



## Virtual world activity in UK universities and colleges

### Virtual teaching in uncertain times

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“Attitudes towards this virtual world as a teaching resource appear to be growing ever more favourable.” - Bex Ferriday, Cornwall College.

“Development is just beginning for next academic year with a vengeance.” - Kate Boardman, University of Teesside.

“For the Open University, a virtual world provides us with a space where students can meet and interact socially in a way that is nigh on impossible in the physical world, and we are seeing that value grow and grow as more students come on board.” - Anna Peachey, Eygus Ltd for the Open University.

“I am of the opinion that students should have access to a private, institutionally managed virtual world, which is linked to their authentic, accountable, assessable and accredit-able enrolled identity, but should also be free to roam a public virtual space in whichever manner and attire they choose.” - Ian Truelove, Leeds Metropolitan University.



## Summary

This snapshot report was put together against a backdrop of political and economic uncertainty. It comes, therefore, as a pleasant contrast to notice many cases of continuity, where academics are building on their uses of virtual worlds in previous academic years. It's also good to welcome details of new sustainable virtual world projects and initiatives from universities such as Middlesex, Bristol and Bath Spa.

Specific subject areas, where several universities are using virtual worlds, continue to come to light. For example, previous snapshots have highlighted contributions from academics involved in midwifery, with at least four UK universities using Second Life to assist in the training of this practical skill. To these and other well-defined subject areas can be added Environmental Health, with universities such as Coventry and Middlesex using virtual worlds to model and explore urban socio-economic decay and decline.

The global access capabilities of virtual worlds become more evident with each snapshot. As universities rely more (especially in these economically uncertain times) on overseas, remote, home-based and part-time students, so technologies that allow learning to take place far away from a physical campus become more useful. For example, Daniel Livingstone<sup>1</sup> writes:

"I am still making good use of Second Life's ability to bring people together across large distances. I have scheduled virtual guest talks for my own students. Students at the University of the West of Scotland will also be involved in an online virtual cultural exchange with students at San Jose State University in the US."

...while from the Open University, Shailey Minocha<sup>2</sup> writes:

"A couple of my part-time PhD students don't live in England, and are able to travel to the university's campus for a face-to-face meeting only once or twice in a year. We regularly meet in Second Life for supervision meetings."

Reading this snapshot, several academics, and independent developers, are making virtual world content and artifacts available for other academics and students to use. For example, one developer<sup>3</sup> writes:

"[We are creating] a free set of law (barrister) clothes and accessories."

...while a JISC-funded virtual world development<sup>4</sup> will be used in several universities:

"As well as being used in the classroom at Bristol, the model will allow Bristol students to collaborate with undergraduates studying a similar module in Liverpool"

In these economically stringent times, and with one of the main hurdles to virtual world use in academia being the time it takes to create content, this makes virtual world a more attractive options to academics. However, there are still issues over how academics (especially those unfamiliar with virtual worlds) can quickly locate and comprehend constructs that have relevance to their teaching or research.

As with all the previous snapshots, Second Life remains the virtual world 'of choice' for UK academics who responded to the survey. However, also as with previous snapshots, other virtual worlds are in use, such as OLIVE at Coventry University for emergency planning, and OpenSim at Leeds for handling large numbers of art and design students.

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<sup>1</sup> Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

<sup>2</sup> Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

<sup>3</sup> Gemma McLean, Developer, Gemixin Ltd.

<sup>4</sup> Shelley Hales, Senior Lecturer, Department of Classics & Ancient History, University of Bristol.

# 1. Background

## 1.1 Snapshot #8

This is the eighth snapshot in the irregular series of publications from Virtual World Watch, and also the last one to be funded by the Eduserv Foundation / Research<sup>5</sup>.

Virtual World Watch will be continuing to produce snapshots, as well as other materials and analysis pertaining to virtual world use in UK education, throughout 2010 and 2011.

## 1.2 Data collection

Of the 57 responses received for this snapshot, 22 arrived in February, 26 in March and 9 in April (the last submission was accepted on the evening of 13th April). It should therefore be borne in mind that there is a significant time lapse between the first and the last responses, when one is reading what academics are planning to do, what they are doing, and what they have done.

At this time of year, data collection is typically tricky as academics busy themselves with end of (academic) year examinations and other distractions. Consequently, several academics have said they will skip this particular snapshot as their in-world activities are currently minimal, but will contribute to either snapshot #9 and/or #10 as they will have new data and observations by then.

Other academics are, however, starting to prepare for using virtual worlds in the next academic year, such as Kate Boardman<sup>6</sup> at Teesside:

"It's been fairly quiet on new stuff at TeesLife since the last snapshot. Partly this is because we've been in that busiest time of assessment/teaching load, partly because we're almost out of prims and partly because we've embedded the design of any development to the point of people putting in well-spent time on thinking about designing their activities with the focus on learning before the development starts.

This might mean you haven't seen much physically new on the island recently, but development is just beginning for next academic year with a vengeance."

Most of the respondents to this snapshot had also submitted information to previous snapshots. However, several respondents submitted for the first time, and their contributions are especially welcome.

As with previous snapshots, it should be borne in mind that this report does not provide a comprehensive overview of virtual world activity in UK academia; it only reports what was submitted by academics to Virtual World Watch.

## 1.3 The next snapshot (#9)

Data collection for the next snapshot (#9) will take place **strictly** during the month of June 2010. We wish to tighten up the whole process, so that this and future snapshots are made public (much) closer to when responses are received by Virtual World Watch.

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<sup>5</sup> Eduserv Research: <http://www.eduserv.org.uk/research>

<sup>6</sup> Kate Boardman, Head of e-Learning, University of Teesside.

Thus, and for simplicity, Virtual World Watch will take responses right up to the last minute of June. After that time, responses will be politely refused until the next snapshot but, if the submitter wishes, will be put on the Virtual World Watch website as a blog entry instead.

Other changes to how future snapshots will be put together should speed up the process and reduce the time it takes for snapshots to become public. Snapshot #9 is scheduled to be live on **Monday July 12<sup>th</sup>**.

Connected with this point; as there is nearly half a year between snapshots #9 and #10 (December), UK academics can also submit relevant content for inclusion on the Virtual World Watch website at any time in between. It may be worthwhile getting in touch with VWW first, just to check that all is okay, before writing.

## **1.4 Trends**

Virtual World Watch has been, in some form or other, producing snapshot reports for three years. An 'End of Eduserv funding' report is being compiled, which will be public in the week of May 17<sup>th</sup> 2010 on the VWW website. This will contain some thoughts on trends that have emerged with respect to virtual world use, in UK Higher and Further Education, over those three years.

## **1.5 Acknowledgements**

Thanks, of course, to the many UK academics and JISC RSC staff who responded to this survey. Especial thanks to Andy, Ed and Pete in Eduserv for support over this session of work - and indeed over three years of snapshots and related work. It was a blast.

## 2. Virtual world uses by subject area

In this section, examples of virtual world use in UK Higher or Further Education have been categorised into a loose grouping of subjects. As ever, many examples do not snugly fit into one convenient subject domain, often either being very specific, or having applications that sprawl across several recognised domains.

### 2.1 Health, medicine and microbiology

As per usual, this particular subject domain seems to come up most often amongst respondents. We've therefore categorised examples at a lower level of, often overlapping, granularity:

#### **Physiotherapy**

The University of East London<sup>7</sup> uses Second Life in physiotherapy:

"The physiotherapy area will be offered to students studying a respiratory module in late April/ May once we have completed some necessary revisions to the web based back end editor that enables staff to add cases. It will be subject to formal evaluation during this time - the study has yet to be fully specified but will be focussing on confidence building in students prior to going on clinical placements in intensive care and high dependency units."

#### **Radiography**

Kathryn Trinder<sup>8</sup> from Glasgow Caledonian University talks about how radiography tutors are using Second Life:

"We are starting the 2nd phase of the evaluation / research into the use of virtual worlds (Second Life) for radiography students (the virtual X-Ray machine). The project came about after student views were sought on their learning of this subject, and it transpired that they had particular issues with the theory / practice of this part of their course.

It's on the n<sup>th</sup> pass of development - we've had students in to trial it and give feedback for both development (usability) and usefulness for learning. We're now at the next stage of the pilot where we will be rolling it out to a new group of students in March. We'll be collecting data from them, pre and post use, to add to our current research.

Our aim is to have this simulation as a formal part of teaching by September when it will be used for the whole cohort. We'll also follow those students, pre and post, with a more in-depth study."

#### **Patient education**

Due to the interest in the medical application of Second Life, Kerri McCusker<sup>9</sup> of the University of Ulster undertook a short project to create a structured learning zone focused on autologous stem cell transplantation patient education in Second Life:

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<sup>7</sup> Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

<sup>8</sup> Kathryn Trinder, Research Fellow, Caledonian Academy, Glasgow Caledonian University.

<sup>9</sup> Kerri McCusker, Research Associate, Serious Games and Virtual Worlds, University of Ulster.

"This project included a self paced walkthrough<sup>10</sup> in virtual clinics with interactive demos of stems cells, showcase of a hospitals environment and information and links to stem cell transplant resources.

Additionally a 90 second animation<sup>11</sup> was produced in Second Life which clearly highlights the steps taken during an autologous stem cell transplantation, with particular focus on the actual cells being extracted, stored and subsequently being transfused into the patient again."

### **Nursing and patient management**

The research team at Coventry University<sup>12</sup> are involved in several areas of nursing and medical informatics:

"The research group are continuing their development within virtual worlds, and, led by Cathy Tombs, have just finished creating a number of machinima for a variety of disciplines including child nursing and adult nursing.

These, and other machinima, are soon to be made reusable open content to be used by interested parties. Additionally, any educational Second Life objects developed by the group are also soon to be made open content on Coventry Island."

Daden<sup>13</sup> is working with an English university in nursing training:

"We have an ongoing project with University of West England to build PIVOTE<sup>14</sup> into a virtual hospital for nursing training."

Glasgow Caledonian University<sup>15</sup> use virtual worlds to help masters students acquire patient management skills:

"I am currently using Second Life to teach Masters Students diagnostic history taking, interventions and management of patients, as part of a blended module. This is done via problem based learning scenarios (PBL).

The students access a patient history note card, and then take a diagnostic history via either a AIML bot, a lecturer playing the patient, or volunteers with real health conditions who tell their health history from their own home.

Second life allows anonymity for the volunteers and they can be situated anywhere in the world. The students go on to discuss the physical examination findings, choose and interpret investigations, and continue to work in groups until diagnosis and management is finalised. Feedback is given to feed forward into the next session and on completion of the PBL scenario.

This project is part of a two year action research project which is evaluating virtual world healthcare for teaching and learning, social awareness and issues of co-presence. The first cohort is half way through the module."

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<sup>10</sup> Virtual clinic walkthrough, University of Ulster: <http://is.gd/c4sIC>

<sup>11</sup> Animation of autologous stem cell transplantation, University of Ulster: <http://is.gd/c4sgA>

<sup>12</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>13</sup> David Burden, Manager, Daden Ltd.

<sup>14</sup> PIVOTE (Open source learning system for virtual worlds): <http://www.daden.co.uk/pivote.html>

<sup>15</sup> Evelyn McElhinney, Lecturer in post-registration nursing (Advanced Practice), School of Health, Glasgow Caledonian University.

## **Midwifery and contraception**

Developments in midwifery, such as at Teesside<sup>16</sup>, continue:

“Scenarios from the Virtual Midwifery Unit are soon to be transferred to a new build – an expanding health space, as the midwives are joined by colleagues from contraception and sexual health. This seems a fairly appropriate sharing of space! The School of Health and Social Care have just made some development time available so we’re looking forward to some more interactivity and stuff being made and shared.”

## **Herbal medicine**

The University of East London<sup>17</sup> uses Second Life in teaching this subject area:

“Herbal medicine students have been using their area of the polyclinic for a few months as an aid to developing clinical reasoning skills. Feedback is generally positive, though some struggle with the environment and quite a few do not have home PCs with the correct graphics specification for Second Life.”

## **Genetics**

At Leicester<sup>18</sup>, work continues on a virtual genetics laboratory:

“The SWIFT project<sup>19</sup> at the University of Leicester has created a virtual genetics lab<sup>20</sup> in Second Life to help undergraduates learn laboratory skills and procedures.

Phase one of SWIFT uses this virtual lab to help first year undergraduates become acclimatised to working in a laboratory; in particular, the many health and safety factors involved. Understanding the culture of lab work before even setting foot in the physical lab should give students more confidence and reduce the teaching time spent on induction. We have now completed the first study and are analysing the data.

Over the summer we will design a larger lab for the next part of SWIFT. This will allow students to conduct simulated experiments, helping them to understand better the procedures before attempting them in the real lab.

In later phases of the project, students will use the virtual lab to work together in small groups, carrying out Problem-Based Learning Scenarios. They will design and carry out sequences of experiments. This would take too long to do in a physical lab, and is currently achieved using paper and web pages.

The evaluation we carry out within SWIFT will show just how effective this experience is in benefitting students’ learning.”

## **Microbiology**

At Liverpool University, Dr Peter Miller<sup>21</sup> has continued to develop a microbiology sim:

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<sup>16</sup> Kate Boardman, Head of e-Learning, University of Teesside.

<sup>17</sup> Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

<sup>18</sup> Dr. Paul D Rudman, Research Associate, SWIFT project, University of Leicester.

<sup>19</sup> SWIFT (Second World Immersive Future Teaching) project, University of Leicester: <http://www2.le.ac.uk/projects/swift>

<sup>20</sup> SWIFT virtual genetics lab in Second Life: [www.tinyurl.com/SWIFT-lab](http://www.tinyurl.com/SWIFT-lab)

<sup>21</sup> Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

"This year's activities in Second Life have largely been a natural continuation of the previous one's but also represent a culmination as the pilot project funded jointly by the University Library and the School of Biological Sciences comes to an end. The road ahead beyond the June 11th cut-off isn't clear at the present time but I should, if possible, like to keep teaching in and with Second Life.

Since December 2008 the sim has taken on a theme based largely on tuberculosis with multiple layers representing the student work area (at ground level), the infoscape (a giant touch-sensitive genome and metabolic map browser), the cellscape (with molecules and ultrastructure) and finally the cityscape which deals with the historical and societal aspects of the disease.

