worlds with student portfolios – not just being able to print off a chat log, but being able to grab a short video of an interaction that a student can add to their portfolio. I know this can be done now but the average student would not be able to do it.

There is too much I would like to say but I will just restrict myself to two more things that I consider to be important issues.

There is an idea that I would like to take issue with – I have heard it before and was reminded of it a few days ago by an IT colleague. There seems to be this belief that HEI cannot afford to provide support for 'new' technologies unless 50% of lecturers are using them. For anyone who knows the Technology Adoption Life Cycle there is an obvious clash between the 50% idea and the way in which technologies are adopted. Virtual worlds are still trying to cross the Chasm²³²; to attract the Early Majority also known as Pragmatists²³³, we need more research

²²⁷ David Burden, Manager, Daden Ltd.

²²⁸ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

²²⁹ Dr Jo-Anne Murray, Senior Lecturer, Animal Husbandry and Nutrition, Edinburgh University.

²³⁰ Barry Spencer, Programme Area Leader, Bromley College.

²³¹ Liz Falconer, Director of the Education Innovation Centre, University of the West of England.

²³² Moore, G.A. (1991) *Crossing the Chasm*, Harper Collins Publishers, New York.

²³³ Wiefels, P. (2002) *The Chasm Companion: A fieldbook to Crossing the Chasm and inside the tornado*, Capstone Publishing Limited, Oxford.

in this area but it is quite obvious that many educational technologies take a comparatively long time to reach the 50% mark.

It is well known that disruptive technologies take something like 20 years to come into general use, that is to reach the 50% mark. Do we wait that long before we support a technology? Please do not quote VLE usage at me as evidence of a technology being accepted; everyone knows that currently the majority of lecturers do not use VLEs – they just dump information in them because there is a requirement that they do so. Things are changing (even with VLEs); we know what attracts the Pragmatists to adopt a technology (good return of investment, proof of concept, ease of implementation, experienced support, proof that ‘people like me’ use it and that it is no longer a discontinuous technology but is now the new paradigm) but we need research to tell us how we apply these successfully to virtual worlds in HEI. A plethora of pilot studies tends to indicate a stagnating technology²³⁴. We do not need more pilot studies on how to use virtual worlds in education, we need research that helps us to properly implement and embed it.

In one sense the second point I want to raise is linked to the first. Managers are pragmatists and they are attracted to a technology for the same reasons as all pragmatists. Some of these reasons are given weight by the instructions and direction the government of the day gives to HEI. The current government has not provided any direction to universities on the issue of using new technologies in education. All the push for modern educational technologies came from the previous government; and HEIs are not interested in the previous government. American educational establishments are being encouraged by their government to use a greater range of communication technologies in their teaching and to use them more frequently. Where is there a similar demand from our current government?”²³⁵

7.4 Gaming technologies

A few correspondents mentioned integration with entertainment media and gaming experiences.

“Yes. We have done work previously on using LAMS as a means of scaffolding learning content into and out of the game experience²³⁶ and found that the addition of learning technology to the use of games can be very positive, but requires a lot of planning and hard work to ensure it runs in the right way!

The use of games in education is getting ever more pervasive, and the connection between the different areas of technology is key to this being a useful addition to the teacher’s toolset in the future.”²³⁷

“Yes! Who gives a damn about running them from a browser? I think that the loss of the sense of immersion and functionality once you’re accessing it via a browser isn’t worth it. Downloading and running the viewers is really not a problem, so we should really continue to insist people just do that.

I think the real advances will come from being able to access virtual worlds from games consoles. Motion and maneuvering from a controller is much easier, and usually the graphics power of consoles is much greater than the average laptop. Using Kinect and AR might also make a difference to the way we interact with virtual worlds. On the whole though, I think

²³⁴ Wiefels, P. (2002) *The Chasm Companion: A fieldbook to Crossing the Chasm and inside the tornado*, Capstone Publishing Limited, Oxford.

²³⁵ Tim Johnson, Senior Lecturer, IHS, University of Worcester.

²³⁶ Innovations in Learning and Teaching Approaches using Game Technologies.
<http://www.ics.heacademy.ac.uk/italics/vol5iss3/flynnnewbutt.pdf>

²³⁷ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

most learning technologies are too sedate, too text-based to benefit from linking to them. The value of virtual worlds is that they stand apart from other things, we enter them and become immersed in them more fully because they are apart."²³⁸

"It's early days. At the moment I'm trying to make more use of shared media, primarily web pages. For example, students do an inworld search of a bibliographic database, display an abstract, press a button and get a suitably entitled prim for their build that links to the abstract and paper. More synchronous use might involve using a simple whiteboard to sketch a layout or annotate a build. Simple stuff basically.

