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Human-Computer Interaction is a multidisciplinary field focused on human aspects of the development of computer technology. As computer-based technology becomes increasingly pervasive – not just in developed countries, but worldwide – the need to take a human-centered approach in the design and development of this technology becomes ever more important. For roughly 30 years now, researchers and practitioners in computational and behavioral sciences have worked to identify theory and practice that influences the direction of these technologies, and this diverse work makes up the field of human-computer interaction. Broadly speaking, it includes the study of what technology might be able to do for people and how people might interact with the technology.

In this series, we present work which advances the science and technology of developing systems which are both effective and satisfying for people in a wide variety of contexts. The human-computer interaction series will focus on theoretical perspectives (such as formal approaches drawn from a variety of behavioral sciences), practical approaches (such as the techniques for effectively integrating user needs in system development), and social issues (such as the determinants of utility, usability and acceptability).

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Researching Learning in Virtual Worlds

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Dr Julia Gillen is a Senior Lecturer in Digital Literacies in the Literacy Research Centre, Lancaster University. She is interested in literacy, language, multimodality, technology and learning in both formal and informal settings. In 2007–2008 one of her main interests was working with children in virtual worlds, in the Schome Park programme, as described in this book. Parallel research projects involved interactive whiteboards and the school dinners debate. She has also published widely on a variety of topics concerned with young children, recently co-editing with Ann Cameron of the University of British Columbia the volume: *A day in the life: An international study of two-year-old girls* (Palgrave Macmillan). Julia Gillen is also a co-editor of the *Journal of Early Childhood Literacy*. The Edwardian postcard is a further area of research, offering fascinating parallels and contrasts with the contemporary digital revolution. See <http://www.literacy.lancs.ac.uk/profiles/julia-gillen> for a current list of projects and publications.

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Anna Peachey is Director of Innovations at Eygus Ltd (www.eygus.co.uk), the company responsible for coordinating the Open University UK presence in virtual worlds. She was Academic and Organising Chair of Researching Learning in Virtual Environments 08 (www.open.ac.uk/relive08) and is an editorial board member of the International Journal for Advanced Corporate Learning, the International Journal of Virtual and Personal Learning Environments and Impact, The Journal of Applied Research in Workplace E-Learning. Anna is currently researching identity and community in virtual worlds as a Teaching Fellow with the Centre for Open Learning in Math's, Science, Computing and Technology at the Open University, and has worked with students around the world using online and distance learning since 1995. You can find her in Second Life as Elsa Dickins.

Kieron Sheehy is a Senior Lecturer in Child Development at the Open University. His research includes teaching children with severe learning difficulties, inclusion, pedagogy, Schome and new technologies. He has a particular interest in how the affordances of virtual and augmented worlds might inspire more inclusive educational approaches.

Sarah "Intellagirl" Smith-Robbins is a PhD candidate at Ball State University and the Senior Director of Emerging Technologies at The Kelley School of Business at Indiana University. She is also the coauthor of *Second Life for Dummies* and was one of the first higher education instructors to conduct a class in Second Life. Her research focuses on the communication affordances of virtual and augmented realities. Sarah's dissertation is a study of over seventy virtual worlds and their communication mechanics for application in the classroom. Her current work involves designing alternate reality game, augmented reality experiences, and interactive web quests used in executive education programs. Sarah's personal website is intellagirl.com.

Liz Thackray is an Associate Teaching Fellow in the Centre for Open Learning of Mathematics, Science, Computing and Technology at the Open University where she is developing support materials for Associate Lecturers and others considering incorporating the use of Second Life in their teaching. She was a member of the ReLIVE08 organising and academic committees. Liz is also an Open University Associate Lecturer teaching on technology courses. During ILE 2008, as described in this chapter, she was an e-learning consultant for the Sussex Learning Network. She has been exploring and supporting the educational possibilities of Second Life for some years and is currently undertaking DPhil research in this area at the University of Sussex. In Second Life, she is lizit Cleanslate.