While the build is incomplete it is still unusual in attempting to portray a biosystem at multiple levels of resolution in a manner that is multi-faceted yet aspires to being integrated.

I again took a class of approximately twenty third-year students into Second Life for half-a-dozen sessions, hopefully learning a little from last year's experiences. I certainly made a more positive effort to 'sell' virtual worlds and to get students off the island and exploring during their induction. Allocating a little time to appearance matters also paid off as students seemed to fuss less with that aspect subsequently.

On occasion I was still caught out by unanticipated issues with permissions, largely as a result of elaborating lessons 'on the fly'. Navigation was less of a problem, however, as students were based on the ground rather than a sky platform and worked in groups around a base area that doubled as an orientation.

Each group was given a mycobacterial species and each student a protein with a homolog in *M. tuberculosis*. Background research, comparisons and analyses were conducted using conventional 2D websites and then brought inworld as textures on prims that the students rezzed and positioned themselves. They also rezzed 3D protein models of the *M. tuberculosis* homolog, hooked RSS feed displays up to Pubmed searches and configured teleporters to link to the appropriate homolog on the giant genome (and back again).

In the latter stages I simply left them to it and, by and large, each group did a great job and, when I went back to look, their displays were reasonably coherent and sensibly arranged."

### **In general**

Eloise Pasteur<sup>22</sup> is developing web-based software to support medical students:

"I have been developing a web-based interface to allow clinicians to enter questions and answers to a database, which will then be converted to AIML to allow medical students to take histories in Second Life and practice that set of skills."

Kathryn Trinder<sup>23</sup> also alludes to other medical-oriented developments in Glasgow Caledonian University:

"Nursing, health, psychology and ophthalmics are steaming ahead with other developments."

## **2.2 Customer Services**

Coventry University<sup>24</sup> are doing some work in this subject domain:

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<sup>22</sup> Eloise Pasteur, independent developer.

<sup>23</sup> Kathryn Trinder, Research Fellow, Caledonian Academy, Glasgow Caledonian University.

<sup>24</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.



"We have just completed developing machinima in the subject area of customer services."

## 2.3 Computer Science

At Glasgow Caledonian, Kathryn Trinder<sup>25</sup> reports on the Computer Science department beginning to use virtual worlds:

"Computing are running their first module on the technology and business side of developing and hosting OpenSim.

Technology-wise Glasgow Caledonian University are developing in OpenSim alongside Second Life. We're about to implement some sort of building block with Blackboard to allow cross platform discussion and chat. Nursing have been able to push that through for GCU via the Blended Learning Implementation Group (BLIG)."

At Bromley College<sup>26</sup>, computer science students are using OpenSim:

"This academic year we are using/planning on using OpenSim with two groups:

1. National Diploma IT year 2 - Developing and assessing skills in Object Orientated Programming.
2. FdEng Software Development year 2 - Investigating Web services practically as part of a Database Development course."

Barry Spencer<sup>27</sup> explains how BTEC student will be using OpenSim:

"My project for the virtual world this year will be based around an assignment for the BTEC National students in Software Development. Each student will be given a separate build in the form of a small dwelling which they will have to power from an array of solar voltaic cells. The requirements for each of the properties will vary as to how many lights and appliances each have.

While the initial exercise for this will be written in Java, the advantage to using a virtual world in the real time nature of the application is that it can be easily be realised dynamically. For example:

- Making use of the sun angle in relation to power output.
- For sun angles below the horizon, the power output will drop to zero.
- Factor in virtual world cloud cover.
- The impact on the size of an array to a property; they may not all fit onto the roof.
- Using excess day power for night storage.

In broader terms, I am finding that the availability of a shared virtual world allows students to appreciate and collaborate across the project, which in itself is being perceived as a major benefit."

At the University of Bedfordshire, the Computer Science department<sup>28</sup> uses virtual worlds for two particular teaching applications:

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<sup>25</sup> Kathryn Trinder, Research Fellow, Caledonian Academy, Glasgow Caledonian University.

<sup>26</sup> Clive Gould, HE PAL ICT, Bromley College.

<sup>27</sup> Barry Spencer, Programme Area Leader, Bromley College.

<sup>28</sup> Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

1. "Use of Second Life in the two course on Project Management (BSc: about 100 students and MSc: about 600 students) in the areas of Computer Science and Networking.
2. Teaching of LSL in a four weeks unit as part of 'Comparative Integrated Systems' (3rd year BSc Computer Science and Software Engineering). This is the second year we are doing this."

## 2.4 Library Science and Librarianship

On the (real) south coast, one university<sup>29</sup> has developed a library area:

"Solent Life 2<sup>30</sup> is the Library area of the three part Solent Life island of Southampton Solent University. It was developed by the business librarians as part of a funded project. In late 2009 a training session was organised for all interested library staff to learn more about Second Life and Solent Life in particular.

Ten attended and our learning technologist trainer took us through virtual ability for basic orientation and into Solent Life. As a result we can now offer multi-subject library and information skills support in Second Life and we look forward to meeting and working with a wider range of students and academic staff in there this year.

We hope to arrange follow-up meetings and visits to keep everyone's skills going and to keep interest in the site alive."

At Worcester<sup>31</sup>, an interesting library-centric project links books to related audio and narratives:

"Void, a performance company based at University of Worcester, is exploring how virtual worlds are changing the nature of storytelling in a new Second Life library project called The Void Library<sup>32</sup>, that has been built above the University of Worcester Island. Visitors are able to access books, listen to stories and experience narratives appearing out of thin air as their avatars explore the multi-levelled virtual library.

The Void Library is based on ideas from a short story by the Argentinean writer, Jorge Luis Borges, called 'The Library of Babel'. This story tells of an impossibly huge library which contains every book which ever has, or could be, written - the only problem is there is no means of anyone finding any particular book and lifetimes are spent fruitlessly searching for meaningful information among the baffling array of texts.

The Void Library in Second Life explores the difficulty of meaningful choice in an environment of abundant information. It provokes some serious and playful questions about just how stories can be experienced in digital environments where the acts of 'authoring' and 'reception' are similarly challenged.

Visitors are allowed to glimpse real texts, lift books off shelves and sit down to read them on comfy chairs. But The Void Library is also a perilous space and it is quite easy for avatars to fall from the building to the distant ground below, or to get sidetracked into stories that seem to be continually changing in a space that mutates with every visit.

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<sup>29</sup> Alison Williams and Mary Hudson, Library, Southampton Solent University.

<sup>30</sup> Solent Life 2: <http://maps.secondlife.com/secondlife/Solent%20Life%202/128/128/1>

<sup>31</sup> Elizabeth Swift, Subject Leader (Drama and Performance), Institute of Humanities and Creative Arts, University of Worcester.

<sup>32</sup> Void Library in Second Life: <http://slurl.com/secondlife/University%20of%20Worcester/192/215/23>

The Void Library project, which has been funded and supported by the University of Worcester, was initially presented at the International Conference on the Arts in Society in Venice last July. It will feature in an article about narrative development in Virtual Worlds to be published later this year in the International Journal of Performance Arts and Digital Media and Performance.”

## 2.5 Environmental health

Coventry University<sup>33</sup> are involved in this subject area:

“Environmental health is one of the subject areas we are developing machinima for.”

Middlesex University<sup>34</sup> are developing an urban simulation, also for this particular subject domain:

“The Centre for Educational Technology is developing an entire island which has been commissioned by Dr Alan Page. This island is looking to authentically simulate a failing and dilapidated town. The derelict town will be used with problem-based and scenario-based learning exercises, for students studying across all four levels of an environmental health degree. Historically these have been conducted through written descriptions of the town. The Second Life sim will offer a more cohesive and richer experience for the students.”

## 2.6 Law

Over the past few years, several university law departments have looked at, and used, virtual worlds in their teaching and training. At the London School of Economics<sup>35</sup>, preliminary use of Second Life has been made by the law department:

“The law department developed a series of sessions to introduce Second Life to law students but at the moment only the first session took place: introduction to Second Life.”

## 2.7 Teacher training

Whilst teaching is arguably (by some) not an academic subject area, being non-subject specific, qualifications, courses and the like are available for this particular discipline. Cornwall College<sup>36</sup> use virtual worlds for teacher training, especially where it isn’t convenient for the student-teachers to attend regular classrooms in a ‘real’ environment:

“Cornwall College’s School of Education and Training (SET) has been successfully running the Level three award in Preparing to Teach in the Lifelong Learning Sector (PTLLS) as a blended learning course for three years. This eleven week course is delivered with seven sessions studied in students’ own time using Moodle, and remaining sessions taught using traditional methods in the classroom.

However, with the college’s island on Second Life now complete, SET has decided to pilot a version of the course that replaces college-based sessions with content delivered in a virtual environment. This is a first in terms of Cornwall College and use of Second Life as a teaching

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<sup>33</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>34</sup> David Westwood, E-learning Research Developer, Centre for Educational Technology, Middlesex University.

<sup>35</sup> Athina Chatzigavriil, Learning Technologist, Centre for Learning Technology (CLT), London School of Economics.

<sup>36</sup> Bex Ferriday, Lead Teacher, School of Education and Training, Cornwall College.

and learning environment. To date several courses have taught users how to teach in Second Life – but an officially accredited course has never been offered that teaches real world, transferable teaching skills in a virtual world environment.

Twelve students have signed up to work through this pilot: by enrolling a group that are based in locations such as Italy, Portugal, France, Romania, England, Wales and Spain there are no issues with time zones. By ensuring that the group consists of qualified, real world practitioners au fait with using Second Life, any technical and delivery issues can be ironed out before rolling the programme out internationally and to people who have no teaching or Second Life skills.

The group are enthusiastic, excited by the prospect of being part of this ground breaking new project, and are all fully involved in the activities. Feedback has been wholly positive, with many members of the group commenting on how well they feel they have bonded as a group. This has led to a slight revision of the course schedule, with regular discussion-based get-togethers now being offered as a way of keeping students motivated and maintaining this group dynamic.

The course is still in its early stages and anything can happen. However, if the course continues to run as well as it has so far, the School of Education and Training will be looking to offer this to an international audience, and on a regular, bi-annual basis.”

## **2.8 Art and design**

Another subject domain in which virtual worlds have been used by UK academics for several years is that of arts, design and related media. At Cornwall College<sup>37</sup>, students are creating artworks within Second Life:

“A second group of students are also making creative use of the island. The foundation degree in Arts and Media has begun a building project, and are experimenting with the physics of Second Life, adding textures to prims and honing their building and scripting skills in order to make works of art that simply could not be made in real life.

Their tutor is building an art deco-style art gallery in which to house these creations; this currently sits at the bottom of Dozmary Pool, the bottomless body of water from which Excalibur was reputedly held aloft by the mythical Lady of the Lake in Arthurian Legend.”

Northampton University<sup>38</sup> are also using Second Life in art and design:

“We are developing an enclosed seminar room with space for groups to trial interactive discussions using voice. We are also interested in using this learning space to display media developed by students from Art and Design. We are currently investigating the new themed mainland areas to purchase and setup an area to meet and display media.”

## **2.9 Performing arts**

At Teesside<sup>39</sup>, students can hone their skills in performing in front of a live audience:

“The Performing Arts students have now been introduced to their Comedy Club Venue<sup>40</sup> so they can practice their stand-up routines in Second Life’s virtual anonymity. It doesn’t take

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<sup>37</sup> Bex Ferriday, Lead Teacher, School of Education and Training, Cornwall College.

<sup>38</sup> Adel Gordon, Learning Technologist, Information Services, University of Northampton.

<sup>39</sup> Kate Boardman, Head of e-Learning, University of Teesside.

<sup>40</sup> Comedy club venue at Teesside University: <http://www.flickr.com/photos/kattanhurnung/4461430138/>

many people to be sitting out there in front of the stage and spotlights to feel like a real venue and so is a good test for them – summative assessment is the submission of a recorded live session. It's hoped that their digital music peers will feel they can use the Venue too."

Though not curriculum-based, Second Life was recently used for a student-produced pantomime<sup>41</sup> at the Open University:

"In December 2009 we held our second annual Second Life Christmas Pantomime, written and staged entirely by the community, to great critical acclaim (and a capacity audience)."

The University of Hull<sup>42</sup> are using virtual world-based performance in their teaching:

"Work with virtual worlds at the University of Hull's School of Arts & New Media continues into 2009/10 with work in Second Life led by Annabeth Robinson from Leeds College of Art coming in regularly as guest lecturer on a module called Applied and Interactive Theatre 2 on the Scarborough Campus.

This module explores forum theatre techniques, tactical media, and other interactive forms of performance in the context of contemporary technology, building on foundational work in the area the same students undertook in their previous year of study. Maria Chatzichristodoulou, who joined the School of Arts & New Media in Scarborough in 2009, is coordinating this work following on from the initial thrust in this area by Toni Sant since 2007. There are plans to expand this work further during 2010/11."

Leeds University<sup>43</sup> are looking to use virtual worlds for performance-based arts:

"We're also looking at the potential for holding charity fund-raising activities, such as live concerts and dances. Expensive to set up, but might generate valuable publicity and give budding musicians some exposure."

## **2.10 Accountancy**

This is one of several subject areas of interest to the team at Coventry University<sup>44</sup>:

"We are developing machinima and scenarios for accountancy."

## **2.11 Language learning**

Language teaching, using the array of communication methods available in some virtual worlds, remains a popular educational use of this technology. JISC Regional Support Centres<sup>45</sup>, for example, have been using Second Life for language teaching. At the London School of Economics<sup>46</sup>, the French Language team are exploring the use of Second Life with their students:

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<sup>41</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>42</sup> Dr. Toni Sant, Subject Group Leader (Interdisciplinary Studies), School of Arts and New Media, The University of Hull.

<sup>43</sup> Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

<sup>44</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>45</sup> Shri Footring, e-Learning Adviser, JISC Regional Support Centre (Eastern).

<sup>46</sup> Athina Chatzigavriil, Learning Technologist, Centre for Learning Technology (CLT), London School of Economics.