I'm also interested in the integration with web tools to storyboard and deliver quest-type gaming experiences. Also early days."²³⁹

7.5 Blackboard integration

The well-known learning technology platform was mentioned by a couple of respondents.

"There was a application which I heard about at the VWBPE conference which sounded interesting – the name of which I can't immediately remember. I think that how the use of virtual worlds integrates with face-to-face teaching is equally interesting – thinking of the whole blend of environments that are being used.

It would be useful (e.g.) to save chatlogs or photos directly into Blackboard, or to have been able to export presentations into Second Life more easily – though having said that, the way that Blackboard handles graphics is very clunky. Actually, integrating Second Life with MS Office would probably be more useful!"²⁴⁰

"It would be wonderful if work could be set for students to complete in Second Life, but that this could be monitored or marked somehow using some other learning technology – perhaps some sort of integration with BlackBoard would prove to be of use? I am not really sure about this one."²⁴¹

7.6 Augmented Reality

Similarly, AR was mentioned in a couple of the responses to the snapshot call.

"I've always had a personal interest in augmented reality and how it could be used with virtual worlds, but as yet haven't really had chance to work on such a project. I also think it would be cool to work on a project that mixed things like Lego Mindstorm robots or NeuroSky sensors with virtual spaces."²⁴²

"Our project will explore integration with other technologies – particularly augmented reality and the use of robotics."²⁴³

²³⁸ Mark Childs, Teaching Development Fellow, Coventry University.

²³⁹ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

²⁴⁰ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

²⁴¹ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

²⁴² Gemma McLean, Developer, Gemixin Ltd.

²⁴³ Dr Robert Gittins, School of Computer Science, Bangor University.

7.7 Other technologies

Respondents mentioned a wide range of other technologies, academic learning systems, concepts and desires.

"Once OpenSim is stable, I fully intend to integrate it into our e-portfolio and course management system. I just need some funding. Have you got any? [Editor: no.] It's OK, I know the answer to that one."²⁴⁴

"Mobile virtual worlds will be the 'game changer' WHEN they arrive on the iPad and Android Pads."²⁴⁵

"This is the main focus of the team's research. The bringing together/integrating of a range of different/diverse technologies, usually not designed for this purpose, into coherent teaching tools is challenging, interesting, frustrating and rewarding, all in equal measures."²⁴⁶

"Browser-based virtual worlds would make them much more acceptable to the majority of our students."²⁴⁷

"Only that the more they can the better – but first we need better 'integration' with academic networks e.g. multiple users of one computer for short periods of time with all the attendant problems of storage space and protection of the network from 'odd' software. Being able to easily run fully functional virtual worlds in browsers such as IE and firefox would help with this."²⁴⁸

"From experience I believe that the variability of service provision and adaptation of a variety of e-learning and campus-based technology needs to be levelled within education. Until we have rolled out methods such as podcasting, audio and video enhanced tutorials and lectures, for example it will be hard to escape the 'text-based' monopoly of much of HEs teaching and learning provision.

Virtual worlds still represent an effective way of presenting experiential learning activities but currently I believe that these should only be use in the context of a full pallet of technology-enhanced learning methods that are appropriate for learning outcomes. Virtual worlds are still a valid tool for educationalists."²⁴⁹

"In my opinion, the virtual world should be used for the things that it offers that can't be done elsewhere. I know from experience that it is possible to use other means to deliver lectures with some interactivity in other interfaces (I use Elluminate for that a lot). It is also possible to use VOIP interfaces for online meetings and to work on Google apps at the same time.

What the virtual world offers is the chance for a playful experience, for building and role-playing and for interacting in a different way. It is these affordances that we should be developing and celebrating so that students come to the virtual world for learning and leave with enthusiasm as well as knowledge, understanding and skills."²⁵⁰

²⁴⁴ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

²⁴⁵ Dr. Michael Vallance, iVERG research group.

²⁴⁶ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

²⁴⁷ Anna Peachey, Eygus Ltd for The Open University.

²⁴⁸ Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

²⁴⁹ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

²⁵⁰ Georgy Holden, Faculty of Maths, Computing and Technology, Open University.

“The first thing that comes to mind is that issues of accessibility need to be part of the discussion, and that accessibility is not just about tools – it is about our everyday choices and practices (and the assumptions that are revealed through these practices).”²⁵¹

“The affordances of 2D environments such as wikis, blogs and forums and 3D virtual worlds are different but not mutually exclusive or a substitute for one another, but rather very complementary and synergistic. The challenges for educators are in designing activities that are situated within the pedagogical context of the course, seamlessly integrate 2D environments and 3D worlds, deliver a positive student experience and, most importantly, meet the expected learning outcomes.