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Peter Twining is the Co-Director of the Centre for Research in Education and Educational Technology (CREET) at the Open University. He qualified as a primary school teacher in 1986, having previously worked as an ICT specialist in a school in the Middle East. He subsequently taught in the East End of London and then moved into initial teacher education. He joined the Open University in 1995 and became the head of the Department of Education in 2007. Throughout this career he has been focused on educational change, and the potential ways in which new technologies could enable enhancements in learning. In 2004 his focus on enhancing education systems led to the formation of the Schome Research Group and the development of schome (the education system for the learning age). See <http://www.schome.ac.uk/> for more information about the Schome Initiative and <http://www.schome.ac.uk/wiki/User:PeterT/CV> for more details about Peter's career so far.

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Editors' Introduction: The Physical and the Virtual

Meeting in the Physical World to Discuss the Virtual

On the 20th and 21st of November 2008 120 people, from countries around the world, came together at The Open University (OU) campus in the UK for the Researching Learning in Virtual Environments 08 (ReLIVE08) conference. Over the 2 days there were 34 papers presented, 7 workshops, 3 keynote events (involving Bill Thompson, Claudia Linden/l'Amoreaux, Ren Reynolds, Roo Reynolds and Edward Castronova), 1 symposium and a gala dinner with a guest speaker. ReLIVE08 was one of those all too rare conferences that hits the zeitgeist, bringing together people who are truly passionate about their subject and creating a real buzz, so much so that many delegates complained that they didn't want it to end – and this on a cold wet Friday in Milton Keynes just four weeks before Christmas. How did that get to be the right place at the right time?

2006 and especially 2007 saw an exponential rise in the number of educators investigating the use of virtual worlds for teaching and learning. As virtual worlds started gaining momentum in the public consciousness, early adopters were in demand to run workshops and seminars introducing colleagues to the basics of the medium and to the idea of exploiting these environments to work with students. At the same time, through special interest group mailing lists, this growing UK network was linking to other virtual world educators around the globe and the early adopters were able to share and nurture their belief that they were leading a march with the potential to be genuinely exciting and revolutionary for education. Virtual worlds, it seemed, were offering something new. We could bring aspects of our understanding of distance learning, of virtual learning environments, of virtual reality and others into play, but there is still so much to learn about how people think, feel and consequently function in a virtual world that it became apparent these early adopters were establishing a new frontier for research. Discussion, debate and explorations continued, and by the beginning of 2008 it was apparent that early studies were now generating evidence that moved far beyond the anecdotal, but that credible opportunities for disseminating this evidence were limited to a few specialist streams of the established, more generalised conferences and journals.

In January 2008 Dr Shailey Minocha, a Senior Lecturer in Computer Human Interfaces at the OU, was about to take up a Teaching Fellowship with the Centre for Open Learning in Maths, Science, Computing and Technology (COLMSCT), researching the pedagogical effectiveness of virtual worlds and their role in enhancing the student's learning experience. Anna Peachey had been working with COLMSCT since the OU bought its first Second LifeTM (SL) island in 2006 and, as the two discussed the state of the genre, they identified an opportunity for a publishing and networking event that would bring people together around the central theme of researching learning in virtual worlds – the seed for ReLIVE08 was planted.

As Chair for the proposed conference, Peachey secured support from Professor Steve Swithenby, Director of COLMSCT, and Professor Denise Kirkpatrick, Pro-Vice Chancellor for Learning and Teaching, before issuing invitations to members of the programme and international academic committees. The first academic committee meeting was convened, appropriately enough, on a platform high up in the branches of a tree on Schomebase Island in Second Life, and the discussion was recorded using SLOODLE tools to a forum in Moodle, which was then used as the asynchronous discussion medium for all subsequent conference planning. The committee had a lively debate over the name of the conference (and ReLIVE has remained quietly contentious – do you say live to rhyme with give, or live to rhyme with strive?), but agreed unanimously that the conference themes should reflect the scholastic nature of research, inviting a body of work that contributed a significant step forward in the field.

From the onset, the committee agreed that the event should be open to those working in (and across) a range of academic disciplines. Emergent research in virtual worlds is increasingly the result of collaboration between technologists and discipline specialists, crossing boundaries and producing an evidence base that is at the same time about the experience of the virtual and an extension of pedagogical practice and philosophy. In constructing the call for papers, we sought presenters and participants who have experience of designing and delivering learning in virtual worlds regardless of topic, and who have the ability to reflect on and share that experience within an analytical framework. Most have been early innovators, lone voices in their institutions, representing a spectrum of subject specialisms with common ground to share.