"LSE students and teachers of the French Language & Society course (LN330) launched a virtual exhibition in Second Life as part of the 10th anniversary celebrations of the LSE Language Centre.

The exhibition took place on LSE's virtual island Castors Retreat in Second Life on 25<sup>th</sup> February 2010. The exhibition featured work by Michel Herreria, a Bordeaux-based French visual artist with whom the French language team have been collaborating since 2003.

This was the first ever LSE Language Centre event to be hosted on Second Life. It was developed by students in conjunction with Michel Herreria, staff from the French department, CLT (Centre for Learning Technology) and the Language Centre. A cartoon strip of the event<sup>47</sup>, created by Michel Herreria, is available online, and people can also visit the exhibition<sup>48</sup> in Second Life."

The Open University<sup>49</sup> have been using Second Life in the teaching of Spanish:

"February 2010: A six week Languages Faculty Spanish activity began on a specially constructed sky platform. The platform has a common room with multiple slide projectors and that rarest of Second Life tools...a whiteboard! A series of simple orientation posters leads the languages students through the basics of Second Life communication and navigation, and vending machines supply free clothes and accessories.

A fully fitted Spanish style house has been scripted to speak audio files to visitors, providing a vocabulary refresher before a house-swap exercise. Custom-built discussion pods allow the paired exercise to take place without disturbance, as the pods are placed at intervals greater than the maximum voice range in Second Life. Students can consult an information board which shows pod occupancy before teleporting to the pod of their choice.

Synchronous orientation sessions included basic Second Life movement, communication and avatar customisation. Exercises included a custom built drinking game (orange juice only) where a virtual bartender serves drinks to those who ask correctly. Those who don't, end up with avatars gasping and lolling parched tongues. Early evaluation suggests this event has so far been very successful, providing lots of experience and understanding for future languages events."

JISC RSC Northern<sup>50</sup> have used their island for language teaching support:

"We held a Christmas gathering promoting the new foreign Languages facility."

## **2.13 Environmental studies**

Virtual Worlds are useful in studying what happens in certain critical situations. The ability to replay, alter parameters, speed up and slow down time, all help in studying how a particular event unfolds. For example, Coventry University<sup>51</sup> have used the OLIVE<sup>52</sup> virtual world in a flood emergency simulation:

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<sup>47</sup> Cartoon strip of LSE French Language exhibition event: [http://issuu.com/mherreria/docs/artiste\\_associe\\_lse\\_2003\\_2010](http://issuu.com/mherreria/docs/artiste_associe_lse_2003_2010)

<sup>48</sup> LSE language centre exhibition: <http://slurl.com/secondlife/Castors%20Retreat/198/68/25>

<sup>49</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>50</sup> Paul Miller, e-Learning Advisor, JISC Regional Support Centre (Northern).

<sup>51</sup> Dr. Yung-Fang Chen, Senior Lecturer in Disaster Management and Emergency Planning, Department of Geography, Environment, and Disaster Management, Coventry University.

<sup>52</sup> OLIVE virtual world: <http://forterrainc.com/index.php/product-a-services>

“The first pilot virtual world strategic flood emergency management exercise was conducted on the 4th December 2009. The exercise was developed by Dr Yung-Fang Chen and Dr El Parker and Mr James Townsend at the Applied Research Group in Environmental Hazards and Risk, Coventry University, and Ambient Performance, by using Forterra’s OLIVE platform. The project has been heavily supported by an extensive advisory panel of emergency management professional who formed the participants of this pilot session.

The simulated flood event, a 1-in-1000 year happening, takes place in Silverdale County and severely affects the county town of Willsdon and its population of 20,000. Parallels can be drawn with events in Carlisle in 2005, Worcestershire in 2007, and most recently in Cumbria just before Christmas.

Emergency Management professionals from the blue light services, local councils, the Environment Agency and the Met Office were involved in decision making and co-ordinating a response to the unfolding events. The scenario included the potential loss of power supply and drinking water to the population, flooding of a vegetable oil processing plant and subsequent pollution of the area, requiring targeted evacuation of vulnerable population, development of a public information strategy and considerations for business continuity.

Participants’ response to the exercise was that the platform has great potential alternative for future large scale multi-agencies exercises.”

Also at Coventry University, disaster scenario planning was undertaken regarding the eruption of a volcano. Spookily, this snapshot response from Mark Childs<sup>53</sup> came in before the recent happenings in Iceland:

“Current work at Coventry University includes trialling Second Life with a group of Disaster Management students. This work is being conducted by Drs Yung-Fang Chen and El Parker, with assistance from Mark Childs. The exercise on Coventry University Islandia normally runs as a table-top exercise to provide students with an insights to deal with national scale crises and to facilitate them to consider the complex political and social factors involved in the event. The exercise originally was designed by Dr Andrew Fox.

Students take on the role of different agencies coping with a volcanic eruption in a fictional island called Islandia. Students have to go to other organisations to negotiate strategic disaster recovery plans such as financial aid, resettlement of refugees and so on. The version of the exercise designed for Second Life involved the creation of a series of buildings on Coventry Island, each of which represented one agency. Instructions on the exercise were made available to students through clickable notecards distributed on tables in the buildings. Students' avatars moved between the different buildings to talk to the different agencies and plan how to respond to the disaster.”

## **2.14 History / Engineering**

One particular project<sup>54</sup>, developed by Loughborough and Bath Spa Universities, has resulted in a scale model of an early 18th century printing press being developed in Second Life. This model can be examined and taken apart, which isn’t practical in the real world. It’s an interesting example of how a particular object, created in a virtual world, has relevance to several subject domains - not just history and engineering, but also arguably physics, media and other areas.

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<sup>53</sup> Mark Childs, Teaching Development Fellow, Coventry University.

<sup>54</sup> Dr. Ian Gadd, Lecturer (English Literature), School of Humanities and Cultural Industries, Bath Spa University.

"The Virtual Printing Press is a project begun by Gabriel Egan (Loughborough) and Ian Gadd (Bath Spa) in October 2008 that aims to create a virtual model of a 'hand press' or 'common press' for use in teaching and in research.

Between 1450 and c.1800, the wooden hand press was the standard type of printing press used in the West. We don't know exactly what the first presses (as used by Gutenberg and his successors) looked like; however, by drawing directly on contemporary illustrations and surviving examples of the presses themselves, we do know that, from the sixteenth through to eighteenth centuries, the form of the printing press did not significantly change. In other words, we can say with certainty what kind of press was used to print Shakespeare and Swift, Newton and Linnaeus, Descartes and Kant. It is this kind of press that the Virtual Printing Press project will construct.

In teaching literature and history students (both undergraduate and postgraduate) how the hand press worked, tutors usually rely on photographs taken from relevant textbooks. However, these photographs are limiting: as the press is a complex three-dimensional machine standing over two metres in height, there are obvious problems of perspective, scale and detail in relying on a photograph.

Students may be fortunate enough to be able to visit a real printing press and, on rare occasions, the press may be even be demonstrated for them. However, again, there are limits to how full an encounter this can be: students are unlikely to be able to work directly with the press, may only spend a short period of time examining it, and are unable - obviously - to take the press apart to see how exactly it works.

The Virtual Printing Press project aims to remedy these shortcomings by placing a highly accurate model of a hand press into the virtual classroom. Tutors and students can examine it thoroughly, from all angles; it can be taken apart; it can be interacted with; it can be returned to and reused. The long term goal of the project is to create a working model of the hand press that is sufficiently accurate (in terms of the physical characteristics of the press) for scholars to use it for testing certain hypotheses about printing practice from the period.

Thanks to the good offices of Brett Lucas at the English Subject Centre, the project secured a grant of £5000 to build a 'massing model'. Graham Hibbert (Leeds Metropolitan) was approached to be the modeller. In consultation with him, and with Drew Baker of King's Visualisation Lab at King's College London, we decided to build the press in Second Life. However, the aim is to make a model that could be imported into a variety of other virtual worlds; also, if we are to achieve the level of interactivity we would like, we will need to develop our own platform.

Working directly from detailed plans made of an early eighteenth-century press held by the Smithsonian, Graham has now created a full model of the press. Because of the complexity of the press's construction and the limits of Second Life's prims, the model has been scaled at 1" to 1m, although we hope to be able to scale it down by a quarter.

A version of this press is available on the Loughborough University island<sup>55</sup>.

Following feedback from our printing press consultant, Alan May (who built the press that featured in the recent Stephen Fry documentary on Gutenberg), Graham is making some minor adjustments; he is also working on some limited interactivity. Once he's ready with this, a new version of the press will be built on the Loughborough island.

Apart from labels for each part of the press, there are currently no supporting materials to guide visitors; we aim to provide some notes. We were planning to use the press in our teaching this year, but the timing didn't quite work out. In particular, Gabriel was hoping to incorporate the press directly into a printing course he was running, and so use the students to help develop that supporting material. This will be something for next year.

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<sup>55</sup> Virtual Printing Press on Loughborough II Second Life island: <http://is.gd/c48Bj>



We have circulated details of the press on various academic listservs and generated a lot of positive feedback although it seems that few if any of the scholars had any experience with Second Life before, and a number baulked at having to sign up for an account and download special software. Given the success of the pilot project, we aim to begin developing a major funding bid, ideally with an engineering department."

## 2.15 Classics

Bristol University<sup>56</sup> have recreated part of the 1854 Crystal Palace exhibition, which they are using in a classics course. In another example of the efficient use of virtual world constructs, the developed materials will also be used by students on a similar course in another university.

"At the university of Bristol we are currently running a project, 'Resurrecting the Past: Virtual Antiquities in the Nineteenth Century'<sup>57</sup>, the first phase of which was funded by JISC as part of their 'Enriching Digital Resources' theme, a strand of their Digitisation programme<sup>58</sup>. The team is Shelley Hales, a senior lecturer in the Department of Classics & Ancient History, and Nic Earle, university e-learning co-ordinator from the education support unit.

We have built a virtual 3D model in Second Life of the Pompeian Court from the 1854 Sydenham Crystal Palace. The Pompeian Court was a complete life-size model of an ancient house from Pompeii, housing a collection of copies of Roman paintings. Our model is designed to bring together a digitised collection of the material contained in the court alongside an archive of material pertaining to it, and we are designing interface techniques to enable researchers, community groups, school and undergraduate students to engage with and use the model for their own needs.

We have chosen a virtual environment, and Second Life in particular, to rebuild the Sydenham Pompeian Court because it allows us to recreate, and to study, a point of comparison with the social and reproductive techniques of the Crystal Palace. Just as the Crystal Palace was considered in 1854, Second Life is both a massive social experiment, bringing together diverse users and a testing ground for new approaches to education, entertainment and enterprise.

The model takes advantage of the use of avatars both to populate the space and to allow users touring the court to interact with us, other visitors, and the objects on display. It also seems to us that the questions of authenticity and of the responsibility of reconstructors raised by virtual models echo questions faced by the creators of the Pompeian Court in the Crystal Palace. The project allows us to think about the links between content and the mode of its delivery.

Within the university we'll be mainly using the model in a third year Classics module on the reception of Pompeii since its rediscovery in 1748. As well as being used in the classroom at Bristol, the model will allow Bristol students to collaborate with undergraduates studying a similar module in Liverpool.

As a teaching tool, the model offers an opportunity for students to experience the spatial effects of a Roman house and provides an introduction to the ways in which Pompeii has been displayed in museum settings. Most importantly, the model provides an opportunity for students to assess the ethics of reconstruction and, through physical engagement with the act of reconstruction, to reflect on it both as a conceptual and manufactured process and as a finished product specifically of Victorian England or of 21st Century digital technology."

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<sup>56</sup> Shelley Hales, Senior Lecturer, Department of Classics & Ancient History, University of Bristol.

<sup>57</sup> Resurrecting the Past: Virtual Antiquities in the Nineteenth Century: <http://is.gd/c48tZ>

<sup>58</sup> JISC Digitisation programme: <http://www.jisc.ac.uk/whatwedo/programmes/digitisation/>

## 2.16 Psychology

The University of East London<sup>59</sup> uses Second Life within this particular subject domain:

"The School of Psychology now has conference and tutorial facilities in dedicated buildings on UEL's main island. Some staff have recently started offering tutorials on a range of topics - take up has been variable but one member of staff managed to attract 23 students. Plans are in place for a conference later in the year at which third year students will present their final year research projects, subject to successful acceptance of abstracts by a conference committee. In other words, Second Life is being used to give them experience of academic conference processes prior to exposure to the real thing."

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<sup>59</sup> Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

## 3. Other uses of virtual worlds

Many uses of virtual worlds in UK academia do not fit inside academic categories. This section contains a selection of them, as submitted by academics over the spring of 2010.

### 3.1 Student mentoring and supervision

Kathryn Trinder<sup>60</sup> at Glasgow Caledonian University is involved with student mentoring in virtual worlds:

"Student mentors and college articulation - this is ongoing. A couple of last years student mentors are still with us this year and we've done a little more work on their 'space' on the island. This project is being seen long term, so progress is not speedy. We've half a dozen new mentors coming onboard now and, interestingly, their initial 'knowledge' of Second Life and virtual worlds seems to be much greater than previous students.

One student commented that she thought students would prefer to use virtual worlds than web pages (the current provision), and she saw that younger students especially over the next few years are more likely to have been using 3D interfaces as they've grown up with The Sims, Club Penguin, and so on."

At the University of Liverpool, Dr Peter Miller<sup>61</sup> has been doing a bit of student supervision:

"I am also supervising an Honours student who is building a model of a mycobacterial cell wall and helping another who is doing a project with a colleague that involves using Second Life to create molecular machinima. In a few weeks I will take thirty Masters students inworld (in two groups) to illustrate some of the science applications of virtual worlds and, more to the point, to show them how to change avatar appearance, undertake basic navigation and engage in Second Life-based conferences and meetings."

Middlesex University<sup>62</sup> are looking to use Second Life in student mentoring:

"Two projects are currently being constructed looking to use Second Life as a medium for mentoring and assessment support. The first of these is housed within our Business School and will look to bring together students and experts from industry. The second project will look to offer drop-in sessions for our students needing assistance with assessments."