In this paper²⁵² we have proposed the use of a knowledge construction model as a framework for guiding the design of collaborative activities in a 3D virtual world for blended learning environments. We believe that this framework will also be useful for integrating 2D environments such as blogs, wikis and forums with a 3D learning environment.”²⁵³

²⁵¹ Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

²⁵² Laying the groundwork for socialisation and knowledge construction within 3D virtual worlds.
<http://oro.open.ac.uk/16142/>

²⁵³ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

8. Free time

8.1 The question

The final question was an open “anything you want to get off your chest” one:

The catch-all: anything else you’d like to say?

8.2 Come work with us!

Several people are looking for collaborators and like-minded practitioners.

“Can’t think of anything at the moment, other than to encourage everyone working in this area to keep up the great work – there is so much potential in the use of technology in education We are always open to collaborative work, and putting together funding bids.”²⁵⁴

“Errmm, keep up the good work, John. Read my book, everyone. Anyone needing a virtual worlds researcher, give me a call. You can email me²⁵⁵, tweet me²⁵⁶ or meet me in-world as Gann McGann.

The book is *Reinventing Ourselves: Contemporary Concepts in Virtual Worlds*²⁵⁷, edited by Anna Peachey and Mark Childs. It explores a range of concepts about identity in virtual worlds, what factors influence them, what form they take, what uses people make of them. Anna and I wanted a book that would not only start and inform a debate about what virtual worlds identities mean, but also to bring together a range of ways of addressing the concept, from individual experiences, to literature reviews, to large scale surveys.

The book is actually the first in a series on Immersive Environments, so keep watching this space for more notices about forthcoming books.”²⁵⁸

“We are trying to explore the utilisation of OpenSim vs. Second Life a bit further as part of a research project. Anyone volunteering to be interviewed in that matter is very much welcome to contact me²⁵⁹.”²⁶⁰

“OpenSim has a bit of an awareness and credibility gap to bridge so it would be great if educators using it could leave details²⁶¹ (19 on the list at the time of writing). There’s now also an ‘official’ educator email list²⁶² (121 members).”²⁶³

²⁵⁴ Simon Walker, National Teaching Fellow, Head of Educational Development, University of Greenwich.

²⁵⁵ Mark Childs on email. mark.childs@coventry.ac.uk

²⁵⁶ Mark Childs on Twitter. <https://twitter.com/markchilds>

²⁵⁷ Reinventing Ourselves: Contemporary Concepts in Virtual Worlds. <http://www.springer.com/computer/hci/book/978-0-85729-360-2>

²⁵⁸ Mark Childs, Teaching Development Fellow, Coventry University.

²⁵⁹ Marc Conrad email. marc.conrad@beds.ac.uk

²⁶⁰ Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

²⁶¹ OpenSim user directory. <http://opensim-edu.org/>

²⁶² OpenSim educator mailing list. <http://list.opensim-edu.org/listinfo.cgi/education-opensim-edu.org/>

²⁶³ Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

8.3 Do more!

A few respondents wrote some encouraging words for people thinking of using virtual worlds.

"Don't be frightened to try out 3D virtual worlds for teaching; they have much to offer you and your students. The education community is strong and will help as much as they can to get you get up and running. However, make sure you know what you are doing before introducing students and have a fairly good idea what you want to use virtual worlds for, as opposed to another tool.

Also, ensure you understand, like any emerging technology virtual worlds – whether Second Life or OpenSim – have their limitations. Join an educator group (virtual worlds education²⁶⁴ roundtable is a good one, and if an nurse or midwife join VWhealthed²⁶⁵ – excuse the plug).

There are loads of opportunities to work with others; even if you have no land, find out what others have done and what virtual worlds are capable off but most of all ... proceed until apprehended!"²⁶⁶

"I still believe a virtual world can be an excellent (even if additional) teaching and learning or training asset, but it requires an effort to combine the content creation skills with the teaching skills, to make sure the tutor is getting what they need and know how to work with it and implement it in their curriculum.

This is even more true for OpenSim for which you need additional technical back-end skills (including web based user registration if it is run from an internal server). Three (or even four) separate skill sets (I have them all, but most people don't) requires more people, more departments, more communication, more organisation and more management so it gets organisationally complicated. If you know what you are doing the value will compensate for the effort, but it's not an easy thing.

That's all right though, the World Wide Web wasn't an easy thing either, back in 1997. And it's still not easy. But it's easier to convey the value."²⁶⁷

The need for more research was mentioned by a few contributors.