The papers that were eventually accepted by the academic committee reflected this wide range of subjects and research methods. They embodied a mix of theory and practice, planning and reflection, participation and observation to provide the rich diversity of perspectives that were represented at the conference.

The Conference Themes

For the call for papers, presenters were asked to outline their work under the following main themes:

- *Crossing boundaries and making connections.* Papers submitted to this theme were intended to extend our knowledge of the interdisciplinary nature of research into learning and teaching in virtual worlds. Boundaries crossed included the digital divide between first and second lives, subject areas and/or research disciplines. In particular, papers outlined research processes and outcomes which draw upon or extend conceptual and explanatory frameworks from computing, cognitive science, social sciences and/or education.
- *Opportunities and challenges of virtual worlds for learning and teaching.* Papers submitted to this theme reported on research directly related to issues such as enabling disadvantaged learners. Of additional interest were the papers where opportunities and/or challenges were unforeseen at the beginning of a research programme and had a subsequent impact upon the research outcomes.
- *Approaches to research.* This theme explored the range of qualitative and quantitative research approaches utilised by researchers of learning and teaching in virtual worlds, especially accounts that highlight the efficacy of particular approaches and the pitfalls of others, and/or that illuminate issues concerned with the collection of data in-world versus real-world.

There was a good volume of submissions to the conference and the quality of papers reassured the committee that the timing was right to be offering this floor. Uptake for places was initially steady, but as word spread in the right communities the numbers increased rapidly until the top limit was exceeded and a considerable waiting list established.

And so it was, finally, that we all came to be in Milton Keynes on a wet weekday in winter. Conference name badges gave a clue as to the nature of the event, bearing not only the name by which the delegate is known in the physical world, but also a photograph of their virtual world avatar, and the avatar's name. Initial interactions between delegates were typically characterised by polite hand shaking and traditional introductions before each would peer at the others name badge and exclaim excitedly, "Oh! You're ...!", then launch into animated chatter. Of course in all the history of conferences people have made physical connections to distance relationships, but it felt different to be making connections for relationships already established on a foundation of physical presence, albeit virtual. Indeed the tone was set when Peachey, known for her pink haired, winged avatar, opened the conference wearing a pair of big pink glittery wings.

As is the way with good conferences there was as much value in the networking between sessions as in the sessions themselves. Some sessions made innovative use of technology, such as the symposium that was webcast and linked to a Twitter tag, which was in turn projected above the stage, so that all of the audience and the presenters were engaged with both primary and back channels, posting links and answering questions online as well as verbally. Many used live links to Second Life and other virtual worlds. Jane Edwards, from the JISC Eastern Regional Centre, kept a formal conference blog and delegates talked in person, in the conference café on the Open University island in Second Life, on Facebook, on Twitter and in

individual blogs, and many posted pictures to Flickr. Each paper started a new line of chat, and the 2 days passed, it seemed, phenomenally fast.

When it was over it still felt that there was more to say, and so the suggestion of *Researching Learning in Virtual Worlds*, ReLIVE08 the book of the conference, was born. Four members of the academic committee convened as editors and reviewed all the papers at least twice more, hoping to pull out the right combination to represent the highlights of the best that ReLIVE08 had to offer. We looked especially for papers that were so rich in content that the authors clearly had more to say, and that would benefit from the extended platform that a chapter can offer, that were a coherent and logical contribution to the book as a single resource for researchers and that represented a range of perspectives.

A Note on Terminology

Every realm of interest comes with its own specialized terminology. When you're deep into a realm of content the terms of that world become second nature. But then, of course, the opposite is also true and a lack of terminology can prevent one's entry into a field of study. Virtual worlds, however, go beyond a simple subject of study. They contain cultures and behaviours that are unique to these digital spaces. Listening to virtual worlds advocates converse can be like overhearing a foreign language. Terms like rez, TP, avatar, mobs, raid, and XP may be comfortable to those of us who spend a significant amount of time in virtual realities, but for those new to the field they can be barriers to understanding. To that aim we'd like to provide a brief introduction for readers to some of the common concepts and terms of virtual worlds.