### 3.2 Supporting academic staff

At the University of Worcester<sup>63</sup>, support is available for staff to develop their virtual world skills for use in teaching.

"Amongst other things, we are running a project to support lecturers in getting to know and use Second Life. We are using a number of approaches based on our knowledge of learning and teaching and my own research into pedagogy related to virtual learning. We are aiming to create a Community of Practice within Second Life so that lecturers will eventually feel confident enough to support one another. To that end, as well as creating some introductory machinima for the University, we are also providing:

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<sup>60</sup> Kathryn Trinder, Research Fellow, Caledonian Academy, Glasgow Caledonian University.

<sup>61</sup> Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

<sup>62</sup> David Westwood, E-learning Research Developer, Centre for Educational Technology, Middlesex University.

<sup>63</sup> Tim Johnson, Senior Lecturer, IHS, University of Worcester.

- Individual “just-in-time” teaching.
- Face-to-face sessions, team-taught, with one member of staff in Second Life and one in the tutorial room.
- Academic and practical sessions undertaken in Second Life.
- Advice and tutorials for, and with, lecturers who are planning to take students into Second Life as an integral part of a module or course.

Individual ‘just-in-time’ teaching is used in two different ways. Staff who are interested in Second Life are told how to join and create an avatar. They are advised that as soon as they have their avatar name they should email it to me. I then offer friendship, invite them to join the University of Worcester group, offer a teleport to the University island and arrange a time to meet the member of staff in Second Life.

Once in Second Life, the first thing I do is help the member of staff make the University island their home. I show the lecturer round the island and make an appointment to meet them again after they have tried out some of the activities available for them. I also offer them a face-to-face session to deal with any difficult problems they encounter.

The tutorial sessions with one person in Second Life and the other in the room with the students seems to work very well. There has always been a problem before with trying to demonstrate something in one way or another but this combination seems to solve that. We have only tried it with small numbers of learners at the moment, and I think we will need more teaching teams with larger groups, which could create a challenge.

The academic and practical sessions undertaken in Second Life are just starting to get off the ground. They are open and free to everyone (so do come along). This activity was created because:

- I could not find taught sessions at a time that suited me in Second Life (they are mostly run for the American market)
- I realised there was nowhere in Second Life that UK and European educationalists could gather and have an opportunity to socialise.

I strongly believe that we need to share and support each other more in this virtual world. I have had a lot of help from people in other countries but our British reserve seems to prevent us from even talking to one another.

Advice and tutorials for helping lecturers who are preparing to take students into Second Life with some of the practicalities is becoming increasingly important. Lecturers want help in creating a supportive environment in Second Life for their students and a taught session for students on what Second Life is and how to get started in it. I have a feeling that some more machinima are going to be needed here.”

Daden<sup>64</sup> are involved in supporting staff at several Further Education colleges:

“We've been building a relationship with Barnfield College who have been on Main and Teen Grid for a couple of years. We've been running a series of training workshops for them in Second Life skills and related web skills (e.g. data exchange between RSS and Second Life, building logging systems etc). Barnfield (as well as South Lanarkshire) are also using our RegAPI system.”

At Staffordshire<sup>65</sup>, a series of events have taken place to introduce academics to virtual worlds and encourage their exploration of uses in teaching and learning:

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<sup>64</sup> David Burden, Manager, Daden Ltd.

<sup>65</sup> Christa Appleton, e-Learning Development Specialist, Learning Development and Innovation, Staffordshire University.

"During February, Hamza and I put on two beginners face-to-face workshops for university staff. The first was attended by a mix of Computing and Business staff, the second was specifically for the Law faculty, following up a spark of interest from a previous discussion event. The technology did not let us down and feedback from both sessions was positive in terms of being enjoyable and enlightening. What is less clear at this stage is how much long term interest there will be, given the issues of implementing activities in an environment which itself take considerable time to master for students and staff.

Conversations for the long term are continuing with the law faculty in the background. To continue our objective of raising awareness across the whole University, Hamza and I are planning to offer another beginners workshop in the lab and an online session for intermediate users in April or May if there is sufficient interest.

We have a University network SUN (powered by Elgg) where I have set up a group: 'Second Life Adventurers'. Staff can join to find out more about Second Life, our activities and the plot on West Midlands Island. I have found new contacts among staff here who were already Second Life users. As a result of one such connection Dave Moreman (Senior Lecturer, Faculty of Sciences) and I submitted a Research Informed Teaching bid to trial tutorials for second year geography students in Second Life. This bid has been approved and gives us a small amount of funding to implement the trial, and investigate Second Life in education a little further. I think this will be an interesting project and offer another means of evaluating and feeding back information about virtual worlds here at Staffordshire University."

Northampton University<sup>66</sup> are involved in virtual world support for staff:

"We are also putting together an online module for staff to take part in within Second Life."

### **3.3 Student induction and virtual world introduction**

At the Open University<sup>67</sup>, students who start halfway through the (traditional) academic year underwent a virtual world induction, with varying results:

"January 2010: Student Services ran an induction for February-start students, aimed at familiarising them with their 'StudentHome' web page, their course website and so forth. Special interactive poster displays were set out in the events space. A giant walk-on map of the British Isles allowed visitors to drop a pin indicating their location. The area was visited by hundreds of avatars after being announced just before Christmas.

A live question and answer session was grossly oversubscribed (literally hundreds of people were stranded on surrounding regions once ours reached capacity). This was both a Good Thing (wow – so many people ready and willing to jump into a virtual world and only needing an invitation!) and a Bad Thing (lots of disappointed people). One of the most popular activities was simply the joining of a group that provided a course tag overhead, so that avatars could be identified as e.g. 'DD100 Student', and easily find other people on the same course.

Happily, feedback suggests that most of those who couldn't get to the event are still keen to get involved with the Second Life dimension of Open University culture. We see this event as a springboard and are keen to use the lessons learned to host similar events in future."

At Northampton University<sup>68</sup>, development of inductions using virtual worlds is taking place:

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<sup>66</sup> Adel Gordon, Learning Technologist, Information Services, University of Northampton.

<sup>67</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>68</sup> Adel Gordon, Learning Technologist, Information Services, University of Northampton.

“The Learning Technology team at the University of Northampton (LT@UoN) are currently setting up working groups within the Information Services department to develop online inductions.”

Students on a games technology course at Staffordshire University<sup>69</sup> were taken into Second Life:

“Our first problem here was finding a computing lab with an adequate specification to run Second Life. Finally we established that we had a room with ten machines capable of the task and we were able to make a start. Working with one of our Computing lecturers, Hamza took a group of Games Technology students into Second Life during a lesson, so they could experience this particular virtual environment first hand.

This fits well with their particular course and was a better way to consider virtual worlds than just watching a video. I joined them in-world where some of them were certainly active and enjoying the experience. I gather a few members of the group were less keen to participate, so mixed responses overall.”

The experiences of Middlesex University<sup>70</sup> point to the need for careful student inductions in Second Life:

“Although the islands are still in a development stage, they have been used for educational purposes over the last six months, during which time over 250 students have been taught with varying degrees of success within Second Life.

Anecdotal evidence suggests that there is a need for an induction period in which students are able to ‘learn’ Second Life and its controls. This is imperative for students to be able to focus on any learning aims of sessions being held within Second Life. The second observation is that learning outcomes and tasks must be contextualised and clearly structured for the benefit of students.

Research is being conducted to investigate student’s knowledge and their perceptions of the usefulness of virtual worlds within education. This will be used to inform the construction of a model of student induction into Second Life for educational uses.”

At Lancaster University<sup>71</sup>, student groups are indirectly helping students to become familiar with the virtual world facilities there:

“Student-run organisations (student union societies) have expressed interest and begun exploring our island. Recently a student media group filmed a mixed reality video<sup>72</sup>. Although these activities are not directly teaching and learning related, they appear to be adding to the island’s awareness.

We have not formally announced our virtual world presence, not even to our students. People are still finding out about it through one-off introductory sessions, workshops and referrals via on-campus word of mouth. We are currently planning to inform the student body of its existence and encourage exploration of the environment.”

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<sup>69</sup> Christa Appleton, e-Learning Development Specialist, Learning Development and Innovation, Staffordshire University.

<sup>70</sup> David Westwood, E-learning Research Developer, Centre for Educational Technology, Middlesex University.

<sup>71</sup> Michele Ryan, Research Student, Management School, Lancaster University.

<sup>72</sup> Lancaster University student media group mixed reality video: <http://is.gd/c4yJd>

### 3.4 Disabled student support

Virtual Worlds have, since their emergence, offered potential for students with a wide range of disabilities. The Open University<sup>73</sup> offers in-world support to some of their students:

"Whilst in-world, Martin opened our new Second Life Access Centre<sup>74</sup>, built to complement the physical building in Milton Keynes which provides assessment and support for disabled students in any HE institution. The Access Centre went live, offering a disabled students information service, in spring 2010.

We are currently building an Access Centre Bus, which will provide information about the service and act as a portal from anywhere else in Second Life to the in-world Access Centre - other universities are welcome to contact us for a free copy of the bus."

### 3.5 Remote student support and interaction

At Middlesex University<sup>75</sup>, part of the motivation for using virtual worlds is to enable students who are otherwise unable to visit a campus to obtain information and have some kind of contact with their peers and lecturers:

"The Centre for Educational Technology at Middlesex University now owns two islands within Second Life. These are being developed by David Westwood and Agi Ryder for use by a number of projects across the University. Middlesex University has a very diverse demographic of students who are spread over three campuses in North London and two international campuses in Dubai and Mauritius. Second Life is being explored as a medium to allow access to information, resources, and social networks at times which may better suit the lives of our diverse student body. The affordances of Second Life for experiential learning are also being explored.

The Learning Resources centre at Middlesex University is also venturing into Second Life; this area will offer information as well as 'face to face' workshops to our students, many of whom may not be able to visit the campus due to work or family commitments. The Learning Resources centre will work in two ways: firstly, as an outward facing resource hub for off world information, and secondly as an in-world facing hub to other educationally relevant resources and Sims."

The Open University<sup>76</sup> is one of several which uses virtual worlds to support PhD students based elsewhere:

"A couple of my part-time PhD students don't live in England, and are able to travel to the university's campus for a face-to-face meeting only once or twice in a year. We regularly meet in Second Life for supervision-meetings."

Lancaster University<sup>77</sup> are carrying out more activities in Second Life between their students and those of other academic institutions:

"We have seen an increase in the number of joint institutional activities hosted on our island; this has involved Lancaster students meeting with their counterparts enrolled in similar classes

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<sup>73</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>74</sup> Open University Second Life Access Centre: <http://is.gd/c4z36>

<sup>75</sup> David Westwood, E-learning Research Developer, Centre for Educational Technology, Middlesex University.

<sup>76</sup> Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

<sup>77</sup> Michele Ryan, Research Student, Management School, Lancaster University.

in Turkey, Mexico, Denmark and the United States. We have also opened our island to other educational institutions, including FEs (Further Education colleges), through our affiliation with JISC Northwest."

At the University of London<sup>78</sup>, a team use virtual worlds for teaching distance students:

"Since completing the Learning from Online Worlds project<sup>79</sup>, we have continued to teach and conduct research in Second Life. We keep using Second Life because of the positive student feedback. The distance learners, for example, appreciate the social aspects because it 'feels like' meeting your tutors and the rest of the class. Because our students are nearly always Second Life newbies we use simple things like sofas and rugs to suggest particular ways to act or position their avatars."

### 3.6 Building and environmental simulation

Though not strictly academic, Daden<sup>80</sup> have been involved in theatre recreation, using input and skills from similar developments in UK Higher Education:

"Theatrebase - using Second Life to help the staff at Birmingham Royal Ballet plan and manage their stage sets at the Birmingham Hippodrome, and hopefully elsewhere. Mark Childs from Coventry University provided expertise from the Theatron project<sup>81</sup> and the initial work as funded by Advantage West Midlands. Ongoing work is now privately funded and we are hoping to show the work to an international audience through the Opera Europa and Opera America."

### 3.7 Virtual World research

Research into the use of virtual worlds in teaching, learning and education carries on at many universities, as does research into more esoteric aspects of this technology e.g. avatar issues and 'griefing'.

At the Open University<sup>82</sup>, one particular research project focuses on 3D learning spaces:

"In the DELVE project<sup>83</sup>, we have carried out research into two aspects of the design of 3D learning spaces: the degree of realism, and the degree of immersion. In the realism strand, the research has focussed on the design of learning spaces in Second Life, and was carried out at the Open University. The project team at the University of Nottingham focussed on the immersion strand and the research involved two kinds of virtual environments: semi-immersive virtual reality and Second Life."

Identity within virtual worlds has provided an enduringly fertile ground for research, such as at the University of Bedfordshire<sup>84</sup>:

"[We are involved in the] launch of a research project on avatar and identity. This is a joint project that involves Computer Science, Media and Social Science."

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<sup>78</sup> Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

<sup>79</sup> Learning from Online Worlds project: <http://learningfromsocialworlds.wordpress.com/>

<sup>80</sup> David Burden, Manager, Daden Ltd.

<sup>81</sup> Theatron project: <http://www.theatron.org/>

<sup>82</sup> Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

<sup>83</sup> DELVE (Design of Learning Spaces in 3D Virtual Environments) project: <http://is.gd/c4zn9>

<sup>84</sup> Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.



The same university<sup>85</sup> also carries out virtual world research up to PhD level:

"A PhD project on Consumer Satisfaction in Second Life has now passed through the MPhil stage and has been approved for progress to PhD."

The University of London<sup>86</sup> previously conducted research into the use of virtual worlds in learning:

"'Learning from Online Worlds; Teaching in Second Life' was a project at the Institute of Education, University of London, that was funded by the Eduserv Foundation (2007-2008). We (Diane Carr, Martin Oliver and Andrew Burn) researched the informal learning practices present in a range of online worlds, including World of Warcraft, and considered the implications of these practices for teaching in Second Life. The project was documented at a blog<sup>87</sup> which is still being updated. Project outcomes included book chapters and journal articles as well as reports, interviews and commentary."