"I have heard people say that no-one is interested in Second Life as an educational tool any more – but I think that they are wrong. There is a lot still to learn about how these virtual environments can be used in education.

There is very little real research out there as to the effects, benefits, downsides and results of using virtual worlds in education. It seems like many are simply saying it doesn't work because of lack of evidence. Where was the evidence that said that the internet would be a useful tool in education? Where was the evidence that says that interactive white boards are useful tools in education?

Like most things, virtual worlds are there. They can be used in wonderful ways by educators to enhance teaching and learning, and just because the evidence is not there yet, I don't feel that they should be dismissed just yet."²⁶⁸

²⁶⁴ Virtual Worlds Education Roundtable. <http://virtualworldsedu.info/>

²⁶⁵ Connect with Kali Pizzaro in Second Life for more information.

²⁶⁶ Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

²⁶⁷ Ferdinand Francino, Caledonian Academy, Glasgow Caledonian University.

²⁶⁸ Dr Suzanne Lavelle, GENIE CETL, Department of Genetics, University of Leicester.

“Educators: please, when you are publicising your Second Life and education events (conferences and seminars etc.), state if you are using text or voice or both so that your potential audience can determine if it will be accessible or not.

Over the next 12 months or so it would be nice to see the emergence of more critical perspectives in the research, given the contexts in which we are now working. What of the relationship between digital technologies and the marketisation of education, for instance?”²⁶⁹

8.4 The road ahead

People like predicting things, and academics are no exception. In fact, they probably do it more than most (with or without research to back up their futuristic vision).

Some people are cautiously optimistic...

“The time is not quite right for virtual worlds. They need to be better suited to the task in hand if they are going to make a serious impact on education. We are still in the virtual reality hype bubble invented in the 1980s, but I’m optimistic that it will pop soon. Just give me a couple of clear weeks with mature technology, and I’ll stick some pins in it.”²⁷⁰

Some are pessimistic...

“My personal view is that the downturn in interest reflects a combination of effects arising from the financial squeeze on universities and the need to concentrate on the provision of hard evidence of academic quality in order to justify the new tuition fees our institutions wish to charge.

What little academic development funding is available is targeted at issues such as increasing students’ employability, promoting internationalisation and breadth of study, maximising student satisfaction survey scores and gearing up for the introduction of the Key Information Set (KIS) data. The funds available are being spent on consolidating what we need to do well in the present rather than what we might do differently in the future. Staff (here, at least) don’t have the incentive to invest their time in virtual worlds because they’re continually being required to extend and to justify what they already do in the real world.

Sadly, I suspect that you’ll hear this from a number of sources as you put the snapshot together.”²⁷¹

“It is regrettable that changes in educational costs for Second Life have increased substantially over the last year as this may mean we have to withdraw from Second Life.”²⁷²

“Educationalists’ move away from the Second Life main grid is unfortunate. I believe that communities of practice within virtual worlds teaching and learning have much work to do to integrate best practice across technologies and subject groups.

Lewis Carroll’s notion that, ‘It takes all the running you can do, to keep in the same place’ may not apply to the advance of virtual worlds within teaching innovation. We may have to stop running so fast to see how far behind us everyone else is, and let them catch-up.”²⁷³

²⁶⁹ Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

²⁷⁰ Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

²⁷¹ Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

²⁷² Jane Chandler, Associate Dean, School of Computing, University of Portsmouth.

²⁷³ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

But some, with a dash of realism, are cautiously optimistic...

"The virtual world scene is changing very rapidly and there is a rapid growth in the numbers of virtual world platforms (OpenSim-based, Web browser-based, and so on) and virtual world users. However, as of now it seems that Second Life will continue to be a destination for students and educators alongside any other virtual world platform that they choose and adopt. The communities, and opportunities for networking and public engagement are immense in Second Life and it may not be possible to replicate them in other virtual worlds in the foreseeable future."²⁷⁴

"I think everyone is still finding it a bit of an uphill struggle, and the stability and complexity of the technology isn't helping at all. But we're finding converts in some very surprising places. Again the ReLIVE Delphi session defined the problem and opportunity pretty well:

- Short term: Getting it to work and be desirable
- Medium term: Interoperability and mobile
- Long term: Radical UI changes (gesture/nervous/brain) and societal change (both changes that effect virtual worlds, and how virtual worlds effects changes)"²⁷⁵

"Glad to see there is still activity in Virtual Worlds."²⁷⁶

"I feel that the use of virtual worlds continues to represent for me one of the most innovative and exciting prospects for student collaboration and learning beyond the classroom."²⁷⁷

"Yes. I'm still interested, and excited, about the potential of this area."²⁷⁸

8.12 End

Somebody is sleepy:

"Yes, but not enough time unfortunately, have to go to bed so I can get up in time for teaching."²⁷⁹

And finally:

"No, except thanks for all the snapshots!"²⁸⁰

Which leads us onto...