Virtual Worlds

Virtual worlds have certainly evolved from their inception in the age of Multi-User Dungeons (MUDs) and MUDs Object Oriented (MOOs). Humble text-based beginnings have become 3D digital spaces with millions of users, complex politics and social behaviours, and a wide variety of user demographics. A quick skim of the recent research related to virtual worlds illuminates the vast variety of definitions of just what a virtual world is. For this collection we'll make use of Bell and Robbins' (2008) operational definition which includes the following four traits:

1. Virtual worlds are persistent. They exist regardless of whether any specific individual is logged in. Typically, there are processes in these worlds such as time and economy that continue to progress in some real time scale even when an individual user isn't logged in.
2. Virtual worlds exist on wide area networks (WAN). To reach the scale of a "world" rather than an "environment" or "space" a virtual world must be

accessible on a large scale and not contained behind a firewall or similar limitation.

3. Virtual worlds are massively multi-user. This is an important differentiation between virtual spaces built for a few users and worlds which can accommodate a global scale of users.
4. Virtual worlds employ avatars to represent users. Avatars are semi-autonomous agents represented in the digital space and capable of performing actions when commanded by a user. We differentiate avatar from icon or profile which represent a user but cannot perform actions.

While this definition helps to differentiate virtual worlds from other online communities such as social networks and blogs we have to remember that even within the online spaces that fit within this definition there are still differentiations that create subcategories. The two most general categories are game virtual worlds and social virtual worlds.

Game Worlds

Multi-player online games have become a billion dollar industry in the last 10 years. From *Eve Online* and *Ultima* to *City of Heroes* and, the hands-down winner, *World of Warcraft*, these Massive Multi Player Online Role Playing Games (MMORPG) have become a business to rival cinema for entertainment dollars. At last count *World of Warcraft* had over twelve million players each paying around £10 per month in addition to the initial software purchase. To this is added the merchandising of t-shirts, toys, and other related items to tempt regular players. MMORPGs build huge user bases that not only play the game itself but create countless forms of content related to the game such as discussion boards, videos, comics, blogs, and videos made from capturing the action of the game (called machinima). Content within an MMORPG and about an MMORPG can amount to an incredible amount of activity.

While MMORPGs are virtual worlds by the definition above, they are also games, which implies an additional set of characteristics that serve to structure and motivate the play. A typical MMORPG allows users to create an avatar (sometimes referred to as a “toon”) with a certain set of skills and abilities with which to interact with other player characters (PCs) and game generated characters called non-player characters (NPCs). Accumulation of new skills is normally related to the accomplishment of tasks such as fighting and defeating enemy NPCs such as evil orcs or hostile races of space aliens. These enemies are typically called mobs, a term derived from “mobiles” and which originated in MUD, the original text based virtual world released in the late 1970s (Bartle 2003). Defeating enemies results in experience points (XP), which accumulate and allow the character to earn new abilities, weapons, and other perks.

Though MMORPG players may have goals in addition to levelling their character, the primary activities in these worlds are centred on enhancing one's character to be more powerful and capable of accomplishing the goals of the game. These shared goals foster the creation of shared social norms and behaviours but they also reinforce an in-game literacy that allows players to "read" one another's characters through cues such as character level, armour, and demonstrated abilities.

Social Worlds

Certainly the advent of pervasive digital access has contributed considerably to an individual's ability to connect to data, but it should not be ignored that widespread access has also encouraged individuals to connect to one another. From the old bulletin board systems to discussion boards, to chat rooms, and now social networks, rather than being an isolating force, the internet has proven to be an important social connector. The logical extension of these patterns into the 3D web is the social virtual world. Spaces such as The Palace (Suler 1996) ushered in graphical social applications but virtual worlds such as Second Life and Entropia have maximized on the popularity of virtual game worlds, removing the game play to replace it with strong social tools and innovative content creation tools, much as MOOs did in the era of the text based virtual world (Bartle 2003). Removing the game mechanics also takes away shared goals but brings benefits in the form of abilities such as teleportation (instantly moving from point to point around a large virtual world sing specific points referred to as landmarks), which might conflict with game goals as well as, in some social virtual worlds, the ability to build custom content. In the case of Second Life, for example, users can create custom clothing, buildings, interactive objects, and even land masses, or "rez" (put out to make real) any item of their own or others creation from their stored inventory. Rather than experiencing content created by game designers, users in a social virtual world create their own stories and their own interactions, even where they are unable to create or form the environment itself. Of course, custom content brings with it its own complications. User created content has to be recreated for the user in a different way than would static content, and, as would be expected, not all custom content is of the same quality or style. Cohesively styled social worlds are a challenge when each user is given the ability to create anything from a pyramid to a space station.