The team continue to take an interest in various aspects of virtual worlds, from research and educational perspectives:

"We remain interested in the notion of suggestive structures (roles, objects, formats, goals or games) and pedagogy in a space as potentially disorientating as Second Life. We are also interested in those terms that keep reappearing in the research literature without necessarily being satisfactorily conceptualised (such as immersion, engagement and affordance). Our work in Second Life has coincided with the roll-out of 'voice' and we have watched the rapid take-up of this feature by the Second Life and education community with interest."

We recently published research into the impact of the voice feature on deaf residents of Second Life, and the construction of disability in online communities."

Coventry University have a significant research group<sup>88</sup> focusing solely on virtual worlds:

"The Learning Innovation Applied Research Group at Coventry University have been in Second Life for over two years now, our first major involvement being in 2008 with the development of the JISC-funded PREVIEW<sup>89</sup> project."

Since then, we have undertaken several large and smaller-scale projects, including the Leverhulme funded CURLIEW project (Coventry University Research into Learning in Immersive Educational Worlds). Our PhD students on the CURLIEW project are well into their second year, now collecting data at several research sites and currently writing up their methodologies. They are looking at research questions such as 'In what ways are practitioners designing pedagogy for virtual worlds?', 'To what extent does avatar appearance affect learner identity?', and 'What are the perspectives of students on being participants in virtual worlds at university?'"

Virtual World architectural concerns<sup>90</sup> are being studied at Middlesex University:

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<sup>85</sup> Dr Marc Conrad, Department of Computer Science and Technology, University of Bedfordshire.

<sup>86</sup> Dr Diane Carr, London Knowledge Lab, Institute of Education, University of London.

<sup>87</sup> Learning From Social Worlds blog: <http://learningfromsocialworlds.wordpress.com>

<sup>88</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>89</sup> PREVIEW (Problem-based Learning in Virtual Interactive Educational Worlds) project: <http://is.gd/c4zPp>

<sup>90</sup> David Westwood, E-learning Research Developer, Centre for Educational Technology, Middlesex University.

“The first project developed at Middlesex is being conducted by Dr George Dafoulas of the University’s School of Engineering and Information Sciences. George is researching the architectural design of buildings for education within virtual worlds.”

There is a strong focus in the Department of Computing<sup>91</sup> at the Open University on researching the use of virtual worlds for distance students:

“The Open University is a distance-education institution and on most of the courses, students don’t meet one another face-to-face. Our empirical research on the pedagogical role and effectiveness in the context of wikis and blogs in distance education has shown that inadequate socialisation at the start of the collaborative activity was a key obstacle in conducting group projects or activities at a distance.

Our objective of using 3D virtual worlds, such as Second Life, is that a 3D virtual environment provides a real-life-like setting or ‘place’ for socialisation, real-time collaboration and synchronous communication. We view Second Life as a part of a blended learning environment where students come into Second Life to attend meetings and tutorials and use other social software tools, such as a blog for reflection and note-taking, a wiki for recording the notes of the discussions and for collaborative authoring, or a forum for asynchronous discussions. On one of the courses, our students have conducted course-related activities in small groups in Second Life (such as visiting islands related to some aspects of the course followed by a panel discussion in Second Life), and then have continued to carry out discussions in the course forum.

We are investigating the role of Second Life to support team working on an undergraduate course that involves a group of students working on a project. Our research question is: does Second Life facilitate socialisation and team working and help in reduction of social distance amongst distance-learners? We have introduced wikis on this course to provide students with a collaborative authoring environment while they are working on the team-based project. Since the students are not co-located, we have suggested the use of Second Life to students for team-meetings.”

Research, as opposed to teaching, is still the predominant virtual world activity at Lancaster University<sup>92</sup>:

“Research still dominates our island’s usage. Several PhD students and staff researchers continue their efforts. Research meetings and activities on the island are sometimes associated with broader research, dealing with other virtual worlds and online spaces including with children.”

At the University of East London<sup>93</sup>, staff are being queried on their views of virtual worlds in teaching:

“A pilot study of Psychology staff perceptions of Second Life as a teaching medium is currently underway. Participating staff take part in two semi-structured interviews pre and post their Second Life tutorial session. In the first interview staff are asked broad questions regarding their views of the advantages and disadvantages of using Second Life as a teaching environment, and in the second about their actual experiences of teaching in Second Life. The interviews will be transcribed and Interpretative Phenomenological Analysis (IPA) employed to uncover themes within the data.”

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<sup>91</sup> Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

<sup>92</sup> Michele Ryan, Research Student, Management School, Lancaster University.

<sup>93</sup> Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

### 3.8 Research toolkit development

Previous snapshots and ephemera have shown several academic teams or projects developing, or considering developing, research toolkits and frameworks. The Open University<sup>94</sup> is developing a toolkit for researchers carrying out qualitative research in virtual worlds:

"A real-world-like environment and a face-to-face like setting in a 3D virtual world enable a perception of the interviews being conducted across a table with other avatar(s), or as if the researcher has 'lived' in a community, or as if the researcher has conducted participant-observations in the participants' contexts.

Thus an advantage for a researcher conducting empirical studies in virtual worlds, especially if the experience occurred in the virtual world, is that the participant will be situated in or near the context where the original event(s) took place. These situated contextual investigations have the ethos of the contextual inquiry method in social sciences research. In a 3D virtual world, the researcher can 'visit' the users in the users' spaces and conduct observations and interviews.

The research process in a 3D virtual world is, therefore, influenced by codes of practice, etiquette, logistics, and ethical guidelines of conducting research in real-world (offline) and online. Based on our experiences of conducting empirical research in Second Life, we are developing a toolkit for researchers who are aiming to conduct qualitative research studies in Second Life.

This toolkit will provide guidance through case studies about:

- Developing research materials.
- Addressing the possible concerns of an institution's ethics committee.
- How the data collection techniques need to be adapted for conducting research in 3D virtual worlds.
- Issues related to in-world recruitment of participants.
- Logistics of conducting empirical research in virtual worlds such as voice versus text-based data collection.
- Developing a researcher identity or a consistent persona.
- Choosing the locations for conducting interviews or focus groups.
- How to facilitate and manage the multiple channels of communication such as text (local chat and instant messaging), gestures and voice."

### 3.9 Social issue education

Steve Thompson<sup>95</sup> from Teesside University describes how Second Life was used in the production of a film about police and behavioural issues:

"Councillors Barry Hunt and Tommy Evans of Skinningrove had been talking to the police about community policing issues and anti-social behaviour. Last year, these two had appeared in the Second Life Movie 'Skinningrove: Welcome to the Future' about the refurbishment of Skinningrove Jetty. I was asked by Councillor Hunt to meet with Sara Graham, the Crime and Justice Coordinator at Cleveland Police HQ and talk about ways of getting the community policing message across using community media. What everyone really wanted was another Second Life film and with the date for the annual community animated film event at Saltburn Community Theatre coming up this seemed to be the ideal date and venue to aim for. I said 'we should have started six months ago' but nevertheless agreed to give it a go.

We applied to Northern Film and Media and the UK Film Councils 'Social Impact' fund to run the event and I'm pleased to say we were successful. Meanwhile, we started to develop the

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<sup>94</sup> Dr. Shailey Minocha, Reader in Computing, Department of Computing, Open University.

<sup>95</sup> Steve Thompson, Institute for Digital Innovation, University of Teesside.

script and scout locations in Second Life. This part of the project and the community workshops was funded by ERDF and BLF. We had decided to go with 'The Force is With You' for our title and to adopt a Star Wars theme, but to avoid copyright issues the villain was cast as 'Arthur Vador'.

Several suitable locations were found and I sought out the owners of each and asked permission to film. This is not strictly speaking necessary but it's a good policy and we got some additional assistance from some Sim owners including members of a school Sim performing as 'extras' for us. The script was a slight concern to me and I said to our partners, 'This is a good and serious message but we have to also entertain; where are the gags?' Luckily the script was approved by the police with only minor alterations and we were good to go. Police officers including Inspector Charlie Bell voiced their own characters and pupils at Whitecliffe Primary School provided the voice characterisations of the children in the film. Naturally, Tommy and Barry played themselves again.

There was one set we had to build and this was Skinningrove Village Square. This was built on a sky platform high above Teesside University's 'Teelife' Second Life island with some excellent help from the Institute of Digital Innovation's DLab. I'm sure Barry and I came close to arrest for suspicious behaviour several times as we measured out and took pictures of the real location in order to build the virtual one

Community workshops were held to produce the scenes and all but one scene was in the can by Christmas 2009. There are several hilarious out-takes that may one day see the light of day. Then in January 2010 Barry and I attended a Grundvig workshop in Vienna. With a screening approaching in early February I was obliged to edit many scenes in my hotel room whilst at the 2 week workshop. We kidnapped some of the delegates of the workshop who 'voiced' one of the scenes from the film<sup>96</sup>. Troupers 1 and 2 are played by Markus Petz from Finland, Troupers 3 and 4 by Thomas Chepaitis the Minister of foreign affairs of Lithuania, Arthur Vador is played by me, Steve Thompson and Barry Hunt is camera operator.

In the background is Laura Pakalne, Senior Officer in the Public Relations Department in the Ministry of Justice, Latvia who was most interested in working with the British police and the movie production team on more collaborative projects. Markus delayed his return to Finland to travel to Saltburn to assist with a hook-up with Latvia during the event on February 11<sup>th</sup>.

The community animation event (Animex Fringe) in Saltburn on Thursday 11<sup>th</sup> Feb was a tremendous success. The Mayor of Redcar and Cleveland Councillor Brian Briggs launched the evening event, preceded by a Mayors Reception for cast and crew from the film. During the matinee and the evening performance last years Mayor, Councillor Mike gave a presentation explaining how he had launched the Skinningrove Jetty film last year and then gone on to appear in a Second Life Movie himself, 'Supermayor'.

The matinee was a full house with children from Whitecliffe Primary and Saltburn Primary attending. The event included animations produced by the children of Whitecliffe Primary on the subject of Rain Forests and sustainability. With help from Markus Petz we hooked up with children and police in Latvia during the matinee. There were around 80 people for the evening event which we also 'Blogcast' for the enjoyment of people around the world. As well as the hook-up with Latvia, the event was followed by people in Greece, Lithuania, Poland, Turkey, Sweden, Finland and elsewhere in the UK. We even made it onto Latvian National TV!

Naturally, the big event was the premier of 'The Force is With You'<sup>97</sup>. On his return from Vienna Councillor Barry Hunt was elected Mayor of Loftus and in this role as well as that of an instigator and star of the film gave the final address and announced the first screening of the new film. It was extremely well received by the audience as well as the police for whom it was a first screening too. They had placed their reputations in our hands and were well pleased

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<sup>96</sup> Development of community-based animation: <http://tvcm.co.uk/animation-event-goes-international/>

<sup>97</sup> The Force is With You: <http://tvcm.co.uk/the-force-is-with-you-2/>

with the outcome, with Inspector Bell particularly pleased with the dashing matinee idol hero he had become on film.

You can relive the event on the blog<sup>98</sup> or if you really want to re-run the event in the order it happened you can follow the blogcast<sup>99</sup> here (it builds slow but quickly gets media rich) - just read each page, scrolling down and then click 'older entries' at the bottom."

Daden<sup>100</sup> have also been working on a project with academic links that aims to educate about social issues:

"We have just finished a project at South Lanarkshire working with Andrew Jinman (ex TwoFour Learning, now joined us at Daden) using Teen Grid to teach kids at youth clubs about citizenship issues including knife-crime, territorialism and sectarianism. All the scenarios are PIVOTE enabled. The biggest challenge was a way to create a bot which would 'chase' a user, even if the user didn't want to be chased. In the end we had the bot repeatedly triangulate the vector from the user position to the target location and 'push' them, then move to where the user was and repeat until the user had been chased to the target location."

### 3.10 Development and software support

At Bromley College, Clive Gould<sup>101</sup> continues to offer in-world support for people learning how to script in virtual worlds:

"I am continuing to maintain the Linden Script exhibition in Second Life on Hyles Infopoint. However I have also ported it to OpenSim to help our students learn LSL. Additionally I have made the exhibition available as a download so that others can install it into their own OpenSim stand-alones."

The PIVOTE<sup>102</sup> software, the output of the JISC-funded PREVIEW<sup>103</sup> project, continues to be taken up by various academic initiatives<sup>104</sup>:

"PIVOTE is seeing something of a boom at the moment. We have had a number of requests recently for PIVOTE based systems ranging from Nurse education (again) to emergency preparedness. We also ran a PIVOTE tutorial at VWBPE and are working on a PIVOTE chapter for a forthcoming book on the use of MUVES in the classroom.

Andrew's new role at Daden also includes being the PIVOTE Project Manager, and we are working closely with St George's to formalise the governance of PIVOTE and start running more community events. We're also just about to launch the PIVOTE Wiki, and have some cool new PIVOTE features in the pipeline - like building the 3D scenario elements for an exercise from the web. PIVOTE has been selected as a finalist in the US Federal Virtual World Challenge - not many JISC projects that start influencing US Government!"

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<sup>98</sup> Saltburn blog: <http://www.saltburn.org.uk/>

<sup>99</sup> Saltburn digital village blogcast: <http://is.gd/c4AuJ>

<sup>100</sup> David Burden, Manager, Daden Ltd.

<sup>101</sup> Clive Gould, HE PAL ICT, Bromley College.

<sup>102</sup> PIVOTE (Open source learning system for virtual worlds): <http://www.daden.co.uk/pivote.html>

<sup>103</sup> PREVIEW (Problem-based Learning in Virtual Interactive Educational Worlds) project: <http://is.gd/c4zPp>

<sup>104</sup> David Burden, Manager, Daden Ltd.

At Teesside<sup>105</sup>, software has been produced to make add functionality to various student-based scenarios in Second Life:

“Some use is now being made of the Virtually Human GameKit (formerly known as the Presomatic GameKit) by Dr Partridge Allen. Without the need for scripting skills, this is a great resource to add interactivity to scenarios - both for tracking student engagement with activities but especially in requiring the use/wearing of an object and in creating multi-choice quizzes in objects which return an emailed response to the tutor.

This offers a great opportunity for students to test their knowledge, be that prior or acquired in the process of a learning activity. These gamekit elements have been embedded into our factory but are also being used in orientation sessions to introduce the students to different aspects of Second Life that will be useful to them.”