²⁷⁴ Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

²⁷⁵ David Burden, Manager, Daden Ltd.

²⁷⁶ K Kathryn Trinder, ex-virtual world academic trainer, now student of horticulture.

²⁷⁷ Barry Spencer, Programme Area Leader, Bromley College.

²⁷⁸ Michael Callaghan and Kerri McCusker, Serious Games and Virtual Worlds team, University of Ulster.

²⁷⁹ Richard Sanders, Lecturer in E-Media and Media Production, Newman University College.

²⁸⁰ Sheila Webber, Senior Lecturer, Department of Information Studies, University of Sheffield.

9. Seven trends

After ten snapshots, sprawled across five years, three other reports, eighteen presentations and several thousand emails, we conclude Virtual World Watch by observing seven trends.

9.1 There is no overall generic position

“UK universities are all using virtual worlds.”

“Virtual world use is just a niche activity in UK universities.”

“Virtual world use is widespread throughout UK academia.”

“UK academics find it difficult to use Second Life in their research.”

You could make a weak case for each of those statements, but it would be easier to make a stronger counter-case. While some technologies are generically used, and accepted, across UK universities and colleges - email and the web being two examples - virtual worlds are not.

Throughout all of the snapshots, it has been painfully evident that some practitioners have little or no problem inside their host institution, while others have an increasing array of barriers. Some eventually find that using virtual worlds for teaching, learning or research is just plain impossible.

Therefore, one cannot state that the health of virtual worlds is ‘good’ or ‘bad’ in UK academia. Even in the same university, a department will happily be using Second Life in class teaching, while academics in others will find access effectively blocked.

9.2 New universities vs old universities

It’s notable that several institutions have progressed with glacial speed in access to, and acceptance of, virtual worlds in teaching, while others appear to have little problem with this particular technology. *Generally* the trend has been for the newer universities (the previous polytechnics and colleges) to be more open to their use, while the older universities to be much slower to change technologically.

Having said that, a few of the older universities, such as Edinburgh, use virtual worlds in teaching across several departments and subject areas. Even Oxford University, which wasn’t on the radar for virtual world use in academia for some years, suddenly came through with the much-liked JISC funded First World War Digital Archive²⁸¹.

As a side point, the proliferation of these newer universities over the past decade means more institutions open to the possibility of using virtual worlds. It’s also entertaining to observe city suburbs and increasingly smaller towns suddenly promote their own university; we await the first consortium to a JISC funding call from the Universities of Clacton, Keynsham and Smethwick.

9.3 The drift away from Second Life

The first few snapshots concerned themselves with Second Life, as this was (nearly) the exclusive virtual world of choice, back in the years when Tony Blair was still Prime Minister and Dubstep hadn’t started to assault our ears.

²⁸¹ First World Watch Poetry Digital Archive. <http://www.oucs.ox.ac.uk/ww1lit/secondlife/>

But there has been a gradual drift away from Second Life to other virtual worlds. Cost is the main issue with Second Life, plus the uncertainty of the plans of its owners, peer perceptions and the technical willingness needed in the host institution (see the next point). OpenSim overcomes some of these issues and has become the main beneficiary of Second Life disenchantment - though OpenSim comes with significant technical skill requirements that Second Life doesn't need.

As the last few years have rolled by, there's been an increase in the mentions of uses of OpenSim by academics, with other virtual worlds and world creation tools such as Open Wonderland and Unity also in the mix. Some institutions, and academic research units, use several virtual worlds in their research and teaching.

How much this drift will continue is anyone's guess. Second Life is, still, a good "starter" or 'sampler' virtual world. With a modern computer and net access that isn't too restrictive, you can create an account, edit an avatar and start exploring, with no cost or technical skills, within the hour. However, doing substantive work - taking a class of students with variable skills and attitudes into a virtual world, getting them to communicate, not be distracted, and make 'things' - is where things become a lot trickier and the advantages of some other virtual worlds become more open to consideration.

Linden Labs still could stop the flow of academics away from their Second Life service - if they wanted to. And, being a commercial, profit-making, organisation, there is some doubt whether they do really want to. Providing affordable land, the kinds of privacy and access that academics need for teaching, clients and access that don't require university IT intervention, and viewer stability (not frequent updates) would help tremendously. It's up to them.