Chapter Introductions

Virtual Worlds offer many possibilities to expand a sphere of inclusion, in the area of education, to many diverse groups. Sometimes seen as a universal access point to inclusive education, virtual worlds can contain many social, economic, cultural and physical obstructions. In this case, inclusive education educational projects in virtual worlds try to treat a diverse population of learners with equal worth. But,

the virtual world is not a panacea for a utopian view of inclusive education. In Chapter 1, Sheehy acknowledges the technical and social barriers that need to be overcome but focuses on the improvement of pedagogical and applied research. The question of how inclusive education might influence virtual world research is explored and answered. The chapter covers how virtual worlds are being used to increase inclusion and overcoming obstructions as well as discovering new ones. The international opportunities virtual worlds like Second Life, virtual tutors and augmented reality offer are reviewed, only to discover the notion that inclusive education practices and research are being stalled. The need and value of inclusive educational practices is not in doubt, but virtual inclusive education is encountering barriers. The chapter challenges the notion of the isolation of the physical and the virtual and stresses a need for educators and researchers to concentrate on the values of inclusive education to overcome these barriers. There are also examples and predictions of inclusive virtual spaces that have been built or discussed. For example, how communities of learners sometimes not included (the deaf or autistic) are being reached through virtual world technology. Through the manipulation of different modalities (text, audio, video) the author sees promise in getting closer to an inclusive virtual space. Also the use of augmented reality to create progressive scaffolding is proposed. The chapter also covers how virtual affordances may be moved to the world of augmented reality. Sheehy sees hope for future diverse virtual world participants and calls for more applied research.

Educational institutions, especially those catering for young adults ("tertiary" institutions in the UK) have been relatively quick to catch up with the opportunities offered by virtual worlds, especially SL. In Chapter 2, Moschini observes that there are a vast array of pilot projects and consequently a pressing need for research on these, especially for evaluation purposes. She points out that the essential elements of designing a research project remain consistent whatever the environment: setting aims and objectives, identifying a relevant theoretical frame, selecting appropriate methods, gathering and analysing data and disseminating results. However applying this overall approach to SL effectively demands knowledge of its specific tools, technology and what she terms "group dynamics". A particularly salient starting point is whether the project takes place wholly inworld or whether it has a physical world dimension as clearly this must accord with the approach to evaluation. Learning theories relevant to understanding education in SL are discussed; these are linked to an array of examples of educational activities in SL and discussions as to specific features of research in SL that the ethical researcher must attend to. Researching in SL is anything but an isolating experience; Moschini offers considerable suggestions both for accessing existing information on research and on how to share new learning. Virtual worlds offer a new area of inquiry for researchers and innovative ways of creating and sharing tools and methods are springing up all the time. Yet attention to overarching principles especially those relating to ethical treatment of participants remain salient, if occasionally challenging. The chapter is both a contemporary overview of techniques for researching in SL and a lasting reminder of key issues.

Twining and Footring's chapter is an overview of probably one of the most substantial SL projects discussed at RELIVE08 – the Schome Park Project (SPP). This was the first European “closed” i.e. protected project using TSL and spanned 13 months, involving around two hundred teenagers and about 50 adults. As this overview makes clear, actual participation varied and probably at any one time involved fewer avatars. The chapter begins by outlining a somewhat different starting point for working in SL than those Moschini suggests; the SPP arose from shared radical dissatisfaction with standard educational models and a conscious desire to experiment in a virtual world, endeavouring to create a completely new model for education. This is of course a very different starting point from the more usual range along the continuum from having some activities in a virtual world to support or underpin either existing face to face or distance learning provision. That continuum applies to the largely HE/FE constituency that Moschini describes: SPP ran mostly as a voluntary alternative for teenagers in (compulsory) schooling in the UK, although some teenagers joined through after school clubs (in the US and UK) and at least one group from a classroom with their teacher. As has already been mentioned, Moschini references the “group dynamics” of SL and she outlines many aspects of the already substantial research community. Twining and Footring give many details of the evolving group dynamics of a single community (in the sense of being in one, closed, TSL project) and the chapter makes a considerable contribution to the literature in describing some of the challenges faced and in some cases overcome by a virtual world community of people for the most part not known to one another in the physical world. It is striking that by the end of Phase 1, it was already found necessary to have seven departments of a government structure: Education, Safety, Government Coordination, Scripting, and Building and Planning Permission. Clearly, with all the complexities of “living” in a virtual world, political actions are quick to emerge, in part among struggles for not unlimited resources. Writing of the broader SL community, Boellstorff writes:

Virtual worlds have often been presented as sites of untrammelled freedom, where humans are released from the shackles of physical embodiment and can reinvent themselves as they choose . . . this assessment is inaccurate. Perhaps nowhere is this more clear than with respect to social inequality. The idea of governance assumes some kind of power differential between the governed and those with authority over them. Anthropologists have noted that no human society has existed without some form of inequality; forms of status and authority exist even in ‘primitive’ societies without private property. . . To be human, including to be virtually human, is to live in social contexts structured by inequality . . . (Boellstorff 2008, pp. 25–26)

Twining and Footring's account makes clear that notwithstanding the egalitarian ethos of the project, differentials existed not simply in terms of status between (adult) “staff” and (teenage) “students” (and indeed these were often muddled through varying levels of expertise) but also arose very quickly among students. For example as the project developed it seemingly became more difficult to encourage new students to build, as both governance and expertise became relatively highly concentrated in a small number of students.

However, what is astonishing is the wide range of activities briefly outlined in this chapter, especially when one considers that this was a closed project and thus relatively isolated from the opportunities to borrow, buy and simply be inspired by developments and events in SL (or even TSL). The project outline given here mentions three curriculum strands: physics; archaeology; and ethics and philosophy, building learning centres, regattas, a skateboard park, machinima, a wedding, a recreation of the Boston Tea Party and much else.

The section on research methodology is an interesting example of the synthesis of research methods that Moschini outlined as feasible in SL. This paper concentrates particularly on interview data, that convey vividly many facets of this ambitious project.

Twining and Footring's analysis of the project involves the creation of a framework of "dimensions of practice". This contribution may be useful not only for the work it does in describing this specific project in a systematic fashion, but in terms of advancing a framework others might find useful, especially if valuing a twenty-first century curriculum of creativity, collaboration and other related values rather than the nowadays much criticised precisely defined individualised measures of achievement against very narrowly defined targets (Partnership for twenty-first century Skills 2004; Leadbeater 2008.) Bringing notions of product and process, bureaucracy vs playfulness, in relation to one another offer stimulating structures whether to influence evaluation or indeed educational intervention design. In terms of the 13 month SPP project, inevitably the broad overview leaves many questions about details of the project hanging; those interested after this reading in the SPP may also wish to read further about the project in Twining (2009) and Gillen et al. (2009).

In Chapter 5, Gillen also focuses on the SPP, taking a specific slant on the project in terms of investigating digital literacies. She expands consideration beyond activities inworld, taking into her purview some of the other communicative domains of the project outlined in the previous chapter: the wiki and the forum. Gillen draws on Boellstorff (2008) to claim a generally ethnographic "take" on the project, reflexively involving consideration of her own participation and her own responses indeed to aspects of the previous chapter. Gillen demonstrates the diverse and complex communicative practices of the project, showing how the affordances of the virtual world, the wiki and the forum are different and get taken up by the participants to shape different purposes. One spontaneous act of collaboration she analyses is the creation of a project dictionary on a wiki; although in terms of content clearly linked to the "group dynamics" of the SPP inworld, there is a sense in which the literacy artefact is relatively free-standing. As a voluntary, carefully crafted artefact revealing both understanding of lexicography and a willingness to innovate creatively, this example may interest some educators as being an instantiation of a persistently valued genre, reshaped for a new context. The chapter then overall offers material in terms of methods and findings for those interested in literacy practices in virtual worlds. Evidence is offered from this project that combats consistently negative representations of young peoples' new communicative practices. In so doing, this account contributes to contemporary arguments that writing and reading are

fundamentally changing, becoming aspects of a more generally semiotic disposition (Kress 2003). Finally, in emphasising the craft involved in communicating in virtual worlds, Gillen contributes to Vannini's (2009) argument that contemporary material ethnography needs to take a turn to valuing *techné* at least as much as *ethos*, i.e. trace communicative actions as they appear materially, in detail, rather than be overly preoccupied with endeavouring to investigate underlying, actually hidden, attitudes and beliefs.