Independent developers, such as Eloise Pasteur<sup>106</sup>, within and outwith the academic sector have been busy developing various software and functionality:

“I have been directly building and scripting within Second Life. This has included developing a tool for Linden Lab for the new SL2.0 client for example.”

Another independent developer<sup>107</sup> is creating a range of free/reusable Second Life tools and other virtual artifacts:

“We have also been working on several 'in-house' Second Life projects which will launch periodically throughout 2010. The first project is to create a set of free Second Life tools and in-world content, which has already begun with the creation of a free Second Life time converter and a free set of law (barrister) clothes and accessories.

All of this content will be made freely available to the wider community in the hope some educational benefit can be gained from it. Another component of this free content will be a special HUD (heads up display) aimed at new Second Life users that effectively adds simple widgets to the user interface to provide orientation and in-world guidance on how to use Second Life.”

### **3.11 JISC RSC support**

Some of the JISC RSCs<sup>108</sup> (Regional Support Centres) have been involved in providing support for local institutions experimenting with the use of virtual worlds in teaching and learning. At a national level, Shri Footring<sup>109</sup> outlines some of their recent developments:

“The Regional Support Centres have continued with the planned virtual worlds CPD (Continuing Professional Development) programme. Over the last four months, RSCs have offered a series of in-world events. These have included activities to support the JISC innovating e-learning online conference, an event focussing on language teaching in Second Life as well as introductory sessions on building and managing appearance.

We had planned to offer an average of one focussed event per month, which we've exceeded, but we had also hoped to offer further drop-in sessions and informal activities which have proved quite difficult and time consuming to organise.

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<sup>105</sup> Kate Boardman, Head of e-Learning, University of Teesside.

<sup>106</sup> Eloise Pasteur, independent developer.

<sup>107</sup> Gemma McLean, Developer, Gemixin Ltd.

<sup>108</sup> JISC Regional Support Centres: <http://www.jisc.ac.uk/rsc>

<sup>109</sup> Shri Footring, e-Learning Adviser, JISC Regional Support Centre (Eastern).

Over the next few months our plan is to continue to align our virtual worlds activities with the overall high level aims of the RSCs. For example we are now inviting leading experts to present and lead discussions in-world about key strategic issues such as green ICT, safeguarding and so on. We are trying to move away from holding too many self referential events about virtual worlds themselves.

The RSCs own four islands and various other offices in-world. Some teams are using the virtual worlds environment for meetings and as a social space. Individual RSC advisors have also actively supported events organised by the wider academic community wherever possible, such as those announced on the Virtual Worlds JISCmail list<sup>110</sup>."

Jane Edwards<sup>111</sup> from the West Midlands RSC has been particularly busy in supporting local institutions. In addition to regular events and support, she set up an island for academics in local colleges and universities. This island is now full, indicating a level of demand and interest that perhaps could be replicated in other RSC regions:

"Here in the West Midlands, interest in virtual worlds continues. The local JISC RSC runs Introduction to Second Life workshops, Virtual Worlds in Education forums and plans to run a Next Steps in Second Life workshop in the near future. The staff who attend these events have a wide range of roles and are from all post-16 sectors supported by the RSCs; the FE sector's representation at these events is increasing. Virtual worlds other than Second Life are invited to come and present at the forums, to ensure that educators know of options that are open to them.

In addition to these face-to-face events, last summer the RSC WM purchased an island for its learning providers to use. There is a central 'sandbox' where West Midlands educators can practice creating temporary objects, changing their avatars, accessing the free resources and meeting up with other West Midlanders.

Surrounding this area are several plots which are available for learning organisations. These are for their sole use and for a more permanent set up. These plots are for people to experiment on, to build objects and structures, to use them for staff development and even for small groups of learners. Many requests have been received for these plots and some are being used regularly. Some of the learning providers have had technical difficulties, accessing Second Life from within their organisations; some have found it difficult to fit in their virtual world experimentation with their day-to-day work.

The islanders are being asked to provide a short, written report or a machinima or a learning resource they have created in Second Life or some other type of output that can be shared with others."

There appears to be less activity in Wales<sup>112</sup>, though the time taken to travel between institutions in this one region alone makes using online communication tools, such as virtual worlds, attractive:

"There is not a lot that has changed since I last sent through a 'snapshot' of our Second Life activity! We still have our Second Life office on the University of Wales, Newport School of Health and Social Sciences island, which is mainly being used by the (distributed) RSC Wales team as another 'place' to meet together virtually, as opposed to Skype or video conferencing.

We have had limited interest from our learning providers in taking up our offer to help them take their first steps in Second Life, although I visited a college in March (at their request) to

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<sup>110</sup> Virtual Worlds JISCmail mailing list: <http://is.gd/c4AMx>

<sup>111</sup> Jane Edwards, e-Learning Advisor (ACL), JISC Regional Support Centre (West Midlands).

<sup>112</sup> Helen Hodges, e-Learning Advisor, JISC Regional Support Centre (Wales).

give them (amongst other things) a demo of the potential of Second Life. They are particularly interested in using it 'to encourage people to come for things like learning support'."

From the north, Paul Miller<sup>113</sup> updates on their JISC RSC island, which is used for a number of events and teaching and learning purposes:

"RSC Northern purchased an island one and a half years ago to give learning providers an opportunity to experiment with three dimensional virtual worlds by developing a parcel of land. It is divided into plots by a system of canals surrounding a communal area. A central amphitheatre is provided for gatherings, fashion shows, theatre productions and formal presentations.

The island was host to a practical session of the virtual worlds strand at the JISC Online Conference last November. Delegates met for an initial briefing before embarking on a tour of learning spaces in Second Life. The central building is an informal meeting place and exhibition area. Inside the building, there is currently a display of two dimensional graphic work by students of City of Sunderland College. An area is designated for filming machinama (second life video productions) which can be 'terraformed' and developed to create scenes for film sets.

The island has evolved into a community and we hold regional in-world events to maintain interest. The 'Mediterranean Village' is a facility to enable modern foreign language activities in Second Life. Interactive objects provide text translations and pronunciation exercises, currently in Greek, but French and Spanish materials will be developed. The scenarios will hopefully encourage interaction through role play, such as ordering food in a restaurant, and tutors can develop their own foreign language conversation activities."

The University of Southampton<sup>114</sup> are making use of the facilities offered by their local JISC RSC:

"One new development to report; our local JISC RSC (South-East) has offered us space on their Community Island, and so we are going to take them up on that. We can transfer some of the objects that we haven't been able to use onto the island so that the projects can complete - this gives us time so we can make any transition to other virtual worlds easier."

### **3.12 SLOODLE**

The International Academy<sup>115</sup> at the University of Essex have integrated SLOODLE<sup>116</sup> with their Second Life developments:

"The International Academy is a department in the University of Essex. The 65,000 squared meters' International Academy campus, situated on Wivenhoe Island<sup>117</sup> in Second Life, is a re-creation of part of the University of Essex's campus in Colchester. It has four towers, 8 classrooms, an auditorium, a self-access centre and several recreational areas.

You'll receive a guest user name and password and be able to use that to log into a SLOODLE course. You'll be able to get day passes to visit the campus and listen to a maths and an MA Tesol lecture in Anchor House. You may meet current students and staff. You'll find useful landmarks and objects in the welcome area that may help you if you are new to Second Life."

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<sup>113</sup> Paul Miller, e-Learning Advisor, JISC Regional Support Centre (Northern).

<sup>114</sup> Fiona Grindey, Education Development Adviser, Learning and Teaching Enhancement Unit, University of Southampton.

<sup>115</sup> Iffaf Khan, Moodle and Virtual Learning Coordinator, International Academy, University of Essex.

<sup>116</sup> SLOODLE (Simulation Linked Object Oriented Dynamic Learning Environment): <http://is.gd/c4BbU>

<sup>117</sup> Wivenhoe Island (University of Essex) in Second Life: <http://is.gd/c4BeA>



## 4. Other issues

A variety of other issues and themes emerged from responses to the snapshot call for information.

### 4.1 Peer preconceptions

Getting other staff 'on board' in your academic institution has many advantages. Workload can be spread, problems and developments shared, funding applied for with greater authority, and developments made more use of. The flipside of this is being the only virtual world academic in your institution; while you can communicate (ironically, in virtual worlds) with like-minded academics elsewhere, there's still often no-one in your corridor, building or campus whom you can work with, or who will 'get' what you do.

Dr Peter Miller<sup>118</sup> at the University of Liverpool continues his efforts to engage his peers:

"Sadly, I haven't done a good job of encouraging colleagues across the University to address the possibilities afforded by virtual worlds. A lot of people, not unreasonably, bring their own preconceptions (or vested interests, if you prefer) to the 'edtech' table. The seemingly boundless potential of virtual worlds is necessarily weighed by each against the time and effort required to become productive. Of course, the balance point will change in our favour in due course but not, I suspect, over the timescale required to continue the current build."

At Cornwall College, Bex Ferriday<sup>119</sup> reports a more positive reaction:

"Use of the island continues to grow and attitudes towards this virtual world as a teaching resource appear to be growing ever more favourable. While the island lay empty people couldn't really see the point. Now that things are starting to happen and both filmed and photographic evidence is available for all to see on Flickr and YouTube, minds are slowly changing and the pace is picking up."

At the University of the West of Scotland<sup>120</sup>, introductory sessions involving a mix of students and staff may help develop momentum and interest amongst the latter:

"Current students in my Introduction to Virtual Worlds class include some members of staff, so I'm hopeful that this will make it easier for us to expand our use of virtual worlds in subsequent years. While informal staff workshops have been held in the past, the irregular nature of those made it difficult to sustain interest and growth."

At Lancaster University<sup>121</sup>, provision of more secure funding appears to have helped academics become more confident in allocating time for Second Life:

"We have had several interesting developments in regard to the Lancaster Island in Second Life. Firstly, our virtual space is now centrally funded. This has alleviated the problems that were caused by the constant searching for, and switching of, financial responsibilities between departments and faculties. It has also increased user confidence knowing that the island has a sustainable future.

Secondly, we now have a computer lab on campus where Second Life is installed and available to all. This allows both teachers and students to avoid hardware and access problems that are

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<sup>118</sup> Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

<sup>119</sup> Bex Ferriday, Lead Teacher, School of Education and Training, Cornwall College.

<sup>120</sup> Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

<sup>121</sup> Michele Ryan, Research Student, Management School, Lancaster University.

sometimes barriers to usage. This room has also been used for teacher inductions and introduction to Second Life workshops.

Thirdly, our island itself has been dramatically redesigned as a result of student and teacher feedback. We have lifted many restrictions of usage and allow the building of objects outside of the sandbox. Users are allowed to create their own spaces and sky platforms. This seems to give them a greater sense of 'home' now that they can freely empty their inventory items and make their own personal dwellings. We were fortunate to enlist the services of the Luna Bliss Company<sup>122</sup>, which made the redesigning of the island amazingly painless. The new tropical garden look contains several under-waterfall caves and other secret hiding places where meetings can be held that will not disturb others.

More teachers from across the university have been experimenting with teaching and learning. Although like other HEIs we do appreciate the work of skilled Second Life builders, none of us want a space that is so 'glossy' and professional that beginners are excluded from active participation. We value Second Life as space for experimentation, occasionally messy, and do not intend to go down the route of pushing new entrants into very narrowly circumscribed roles."

The University of Edinburgh has managed to gain support for its virtual world developments from staff at many academic levels:

"The Virtual University of Edinburgh<sup>123</sup> has now been operating as a virtual educational and research institute bringing together all those interested in the use of virtual worlds for teaching, research and outreach related to the University of Edinburgh. It is an inclusive group enjoying support from the Principal, Vice Principals in a number of key areas such as Information Services and Development & Alumni, Central Support Offices, and others.

It crosses many of the colleges and schools in the University. It involves academic staff, postgraduate and undergraduate students and support staff. It includes outreach via external 'Vue Associates' engaged in projects with members of the university - including a number of companies, museums, etc. Finance also comes from a mixtures of sources to support joint facilities."

## 4.2 Integrating published materials

The University of Essex<sup>124</sup> are integrating materials, including copyrighted literature, into their virtual world, which raises access issues:

"At the moment, we're working on a new self-access centre. We got permission from the publisher of a course book to reproduce their work but the publisher wanted to ensure that only International Academy students access it. Since only members of the International Academy group can enter our campus we thought the material might be more secure in Second Life.

We've converted Word documents into notecards and streamed audio recordings. We're also putting exclusive revision material for students here. This is material that hasn't been released in class like exam questions and lecture notes."

Copyright is also an issue with some virtual world activities at the University of Leeds<sup>125</sup>:

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<sup>122</sup> Luna Bliss Company: <http://www.lunabliss.us/index.html>

<sup>123</sup> Virtual University of Edinburgh (Vue): <http://vue.ed.ac.uk>

<sup>124</sup> Iffaf Khan, Moodle and Virtual Learning Coordinator, International Academy, University of Essex.

<sup>125</sup> Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

“On another front – to be exact another part of Education UK island - we’re looking at the feasibility of using Second Life as a means to provide wider access to some of the specialist resources held in the University’s library and art collection.

In one exhibition hall contemporary art is currently displayed: this is a themed collection known as 'The Windhorse Project' by Vanessa Cuthbert from Manchester Metropolitan University. We intend to use other buildings to offer virtual exhibitions in parallel with real world exhibitions held in the University’s Gallery. The potential for concurrent opening parties is being investigated. At the moment the major impediment is consideration of copyright issues.”

### 4.3 Technical issues

Problems with the availability of, and access to, Second Life and other virtual worlds in an academic institution used to be the most frequent issue from snapshot respondents. This has faded away somewhat over the last three snapshots, though in some cases it was due to academics simply giving up.

Even in institutions where virtual worlds are and have been used, such as Southampton University<sup>126</sup>, there are still issues with browser access and updates:

“So far we have maintained the position we were in back in 08/09 – we have five projects running in Second Life on our University Island. The island has a low profile, which serves two purposes. The island is split into an area for ‘University’ brand type activity (i.e. recruitment) and the second level which is for academic projects. The whole island is managed and owned by Communications and the projects are run by myself; I work with the professional services and the faculties across the University to make sure that they all keep going.