9.4 IT support

A recurring theme throughout all the snapshots has been the need to engage IT services in various aspects of support and access, when using virtual worlds in an academic environment. This could be freeing up the 'ports' so Second Life can be used for a class from a lab; installing a virtual world browser or client on PCs; dealing with updates of the same client (annoying when mandatory updates are frequent, and seemingly occur 30 minutes before a class begins); installing a server and software for an exotic, open source, virtual world.

Some universities - especially the newer ones (see 9.2) - have IT structures and services where this is not a significant problem. Other universities ... not so much. More than a few UK academics who have identified a potential teaching or research use for virtual worlds have been prevented from following this through. Their loss - and also a loss of research or service funding for their university or college.

Why does this happen? IT services are not homogenous in how they operate across UK education. People are people. Some IT services do have concerns regarding virtual world use in their institution; some have the implicit or explicit final say on which technologies and software are permitted to be used in teaching and research.

How to overcome this? Make friends with the people who make decisions in your local IT services. Show them case studies of other academics who use virtual worlds in teaching and research. Make friends with senior people in your university and show them the (income) potential of virtual world things. Localise your IT needs to your department or group (or self); after all, there will be other new technologies in future years, so these problems may just reoccur.

9.5 Funding

To get up and running with a virtual world is - superficially - free. You create a free account on Second Life, edit your avatar, figure out how to fly and move around, and then explore and communicate.

Superficially, as even that effort requires the resource of your time which, in academia, someone is paying for.

To do much more requires actual cash. To 'own' or rent virtual land, or to build substantive things. Depending on the virtual world chosen, a certain commitment of technical resource - people, possibly a server - is required. As well as more staff time. It all costs.

Funding for virtual world use in UK academia has never predominately flowed from one pot of money. Throughout the snapshots, academics have declared three main sources of resources.

1. Institution, or internal funding. Some have used this for several years and continue to do so, to pay for virtual land, servers and staff time. Others, more typically lone academics as opposed to groups or departmental teaching initiatives, have felt this source of income dry up recently.
2. External funding. The two most frequently mentioned sources of funding - by far - have been the Eduserv Foundation, and the JISC. The former of these doesn't exist any more, while the latter still competitively funds investigation into technology use in education. European funding also gets a good mention in places, as do the higher education funding councils. Commercial and private funding get occasional mentions.
3. Their own voluntary time, working on developing educational 'stuff' in virtual worlds. Meeting other UK academics after midnight in Second Life is a common thing. Sometimes it's essential, to meet people in other time zones. But perhaps, as a regular habit, it's not a healthy thing. Nor does it set a good example to other academics.

Despite the squeeze felt by some in their institution, this three-pronged funding fork appears to be continuing. To assist with getting funding of any kinds, there's plenty of case studies of people using virtual worlds in education, and the research base is expanding, but - as mentioned elsewhere - more evidence-based research, and synthesis of this research - will always be required.

9.6 The disconnect

There remains a disconnect between the masses, and even most of academia, and people in academia who use virtual worlds in education. Go into any forum, debate, twitter chat involving learned people, academics, even learning technology consultants (thinks ... *especially* learning technology consultants) and wait for the topic of virtual worlds to come up. Or, throw it in yourself. Several things often happen:

- An academic will proclaim that people haven't used virtual worlds for years, and he or she don't know of anyone who does.
- Several people will agree with him or her (it needs someone to take the lead on this).
- Second Life will be mentioned implicitly as the only virtual world.
- Someone will mention that it's used for virtual porn, possibly also mentioning flying penis's, and some story about online dating in Second Life that went wrong that they read in a tabloid newspaper.
- The conversation moves on to other topics.

I've seen this repeatedly. More than once I've jumped in when someone I know has said some variation on "I don't have any colleagues who use virtual worlds", responding with "You *do*

have several colleagues who use virtual worlds. They are X, Y and Z. You just don't know that they use virtual worlds." Sometimes this doesn't end well²⁸².

For more examples of this disconnect, have a look at section 2.15 of Snapshot 3²⁸³ (May 2008).

Why is there this 'awareness disconnect', even within academia? Especially as every UK university has had someone, or some group - or several groups or departments - using virtual worlds in teaching or research. And several universities have been using this particular technology, openly and widely, for half a decade? It may be a combination of reasons.

- The mainstream press are, at best, inherently suspicious of online technology (threat?). With virtual worlds, the good stuff doesn't get published. But ... sex sells, and anything sex-related will become a newspaper story.
- Academics, though learned, have their own reading and awareness parameters and. Unless they have to use a particular technology, it usually won't register.
- If they do have to use a particular technology, some academics have to be dragged to it or forced through circumstance to engage with it.
- Some (many?) academics take one look at a virtual world, half-remember some dodgy things they read about them, see a whole bundle of new things to learn, remember they only have to hang on X more years to retirement, and refuse to go any further.
- Some academics see virtual worlds as a huge threat to their practices, how they conduct their teaching, learning and research, and even their job. It's not really surprising that a dislike, based on worst-case scenario fear, sometimes comes to the fore.