In Chapter 6, Peachey writes from a perspective of ethnography about her experiences with the social community for The Open University in Second Life. The chapter outlines the development of this community over a 2-year period and Peachey argues that it maps to the physical world location-driven community concept of Third Place, as defined by the urban sociologist Ray Oldenburg (1991). In the field of community building, Third Place is used to describe a social environment that is distinct from the first and second place norms of home and workplace, for example a regularly frequented coffee shop. Oldenburg argues that a Third Place, "...hosts the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work" and is necessary for civil society, democracy, civic engagement and establishing an authentic sense of place within a community. Peachey proposes that by observing and interpreting the student-driven behaviour of the social community she gains an understanding of how users engage in and with the environment, providing valuable insight for input into long term strategy in creating a community of learners for the OU in virtual worlds. The chapter considers the background and context to the development of the OU social community in SL and explores community building in general terms before proposing the Third Place as an appropriate model. The established OU community in Second Life, active enough to support its own learning by organising a variety of special interest and discussion groups as well as social events, demonstrates a significant achievement in using the affordances of a virtual world to overcome some of the core challenges to our student's learning experiences. In addition it has allowed students to enter into learning without social baggage and other disadvantages they may carry in the physical world. The chapter concludes by looking forward to the possible future for this community.

In Chapter 7, Toro-Troconis et al. take their lead from literature on Game-Based Learning to develop learning scenarios where medical students can interact with virtual-patients in Second Life. An important aspect of this work is the development of an alternative web-based implementation of the same set of virtual patients – allowing the authors to compare student reactions to the different environments. Interestingly, both sets of students indicated a reluctance to use virtual patient scenarios in the future, due to a preference for interacting with real patients – although pragmatically it must be recognised that virtual patients do provide greater opportunities for practice and rehearsal. And in this light, it is worth noting that both groups of students recognised the potential of virtual patients for learning, justifying the effort expended in using the different platforms.

Additional findings highlight some of the differences in student attitudes to virtual world and web-based elearning – with greater scepticism attached to the use

of virtual worlds, while the more linear nature of the web-based e-modules created other problems. As the authors note, this interplay of factors is worth further investigation.

Some of the findings reported in the chapter contrast in interesting ways with the following chapter. Where the Toro-Troconis study aimed to replicate a real-world setting as closely as possible, Thackray, et al. in Chapter 8 wanted to evaluate the use of virtual worlds for education in creating learning experiences that would be “difficult, dangerous or impossible” to create in the physical world. Thackray and her co-authors focus their chapter on a range of boundary issues related to teaching and learning in virtual worlds.

Over time, and working with two cohorts of students (and two distinct cohorts of “clients” for student projects), Thackray et al. have used models of the diffusion of innovation to reflect on the current challenges, and to gather insights into the likely users of virtual worlds. This last is a significant factor, important aspects of which are commonly overlooked in studies into the use of virtual worlds in education. That almost all UK universities are now actively utilising virtual worlds in some form can be misleading – as typically only a very small number of staff at any institution is involved in such activity. Thus, tutors adopting SL or other virtual worlds still tend to fall into the category of “innovators”, and are not necessarily typical of the majority of tutors in HE. Other members of staff involved in projects using virtual worlds may have limited experience or understanding, and this may impact upon courses and the student experience.

In comparison, students are more likely to fall into more mainstream user categories, and as such may have different expectations and reactions.

If the successes of teaching and learning in virtual worlds are to truly become mainstream, if the platforms are ever to “cross the chasm” into mainstream use, the boundary and challenges issues identified will need addressing – what is inconvenient to an innovator, some challenge to be overcome, may simply be a good reason for a mainstream user to discount and disregard the technology altogether. While not all virtual world platforms are made equal, this chapter is a call to the innovators already using these platforms to more explicitly recognise these issues. While individual educators may not be able to solve most of the issues that exist, with greater awareness of what the problems are, solutions to the most pressing issues are more likely to be developed – either as part of the software or through best practice.