We have not expanded; we are waiting for the projects to complete so that there is feedback to guide us on the future uses of Second Life. So far, it does seem that there is reluctance to take anything forward as there seems to be such a learning curve to get into the software in the first place. Also, the technology does form such a barrier on a massive network such as the one we operate. For example, just this week, I tried to test a machine to do a little bit of training and the machine said that an update was required and that I was unable to do it as I did not have admin rights for that machine.

That type of thing becomes a huge problem when all the University desktop machines (in all common learning spaces) have Second Life installed on them. Each time a user logs in, the installation begins, and this means that they would all be calling our IT people at the same time. The issue of the update isn’t insurmountable, but its another barrier for educators to have to get over.

One thing I am hoping for is that we can use a Second Life type virtual world within a browser – no fussing around with updates etc. Then the easier it is to use, the less hassle and we all win.”

Some universities appear to have overcome most or all of their technical limitations. Edinburgh University<sup>127</sup>, for example, use several different virtual worlds in a wide variety of academic activities:

“Use of Vue (Virtual University of Edinburgh) virtual worlds facilities to support university events and meetings is now an established arrangement. The university media streaming groups are organised to set up video and audio streams that work well with the virtual worlds facilities available. Vue could handle hundreds of simultaneous connections, can link to Adobe

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<sup>126</sup> Fiona Grindey, Education Development Adviser, Learning and Teaching Enhancement Unit, University of Southampton.

<sup>127</sup> Austin Tate, Director, Artificial Intelligence Applications Institute, University of Edinburgh.

Connect web observers and can use thousands of live video streams when required. Mixed reality graduations have now been used to allow remote participants to graduate alongside others physically in Edinburgh with proper introductions of each audience by the Principal during such graduations.”

#### **4.4 Using virtual worlds in teaching**

Bex Ferriday<sup>128</sup> at Cornwall College argues that teaching in a virtual world and a real classroom are not that distinctly different:

“Experiences of teachers using the island are that there are few differences between teaching in Second Life and traditional classroom delivery. Planning is still written on traditional documentation, web-based delivery means that it makes sense to have a dry-run and to make sure there is a Plan B should anything go wrong – but this is how any session with an element of ILT should be planned.

Ground rules need to be set at the start of the course, and though these may be different – for example, to only use text-based speech when the teacher is using live voice rather than ensuring mobile phones are switched off – this again is something that needs to be done at the start of all courses.

The common notion that body language is impossible to read in Second Life is, to some extent, an exaggeration. Poses are sophisticated enough for avatars to be able to show how they feel by the way they choose to sit, inactivity means that the word ‘Away’ appears above avatars’ heads – an explicit signal to the teacher that the avatar in question is distracted or bored, and the frequency and content of both written and verbal responses from students also shines a light onto the way they feel. Nuances may not be as subtle as they are in the real world – but there are enough signals to be able to get a sense of individual and group moods.”

Anna Peachey<sup>129</sup>, a developer who does much work for the Open University, argues about the usefulness of virtual worlds for students:

“For The Open University, a virtual world provides us with a space where students can meet and interact socially in a way that is nigh on impossible in the physical world, and we are seeing that value grow and grow as more students come on board. Embedding it into course activity is not easy, as courses are managed by teams, planned for years ahead of implementation, and centrally controlled. This is very different to traditional universities where individual staff are much freer to innovate in their teaching methods.

However, as more central academics see the continued success and increasing stability of our informal learning activities, supported by lots of internal presentations, workshops, posters, project website and other activities, they are adopting virtual world activity into plans for new courses. This is a long term process, but has clear advantages in that we are progressing at a managed rate and building on what we learn with each step.”

#### **4.5 Student experiences of Second Life**

At the Open University, student evaluations have produced some interesting comments when comparing virtual worlds to other forms of communication-based media in teaching:

“We have evaluated experiences and perceptions of students and educators by applying a number of techniques in-world: observations, interviews, focus groups, tours, and via

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<sup>128</sup> Bex Ferriday, Lead Teacher, School of Education and Training, Cornwall College.

<sup>129</sup> Anna Peachey, Eygus Ltd for The Open University.

descriptive phenomenology. These are some of the representative quotes from students about their experiences:

*I get a feeling of meeting you [the tutor] face-to-face...even though I engage with avatars, I am aware that behind them there is a real person...*

*Sense of realism [in Second Life] which is hard to match in other online environments; feeling of space, context and environment persists and this makes a very real-experience.*

*I particularly enjoyed meeting in the library as it was fitting to the topics under discussion.*

The students have expressed that Second Life enables them to get to know one another better and yet there is an element of privacy because of the avatar-based communication. They have also stated that they were able to take decisions related to their group project sooner than they would have been able to do if they were using discussion forums or other asynchronous technologies.

*We would post things to the online forum and then discuss them and make any decisions / plan any actions at the meeting. This was partly because this method facilitated faster decision making, as ideas could be 'thrashed out' in real time.*

The students felt that the sense of presence in Second Life and being able to see one another gave them a sense of commitment towards one another in the team.

*It is a lot more personal, particularly because you can see the person you are speaking to... and the avatars mean you get a picture in your head about what person is like...*

*I think it is better than video conferencing because people can be self conscious of what people think of their appearance ..., whilst getting a graphical representation of people and a place helps engender familiarity and reassurance. Also the ability to see who is talking is excellent, particularly when you don't know the people you are talking to.*

Some students prefer video-conferencing to Second Life:

*In video-conferencing, you can actually see the other participant's faces and gauge reactions and emotions and avoid the nagging feeling that someone at the other end has wandered off (either physically or mentally).*

However, students face a steep learning curve when they first come into Second Life. They experience difficulties with the voice and they find that the hardware requirements for Second Life are quite demanding in terms of graphics card, memory, and a broadband connection.

*Too much to learn for a user who just wants to participate in meetings.*

*Second Life does not provide the full set of functions required to hold an effective meeting: e.g. whiteboard, presenting a diagram."*

The University of Leeds<sup>130</sup> has some interesting feedback on how students got on using Second Life:

"You'll remember for the last snapshot that I described an exercise we had launched in which a second year BSc Computer Science class was given the task of using Second Life as a means of studying human-computer interactions. No formal induction or coaching in Second Life was provided as the students were asked to reflect on their experience of Help/Orientation Island as part of the task; they were, however, pointed towards comprehensive support materials available on the web. Only one student was familiar with Second Life before the exercise commenced.

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<sup>130</sup> Dr GR Barker-Read, Head of Academic Quality and Standards, University of Leeds.

Of the 84 students taking the module only 74 were willing to reveal their in-world identity and of these 63 joined the module Group, as requested. About a fifth of the class stopped visiting Second Life before they knew the full details of the assignment. A further 25 students have not logged in since Christmas (teaching ceased in December 2009 but the assignment was not due to be submitted until January 2010); 16 remained active into January and only six have logged in since the start of February and these are now assumed to be recurrent users. Two groups of four students eventually completed the assignment.

Analysis of students' reflective feedback indicates that a large majority of users experienced difficulty in getting to grips with controlling their avatar. For about a quarter of the class the initial frustration resulted in loss of interest and no further attempt to complete the assignment (although these students may have contributed to other aspects of the group activities). Some simply weren't interested in exploring the virtual world.

Only a small proportion - 1 in 14 - has been sufficiently moved to continue to visit Second Life after the module has been completed. Induction into the world of Second Life is obviously crucial to its successful exploitation as a learning medium. One valuable lesson learned - by both staff and students - was how easy it is to curb semi-malicious building in a sandbox. A temporary ban together with embarrassment in class works wonders."

#### **4.6 Events and dissemination**

Many academics who use virtual worlds disseminate their teaching, research and learning activities. This subsection contains a sample of such output.

Developments by the Serious Games and Virtual Worlds team at Ulster include the recent national workshop on teaching in virtual worlds<sup>131</sup>:

"The objective of the event was to raise awareness of the benefits and possible pitfalls of using virtual and immersive worlds in an educational context and provided practical advice and demonstrations from leading educators and industrial experts in this area. It highlighted funding opportunities available in this field and offered tips on how to focus research to maximise your chances of succeeding with applications."

Staffordshire University<sup>132</sup> have hosted national and regional virtual world events:

"We succeeded in hosting an in-world discussion entitled "Virtual Worlds: are they the future?" The event was supported reasonably well, with attendees' from all over the country. About half a dozen people attended the whole hour, a few others dropped in when they could. Attendees were a good mix of experienced Second Life educators and those much newer to the environment; discussion flowed well and was interesting.

One attendee commented afterwards how good it was to meet up with others from different establishments interested in Second Life as previously he had felt isolated; others said they enjoyed the event. We used Snapshot 7 as a reference document for this discussion; my full write up on the event and a link to the discussion recording can be seen on our wiki<sup>133</sup>.

We also hosted the West Midlands virtual worlds forum<sup>134</sup> last December."

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<sup>131</sup> National workshop on teaching in virtual worlds: <http://learninginvirtualworlds.com/>

<sup>132</sup> Christa Appleton, e-Learning Development Specialist, Learning Development and Innovation, Staffordshire University.

<sup>133</sup> Write-up of "Virtual Worlds: are they the future?" event: <http://is.gd/c2Dwq>

<sup>134</sup> West Midlands virtual world forum wiki: <http://is.gd/c2DmO>

The team<sup>135</sup> at Coventry University are busy bees when it comes to putting on virtual world events:

"The group have also been hosting an annual virtual worlds event since 2008, and the Coventry National Workshop on Learning in Immersive Worlds 2009 was a massive success, with 80 delegates attending, excellent demonstrations from practitioners around the UK and even further, and a great deal of positive feedback following the event. A slightly amended event is to be hosted this year, focussing instead on the challenges that we face when using virtual worlds for education.

The 'Big Issues Workshop'<sup>136</sup> is to be in Coventry on November 4<sup>th</sup> of this year. More information and dissemination materials from previous workshops can be found on our events blog. In November 2011 the group are planning an international two day conference, to be held at Coventry University, details of which are soon to be on our blog<sup>137</sup>."

Individuals at Teesside are also heavily skewed towards disseminating their work:

"Kate Boardman<sup>138</sup> has given two presentations recently now available on the web. One was at Bangor University as part of the Virtual Heritage workshop by VRLink, where archaeologists and visualisation specialists heard about creating a heritage project in Second Life. This covered some of the basic tools and features one might expect or need to create for an interactive exhibit, whether seen as an 'educational' build or not. At the VWBPE conference a group of delegates chose a tour to the digital Bayeux Tapestry<sup>139</sup><sup>140</sup> to see some of these being outworked at first hand.

Teesside's presentation at VWBPE'10 was streamed live on the web and received lots of interesting feedback. 'Design to Develop in VWs' is a series of exemplars typifying different combinations of staff needs, ideas and intended learning outcomes. The ongoing collection of data here suggests that the closer the attention paid to these combinations at the design stage, the more rapid the prototyping can be and therefore one can predict a more successful development. The archived presentation (and many others) can be viewed online<sup>141</sup>, as well as the slides<sup>142</sup>."

Senior academics have been roped into some virtual events<sup>143</sup>:

"In December, the OU's Vice-Chancellor Martin Bean used his own custom-built Second Life avatar to address an inworld audience and demonstrate his support of The OU in virtual worlds. He spoke on the topic of 'A Journey in Innovation.' The talk<sup>144</sup>, along with the subsequent question and answer session, was presided over by Claudia Linden.

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<sup>135</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>136</sup> Big Issues Workshop at Coventry University: <http://is.gd/c4Cn1>

<sup>137</sup> Learning Innovation at Coventry University blog: <http://cuba.coventry.ac.uk/learninginnovation/>

<sup>138</sup> Kate Boardman, Head of e-Learning, University of Teesside.

<sup>139</sup> Slideshare presentation by Kate Boardman on the Bayeux Tapestry: <http://is.gd/c4Coq>

<sup>140</sup> Pictures of Bayeux Tapestry: <http://www.flickr.com/photos/kattanurnung/4429856222/>

<sup>141</sup> VWBPE10 Presentation by Kate Boardman: <http://is.gd/c4Cr2>

<sup>142</sup> VWBPE10 Slides by Kate Boardman: <http://is.gd/c4Ct3>

<sup>143</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>144</sup> Video of presentation by Vice-Chancellor of the Open University: <http://is.gd/c2wuQ>

It's impossible to know the size of the live audience, because several of the avatars present were actually being used on large screens by whole roomfuls of people."

Dissemination is important in terms of raising, or keeping, the ranking of a University in particular disciplines. Academics such as Toni Sant<sup>145</sup> are busy writing with a view to this:

"Meanwhile, as many HEIs start preparing for the Research Excellence Framework (REF) in 2013, the respective Unit of Assessment coordinators at the University of Hull are eyeing Toni Sant's published output in relation to Second Life for inclusion in the university's REF submission."

Research groups and networks, such as those at Lancaster, are disseminating across a range of media:

"Julia Gillen of the Literacy Research Centre has co-edited a book published in Spring 2010: *Researching Learning in Virtual Worlds* (edited by A. Peachey, J. Gillen, D. Livingstone & S. Smith-Robbins; Springer) and is principal investigator of an ESRC-funded seminar series, *Children's and young people's digital literacies in virtual online spaces*.<sup>146</sup> Michele Ryan (co-authored with Mark Childs) has a book chapter coming out this year entitled 'Synthetic Societies or Pseudo Realities? Debating the Ethical Dilemmas of Second Life'. Michele also continues her study about in world teaching<sup>147</sup>.

#### **4.7 Consultancy**

Virtual World Watch has been aware for a while of various virtual world consultancy activities within the UK academic community. Most of these are carried out internally i.e. with people in the same institution being providers and recipients of consultancy. Some, however, provide services to other academic institutions and even to organisations outside the academic sector. The research team at Coventry University<sup>148</sup> is one such organisation offering these services:

"Learning Innovation also work on a consultancy basis, and have been doing some work for North Western Medical Deanery in Manchester, assisting with the setting up of an induction for new international students to the university via Second Life. This has included the creation of an artificially intelligent bot that gives the student information on topics relating to the Deanery and the NHS."