Some academics evangelise about virtual worlds, but this often makes things worse, resulting in practitioners and sceptics in the same institution or department having entrenched and opposing views. This quote²⁸⁴ comes to mind:

"To successfully use virtual worlds in your university, you need only four things. A small pot of money, an open-minded pro-vice chancellor, no life outside of teaching hours, and a thick skin."

9.7 Longevity, and a future path

As said in the previous point, Second Life was never the exclusive or only virtual world, nor the only one used in education. Online games such as EverQuest, Phantasy Star Online, World of Warcraft and Lineage have been around for many years and offer multiple methods of person-to-person communication, strategy and collaboration. Virtual worlds that are less game-oriented have come²⁸⁵ and (sometimes) gone²⁸⁶ - forcing academics to second-guess which ones to invest resource in.

²⁸² Never tell an academic above a certain salary spinal point that he doesn't know something. If you remember one thing from Virtual World Watch, remember that.

²⁸³ Archive of Virtual World Watch snapshots. http://www.silversprite.com/?page_id=353

²⁸⁴ Quote by David Merritt, who went off the grid in 2009 and now grows and fishes his own food on an island in the South Pacific.

²⁸⁵ Google launched virtual world called Lively. <http://techcrunch.com/2008/07/08/google-launches-virtual-world-called-lively/>

²⁸⁶ Google closes Lively. <http://googleblog.blogspot.co.uk/2008/11/lively-no-more.html>

But Second Life itself will, in 2013, be ten years old. That's longer than many other technologies e.g. Facebook and Twitter. Despite regular and obviously inaccurate predictions of its imminent demise, it's still here and still being used by UK academics for research and teaching, in some cases for several years. So it must be doing something right?

As previously mentioned, virtual worlds such as OpenSim and Open Wonderland are gaining more interest and use in academia, sometimes at the expense of Second Life. But it's difficult to *accurately* say overall how much virtual world use, as a proportion of technology use in academia, has increased or decreased. For that, perhaps, a much larger survey than a Virtual World Watch snapshot would have to be carried out.

As for the future of virtual worlds in universities - another decade of Second Life in particular being something that will horrify the closed-mind wing of the sceptics brigade - predictions are always hazardous. We live in turbulent times which don't help:

- The Axis of Austerity in the USA, UK and the EU makes funding of non-core educational activities more difficult.
- Education is becoming even more oriented towards customers, league tables, targets, profits, and not getting sued.
- The economy is heading towards a cliff (actually the British one has provenly fallen off it, but few people noticed).

But ...

Virtual worlds in education do, in these times, have some things going for them:

- Education consultants, technology consultants, academics, students, researchers; lots and lots of people decry the 'traditional' model of learning through sitting in a crowd with everyone facing a lecturer. "The classroom is dead" they say. And keep saying.²⁸⁷

The thing is ... they've been saying it for decades, but that's how the vast majority of formal curriculum-based learning is *still* done. There hasn't been a killer technology, method, or app which has replaced this. Maybe there never will be, and a range of technologies (including evolving virtual worlds) will be there to supplement, not replace, classroom-based learning.

- Technology barriers are eroding. The cost of the hardware, software, and broadband access are coming down.
- Virtual world technologies are continually getting better. Comparing what's around (and free) at the moment with the now horribly primitive looking Virtual Reality systems of the 1990s, and the leap in quality is painfully evident.
- Most people are reasonable and open-minded. And most, once they get over the initial (and sometimes steep) learning curve, get on fine with functioning, operating and communicating within a virtual world.
- Further and Higher Education teaching is solely a profit-making industry. The customer pays. The student is the customer²⁸⁸. You may not like it. I don't like it. But that's how it is.
- Sometimes the customer simply won't be able to pay to physically attend a university for three years, and will need cheaper learning mechanisms in order to be a customer. And

²⁸⁷ Also, it's gone past 2010, the digital office has not lead to the demise of paper (in fact, the reverse), I'm not living on the moon, and I still don't have a jetpack, despite the demonstration of one in the 1984 Olympic opening ceremony. Predictors of the future, often highly paid ones, don't know s

²⁸⁸ I am 43. My cousin, who goes to university next year, finds it incomprehensible that I was given a grant - money, actual cash every quarter - to cover all my costs of three years of undergraduate study and living.

sometimes the customer has other life 'things' such as family, a job, or other commitments which means they can only be taught remotely.