In the following chapter, Livingstone and Bloomfield meet a distinct set of challenges and issues with a project that has as its goal the merger of the innovative and the mainstream. The SLOODLE project is attempting to integrate virtual world and web-based virtual learning environment technologies, and core to this project is finding out from educators active in Second Life how such integration might be useful – by asking educators what possible features they think would be useful, and by releasing working software and gathering feedback from tutors after they have completed teaching classes using the SLOODLE tools.

A variety of methods and approaches have been used in this work over the past 2 years, qualitative and quantitative, synchronous and asynchronous, and the challenges faced include many that may be met by other studies which need to engage users of a virtual world across long periods of time and over large geographical distances.

In this project, it has not been sufficient to launch a web-based (or in-world) survey and sit back to collect data. To help refine ideas over time and engage user participation in the design of SLOODLE, it has been necessary to conceptualise SLOODLE as a product, as a research project and, vitally, as a community.

This has not all been straightforward. Seeking feedback from users in a pilot using discussion forums and inworld focus groups found that many participants who signed up for the pilot were either unable to attend meetings due to time-zone differences or workloads, and technical issues with the virtual world platform prevented some participants from being adequately able to trial SLOODLE – presenting echoes of many of the boundary issues identified by Thackray et al. in the previous chapter.

A second pilot was established taking many of these issues into account and, while the full results of this are not yet available, has been able to overcome some of the earlier problems. As such, it is hoped by the authors that this chapter can provide some useful guidance and highlight a number of issues to other researchers planning evaluations of virtual world projects with globally distributed participants, or over longer periods of time.

In the closing chapter Bell, Smith-Robbins and Withnail link the sometimes controversial notion of fun with learning in social virtual worlds. Traditional studies of fun and learning center around using games to teach. This can translate to game-related virtual worlds like MMORPGs but what about social virtual worlds like Second Life? The chapter explores definitions of fun in relation to learning before the authors consider social virtual worlds and explore what can be fun in these spaces which are devoid of game mechanics, particularly drawing on the work of Castronova (2005, 2008). Second Life has no challenges, rewards or other levels of achievement usually inherent in a game so this chapter explains how users have fun in a social virtual world. The authors propose that fun is achieved through recreating games, playing at business, identity play and social interactions. The chapter concludes with suggestions of how to use these forms of fun to create appropriate learning environments in social virtual worlds.

We very much hope that there is something in these pages for everyone interested in researching learning in virtual worlds, whether you are in the (dare-we-say aging) vanguard of the early adopters, or have come very recently to the field. In 2009 the Virtual World Watch study in the UK (Kirriemuir, 2009) found that there is only one higher education institution that does not now have a presence in a virtual world. The entire body of HEIs in the UK has made this move in just 3 years, indicating a belief that there is massive potential for learning in these environments but that there is little academic foundation underpinning the design of learning experiences. It is vital that researchers continue to explore learning in virtual worlds, and equally vital that we can learn from each other the tools and methods for our practice.

ReLIVE08 Conference Acknowledgments

As noted at the beginning, this book follows the ReLIVE08 conference that was held at the Open University in Milton Keynes in November 2008. We would like to take this opportunity to thank all who helped make this conference the success it was.

As Chair of ReLIVE08, Anna Peachey would like to get megalomaniacal one last time and take this opportunity to personally express the following:

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- Dr Peter Twining, Head of the Department of Education, The Open University (and Director of The Scheme Park Programme)
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- Hilary Mason, Assistant Professor in New Media and Computer Science, Johnson & Wales University (Virtual Morocco)
- Dr Jonathon Richter, University of Oregon (Salamander)
- Sarah "Intellagirl" Smith-Robbins, PhD Candidate, Ball State University
- Dr Shailey Minocha, Senior Lecturer in Computing, The Open University
- Prof. Yvonne Rogers, Professor in Human-Computer Interaction, Computing Department, The Open University
- Riad Kaisar Saba, MSEE, CISA, Assistant Professor, Assistant to the Director - IT Center and Network Manager, University of Balamand, Lebanon
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