#### **4.8 Choice of Virtual World**

As previous snapshots have shown, Second Life isn't the only virtual world that is used in higher and further education. At the University of Liverpool, Dr Peter Miller<sup>149</sup> is considering possibly branching out into other worlds:

"I am looking at a range of options, including sharing sims or renting parts thereof on a temporary basis rather than year-round, and even distributing parts of the build across Second Life, to wherever there is space and interest. Renting on an OpenSim-based grid is also a possibility though my limited experience suggests that at the current time the overall

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<sup>145</sup> Dr. Toni Sant, Subject Group Leader (Interdisciplinary Studies), School of Arts and New Media, The University of Hull.

<sup>146</sup> Children's and young people's digital literacies in virtual online spaces project: <http://is.gd/c4CB5>

<sup>147</sup> Michele Ryan's virtual world research: <http://www.lancs.ac.uk/postgrad/ryanm2/>

<sup>148</sup> Cathy Tombs, Research Assistant, Learning Innovation, Coventry University.

<sup>149</sup> Dr. Peter Miller, School of Biological Sciences, University of Liverpool.



experience is still not equal to that of Second Life, though clearly there are tradeoffs to be made, not least financially.”

At Bromley College<sup>150</sup>, some attention has also switched towards OpenSim<sup>151,152</sup>:

“This academic year at Bromley College, we have moved away from using Second Life to trialling OpenSim. We have production and test Linux servers running OpenSim 0.6.8 and staff and students have access to OpenSim, both from within college and externally.

We have found that two of our computer rooms already have graphics cards which are Meerkat compatible and are converting two more rooms of PC's by adding appropriate graphics cards.

Using a standalone installation of OpenSim means that it is much easier for us to provide and control access to the MUVE. Although OpenSim is currently in alpha, we have found it works well in the classroom environment.

Barry Spencer and I are hoping to do a presentation on our use of OpenSim at the University of Greenwich, eLearning Conference on 7<sup>th</sup> July 2010.”

At Leeds Metropolitan University<sup>153</sup>, Ian has been using an alternative to Second Life to see if it's easier to handle large numbers of students simultaneously:

“The pressures of running a large undergraduate provision have left little time for virtual worlds lately. However, having ultimate responsibility for the learning of 330 students does tend to focus the mind on the practicalities of scaling up the use of virtual worlds in a real world educational context. Motivated by its potential scalability and configurability, I have redoubled my efforts, and have finally got my OpenSim grid up and running. It's currently only running behind the university firewall, but it's working exactly as I had hoped.

I can pre-register all of my students, which cuts out the nightmare prospect of a Second Life registration session multiplied by 330. I can get student's real names floating above their new avatar's heads, which helps them to make the connection between avatars and their real life puppet masters, and avoids premature fantasy identity overload. I can avoid the complications of noob-learners making fools of themselves in front of rude strangers and, most importantly for design students, I can get them building things straight away.

I see OpenSim as a means to an end, rather than the end itself. It will provide me with a safe training space - a studio space - for my students to mess about in and learn the ropes. I'll then encourage any intrigued students to venture out into a truly massive multiuser virtual world like Second Life. I don't think I'll need to hold their hands in the same way that I did when we all jumped straight into Second Life in the early days. Once acclimatised through fun-time in the OpenSim playground, students should be able to confidently explore Second Life and beyond without a tutor cramping their style.

They can always ask for help if they need it, and we will provide guidance and coaching as we do for all our students, but they will be in control. They can go where they like and do what they like, just like in real life. We will encourage them to report back on their discoveries, if they are relevant to their learning. They can show us snapshots of their exploits, and they can quote freely from their chat-logs as they reflect on their learning. They can even log-into our OpenSim studio and discuss their pseudonym's exploits with their real life virtual friends and tutors.

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<sup>150</sup> Clive Gould, HE PAL ICT, Bromley College.

<sup>151</sup> Bromley College blog: <http://bcopensim.blogspot.com/>

<sup>152</sup> Advice on installing OpenSim: <http://opensimbromley.blogspot.com/>

<sup>153</sup> Ian Truelove, School of Contemporary Art and Graphic Design, Faculty of Arts & Society, Leeds Metropolitan University.

I am of the opinion that students should have access to a private, institutionally managed virtual world, which is linked to their authentic, accountable, assessable and accredit-able enrolled identity, but should also be free to roam a public virtual space in whichever manner and attire they choose.”

OpenSim developments are also taking place at St. Andrews University<sup>154</sup>:

“Right now we're a bit ‘in-between projects’. There's a few ongoing individual student projects still in progress involving our Second Life region and OpenSim grid, with papers going out and presentations being done. OpenSim usage within the university continues to expand, although obviously stability and completeness are ongoing issues.

With the SL 2.0 browser having just been released obviously we're eagerly looking at projects that it enables (especially anything involving shared media). Hopefully we'll have concrete plans on those for the next snapshot.”

The University of Essex<sup>155</sup> are using several virtual worlds:

“At Wivenhoe you will find information on free classes for a trial we are running on our other virtual platform (Wonderland).”

Daniel Livingstone<sup>156</sup> compares some of the virtual worlds he has used, in teaching and research:

“I was disappointed when Metaplace closed at the beginning of the year - as we had used it previously (although not heavily) and it was enjoyed by students. SmallWorlds fills a similar niche - but without the opportunities for content creation. It does seem to have a stronger business model though, so for people looking for isometric, flash based virtual worlds for online discussions and activities, it should do the job. Like Metaplace, it seems to lack some of immersive qualities of a 3D virtual world - but some students do take to it.

The new viewer for Second Life (Viewer 2) does look like it will make life easier for newcomers to Second Life. While it has its own issues, I am hopeful that it will help overcome some of the initial challenges. But when it comes to new user experience, Second Life could really learn a lot from SmallWorlds - which is full of 'quests' and challenges that introduce users to the worlds and features of the interface. But they have improved a huge amount - including improved lists of recommended locations to visit.”

Bromley College<sup>157</sup> have OpenSim up and running:

“We now have OpenSim running and are currently in the process of allowing students to self-enrol from a web based interface. I decided to record our work as a blog<sup>158</sup> which is continuing to receive good interest.”

Eloise Pasteur<sup>159</sup>, a developer of virtual world content, is sceptical of alternatives to Second Life and OpenSim:

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<sup>154</sup> J Ross Nicoll, Research Fellow, School of Computer Science, University of St Andrews.

<sup>155</sup> Iffaf Khan, Moodle and Virtual Learning Coordinator, International Academy, University of Essex.

<sup>156</sup> Dr. Daniel Livingstone, Lecturer, School of Computing, University of the West of Scotland.

<sup>157</sup> Barry Spencer, Programme Area Leader, Bromley College.

<sup>158</sup> Bromley College OpenSim: blog: <http://bcopensim.blogspot.com/>

<sup>159</sup> Eloise Pasteur, independent developer.

“Over the last year I have been continuing my work in Second Life, as well as looking occasionally at the wider picture and potential alternatives. As discussed in an earlier reporting cycle, except for OpenSim grids that clone Second Life in one way or another, there are currently no alternatives that meet my list of requirements, nor am I seeing rumours of any likely to appear.”

However, another independent developer<sup>160</sup> sees potential in a wider range of virtual worlds:

“We are also currently exploring OpenSim and Project Wonderland, and creating a custom browser-based virtual world using the development tool Unity.”

Southampton University<sup>161</sup> are also considering OpenSim:

“OpenSim seems like something that we will have to consider when we don’t have the funding to support Second life. I hope that this is something that many of us will try, as I can see the benefit of using virtual worlds for education and research; doing it via open source seems a better way forward. I have heard a few horror stories about ReactionGrid and OpenSim but I heard them about Second Life and just see it as part of the learning curve!”

The University of Edinburgh<sup>162</sup> continue to use a range of virtual worlds across various teaching and academic activities:

“Vue members use and are exploring a number of virtual worlds platforms. The main facilities are:

- Second Life<sup>163</sup> regions
- OpenSim regions - both locally hosted (OpenVue<sup>164</sup>) and via New World Grid.<sup>165</sup>

An open source release of complete virtual collaboration spaces, in-world facilities and linked web/virtual world technology to support collaborative meetings spaces, has been done in both Second Life and OpenSim.”

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<sup>160</sup> Gemma McLean, Developer, Gemixin Ltd.

<sup>161</sup> Fiona Grindey, Education Development Adviser, Learning and Teaching Enhancement Unit, University of Southampton.

<sup>162</sup> Austin Tate, Director, Artificial Intelligence Applications Institute, University of Edinburgh.

<sup>163</sup> Second Life regions at the University of Edinburgh: <http://vue.ed.ac.uk/sl/plan/vue-map-current.jpg>

<sup>164</sup> Local hosted OpenSim regions at the University of Edinburgh: <http://vue.ed.ac.uk/openvue/>

<sup>165</sup> New World Grid: <http://www.newworldgrid.com>

## 5. The future

Many snapshot responders have commented, either directly or indirectly, on future plans. This final section presents a selection of views and comments.

The Open University<sup>166</sup>, a user of virtual worlds for several years, anticipates continued use of this particular technology:

"In 2010 we anticipate that our community will continue to grow, with more general (e.g. Student Services) events as well as dedicated course activities, such as a major science course development. We have just completed the first round of an evaluation process looking at a wide selection of virtual worlds, enabling us to make an informed decision about where to concentrate future activity, and will shortly make this report publicly available."

Some academics abandon what they've done at the end of their project; others try and preserve whatever was created or written. Unlike in the real world, installations and other digital ephemera don't rot; they stay where they are until they are deleted. At the University of Liverpool, Dr Peter Miller<sup>167</sup> is thinking ahead for further uses of the materials he has developed:

"I am also exploring routes to making at least some of the materials and methods I have developed more widely available. Having worked largely as a team of one, I am acutely aware that much time can be wasted in reinventing wheels. Moreover, one of the signal pleasures of Second Life has been the several mutually supportive working relationships that have been developed with avatars whom I am unlikely to ever encounter in real-life. Many have assisted me, directly or indirectly, and it would please me greatly in turn if any ideas or materials might live on for others past the end of my project."

From personal and wider perspectives, one independent developer<sup>168</sup> sees pro's and con's from the new Linden Lab Second Life view:

"I think the 2.0 viewer will stop a range of my tools selling, some will be replaced by other tools, some will simply die gracefully. At the same time I believe it will reduce churn and will tip a range of wavering educators into using Second Life, so the population will grow once more and the marketplace for my work will grow as word of the new, simpler to use, Second Life spreads out."

Some universities, such as East London<sup>169</sup>, are in a period of virtual world development consolidation, but are looking towards a more collaborative and partner-based future:

"I wrote the last report at the end of an intense period of development during which we had worked with an external developer (Gemixin Ltd) on the school's newly acquired island UEL HABitat<sup>170</sup> to produce more sophisticated versions of an existing laboratory and crime scene house and, in particular, to create a new polyclinic for use by a range of healthcare students.

We are now in a period of consolidation where the focus is on essential maintenance, creation of learning activities, orientation of staff and students and, most importantly, on more in-depth evaluation than has been possible hitherto. We are also looking seriously at the possibilities for

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<sup>166</sup> Anna Peachey, Eygus Ltd for The Open University.

<sup>167</sup> Dr. Peter Miller, School of Biological Sciences, University of Liverpool.

<sup>168</sup> Eloise Pasteur, independent developer.

<sup>169</sup> Rose Heaney, Learning Technology Advisor, Schools of Psychology and Health & Bioscience, University of East London.

<sup>170</sup> Blog entry on UEL HABitat: <http://is.gd/c4cPI>

sharing our resources with the wider education community, as well as collaborating with other institutions on new ventures.”

The University of Essex<sup>171</sup> are expanding the uses of their virtual world developments:

“We’ve just finished an Academic Writing course and plan to open a Conversation Club in April.”

The Department of Computing<sup>172</sup> at the Open University are developing a virtual world research thread; future plans include two areas of work:

“To facilitate distance-education in Second Life: Our evaluations have shown that, as intended, Second Life is facilitating team working, interactions with students and the educators, collaborative formal and informal learning, and community building. Therefore, we plan to continue with our investigations about the pedagogical effectiveness of Second Life. We would like to make Second Life induction easier for both students and educators. Further, we would like to continue to develop guidance for educators about designing Second Life activities that match with the learning outcomes of the course and activities which exploit (or take advantages of) the ‘affordances’ of Second Life, and how to design or choose learning spaces in Second Life which match with the pedagogical strategies of the learning activities.

To investigate the efficacy of 3D virtual worlds in staff training and skills development: Thiagarajan (1996) states that role-plays are most useful for practising and developing interpersonal skills including conflict management, negotiation, influencing, active listening, giving and receiving feedback, and communication. Developing these ‘generic’ interpersonal skills are particularly useful for distributed work-environments. 3D virtual worlds such as Second Life enable creation of simulated settings for role-playing complex scenarios, which may not be possible or difficult to construct in real-life. Our aim is to design and conduct role-playing scenarios to investigate the efficacy of Second Life in staff training and development of ‘generic’ inter-personal skills.”

The University of Edinburgh<sup>173</sup> has a long term view of its use of virtual worlds”

“All of our [virtual world] facilities look set to continue in future years, and some are being converted to have specific broader uses for national projects, such as an e-Science support island, and international projects such as a Virtual Collaboration Environment for the ‘Whole of Society Crisis response’ (WoSCR) community.”

The final word in this snapshot report is from Lancaster University<sup>174</sup>, on how virtual worlds such as Second Life should be used in the future:

“In general, we think we have had a shift in mentality. Second Life is no longer seen as a just another educational technology. It is now viewed as space, not just a tool. And as a space, its usage does not have to be clearly defined in order to be used. Pedagogical uncertainty was once a barrier for usage. But when educators threw themselves in world and allowed students to determine its usage, the results have been more stable than those who tried to force a pre-determined pedagogical strategy. We believe that this is the way we should continue in the future.”

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<sup>171</sup> Iffaf Khan, Moodle and Virtual Learning Coordinator, International Academy, University of Essex.

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