- Universities need to find other sources of revenue to stay afloat. Teaching online, to distant and overseas customers and communities, is a cash cow.
- Universities need to reduce costs to stay afloat. Paying an annual five or even six digit sum for e.g. a Virtual Learning Environment, may have been unquestionable just a few years ago. Perhaps less now.
- Virtual worlds offer huge cost reduction opportunities. The virtual construct of the X-ray machine at Glasgow Caledonian University is a good example, where copies of the machine can be made and distributed for free (in real life, this would cost millions), and medical students can train on these virtual representations instead of tying up usage time in hospitals.
- Research is international, global. But travel is expensive, time consuming, and restrictive. Technology that allows meeting, without the travel, is useful, increasingly essential.

I'm cautiously optimistic that evolving virtual world technologies, especially when combined with other technologies and proven teaching practices, have a long future ahead. Proven; yes. Evidence, data, proof; those things will always help. As Simon said²⁸⁹ earlier:

"Further research is required to establish a good evidence base for their mainstream use."

There has been plenty of research over the last half decade especially, in the use of virtual worlds in education. Some is theoretical, but some is 'student doing it' focused, more evidence than speculation. The data lies scattered, is accumulating, amongst papers, articles, books, PhD thesis and academic research groups. More is required, and always will be. "*Who is doing it?*" is less important - especially after several years of seeing lots of people *doing* - than "*Did it work, or not?*"

And that seems the perfect point to conclude Virtual World Watch.

²⁸⁹ Dr Simon Bignell, Lecturer, Centre for Psychological Research in Human Behaviour, University of Derby.

10. Acknowledgements

(Updated: 4th August 2012)

This is the tenth and final section of the tenth and final Virtual World Watch snapshot, so it seems appropriate to lay down some acknowledgements covering the whole half-decade arc of the service.

First, thanks to Aleks Krotoski who introduced me to Second Life and gave me a tour of what she had built within it, as part of her PhD research. Aleks went on to win a Bafta and an Emmy for Virtual Revolution, while I went on to eat deep fried butter on a stick at the Des Moines State Fair. I suspect she makes the better choices in life.

On the work front, thanks to Andy Powell of Eduserv. Andy was a colleague at UKOLN some 16 years (a sixth of a century!) ago now. Spin forward to '06 or '07 and, despite hardly seeing him for a decade or so, we got chatting online after we both noticed UK academics doing ... something or other ... in Second Life. What were they doing? Why? Who were they? How many were there?

This led to the first snapshot report which nearly sank due to a lack of data, until noticing that academic (Second Life) islands were often within two islands of others. Unexpectedly, a bunch of UK academics took that first snapshot report and used it, internally and externally, to make their case for doing various things in virtual worlds. This led to individual follow-up snapshot reports, then a more joined-up Virtual World Watch service, running from 2008 into 2011. This produced a load more snapshots, some presenting engagements, a few other reports, and a few bizarre times grappling with the Eduserv phone conferencing system (which fortified the overall feeling that virtual worlds are often superior for dispersed group communications).

Along with diligent organisation from Ed, and extra research input from Pete, the Eduserv Foundation were always positive to work with and for. And they also had the balls to invest in a range of projects focused around a contentious and (at the time) formally unproven technology. But the lesson there with Andy is; never burn your bridges, as you never know who you'll end up meeting again in a different work context, years - or even decades - later.

Thanks also to Ruth Wilson, website design and proof-reader²⁹⁰, who did the technical parts of the Virtual World Watch website when MySQL and PHP were baffling me, and also proofed early ephemera for the service. Without her many alterations on the original service proposal, there probably wouldn't have been funding, and therefore wouldn't have been a service.

Even though they didn't fund Virtual World Watch, several staff from the JISC or JISC-funded services were involved at times or were supportive. Special thanks to Jane Edwards of the JISC West Midlands RSC²⁹¹, whose hard work and successful series of Virtual Worlds in Education forums gives a revealing insight into how much activity really does go on in one region.

However ... the largest thanks is to the contributors to the snapshots. There have been many, from many UK universities and colleges, who have put in the time to write about their experiences. In particular, thanks to the core of academics who have contributed to many or most of the snapshots - often in great, frank and time consuming detail. They have provided the backbone of content through several years; no content, no snapshots. But, overall, thanks to **all** those who contributed content which made its way into the series of ten snapshots.

Adios.

(Gets on hypothetical horse, points nose west, and rides)

²⁹⁰ Scotproof website design and proof-reading. <http://www.scotproof.com/>

²⁹¹ JISC West Midlands Regional Support Centre. <http://www.jiscrsc.ac.uk/westmidlands/>