Handbook of Research on Virtual Environments for Corporate Education: Employee Learning and Solutions

Blueprint for a Mashup: Corporate Education in Moodle, Sloodle and Second Life

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Abstract:

In 2005 the Centre for Professional Learning and Development at the Open University (OU) established a pioneering collaboration with Reuters (which in 2008 became Thomson Reuters), working together on The Management Challenge Online (TMCO), a 10-week cohort-based course for First Line Managers. The course is currently delivered in the open source Moodle environment using Flash learning modules, to a model that encourages and supports collaborative participation and deep learning of delegates.

This chapter will begin with an introduction to TMCO, providing some context and background to its development, structure and delegate groups. This has been described in detail elsewhere (see Peachey & Walshe 2008), where it was identified that "a Second Life activity programme element for TMCO would offer additional engagement potential for a significant number of participants.". The chapter will describe the virtual world Second Life and the course management integration system Sloodle before exploring the motivation and structure for integrating these new tools into the next evolution of TMCO. The chapter will propose an adaptation of an evaluation framework originally proposed by de Freitas and Oliver (2006), creating a tool for evaluating the introduction of virtual world technology into a work based training curriculum, and will outline the proposed Second Life/Moodle/Sloodle activity for TMCO in some detail.

Introduction and Background to TMCO

TMCO was established in partnership between The Open University and Reuters in 2005 in response to a demand for focused, repeatable and adaptable professional development for the First Line Managers that provide the organisational interface between middle/senior managers and frontline staff and customers. These line managers, with a variety of experience and service vested in the company, face considerable challenges managing the needs of many stakeholders, often in circumstances where time and other resources are limited. Their pivotal role in the system requires them to work across a global organisation with all the inherent challenge that implies, and significant emphasis is placed on supporting their professional development in ways that are both meaningful and flexible.

Many models of distance learning conform to an instructional, isolationist model where there is a central focus on the delivery of knowledge from the teacher (expert) to the student (novice), either directly or as mediated through instructional learning material. This form of learning is predicated upon 'facts', making it easy to assess at a distance through automated summative assessment such as multiple choice quizzes and computer marked assignments (CMAs). As noted in Peachey and Walshe, this model is currently employed by The Open University in its regular undergraduate courses, where course material is delivered online and increasingly assessed through the use of CMAs, but blended with tutor support to facilitate the student's self-directed learning and to mark and provide feedback on electronically submitted tutor marked assignments (eTMAs). Despite efforts to engage students with critical analysis and 'knowledge age skills', there remains a tendency for TMA assessment to advantage information description over ways of thinking and doing, primarily due to the scale of provision that drives a need for consistency across multiple tutorial groups.

The Centre for Professional Learning and Development (CPLD) provides a commercial facility from within the OU, catering to professional development needs by offering a bespoke service to create and deliver flexible, accessible and personalised learning that can be tailored to the needs of the participant's immediate workplace setting. TMCO was designed and evolved according to pedagogies of social constructivism (see Vygotsky 1934 and later in this

chapter) and experiential learning (see Kolb and Fry, 1974), providing participants with learning material, enabling them towards the construction of understanding from that material and the application of that understanding in practical experimentation and active workplace experience, and encouraging them to reflect on that experience within the Virtual Learning Environment (VLE). Kolb and Fry proposed that experiential learning is a cycle of abstract conceptualisation, active experimentation, concrete experience and reflective observation and that a learner may join the cycle at any point – the structure of TMCO strives to recognise the experience that participants bring to the course and to enable them to share that experience constructively. The course has evolved over its lifetime as the course team have incorporated a move from Teletop, the original VLE, into Moodle, and have adapted the course according to the manner in which participants are seen to be gaining most benefit. The pedagogy and evolution is described in detail in Peachey and Walshe but for the purposes of this chapter we are describing the course as it stands today.

The ten week online Management Challenge begins for a cohort in the week that immediately follows their participation in a three day residential workshop, facilitated by Development Dimensions International (DDI), a third partner. The cohorts of up to 30 participants are loosely grouped by area as EMEA, Americas and Asia, but within that grouping they may be widely geographically distributed and many continue to move between countries following news stories over the duration of a course.

The TMCO schedule comprises six bespoke, interactive learning modules and nine discussion forums, all delivered within the Moodle VLE. The learning modules, derived from Open University postgraduate management material, cover topics such as Knowing Your Team, Delegating, Recognising Difference and Managing Complexity. The discussion forums support various collaborative activities aimed at drawing out best practice in the workplace. Specifically, for example, the first three forums that correspond to learning modules are designed according to a 'Swap Shop' paradigm, where participants are asked to pose an issue that they need help with in their own immediate workplace and, in return, to respond to another posting with support and advice – see Figure 1: Discussion in Moodle. Alongside the online work, participants are provided with a development tool that personalises their course assignment, enabling them to create a series of work-based tasks that are based on needs identified in their immediate working environment and to draw on TMCO learning to support and reflect on their execution of these tasks - the Swap Shop topics are drawn on for this End of Course Assignment (ECA). Participants are also supported via email, through teleconferences and by assignment feedback from a coach. The coach will engage with participants individually by email if necessary, but the main role is to guide and facilitate the group to learn from the material and from each other. The coach sends out a group email at the beginning of each week with a summary of the tasks for that week and any appropriate reminders, and will also check the participation records in the VLE and contact anyone who has not been active for more than 10 days. Where appropriate the coach will respond to postings in the forums, but with a focus on encouraging interaction rather than didactic response.

Here's how it works.

When you have read this week's learning element (Knowing Your Team), please reflect on what you might do to know your team better. Do you have a particular problem with the dynamic of your team? Do they have a legacy culture you need to break? Is there one difficult member? Are they remotely located and struggle to bond? Write a summary of your problem and post it to the forum. Alternatively, if you have recently solved an issue within your team and you think your experience may benefit others, please post that instead. This sort of posting is your 'problem'.

When you see a problem that someone else has posted and you think you can help, or you would like to comment on any posting, please reply with your response. This sort of posting is your 'solution'.

Here's a reminder of this weeks Learning Outcomes to get you started:

  o Appreciate that there are different types of team

  o Identify the needs and potential contributions of team members

  o Identify a range of constructive communication behaviours in teams

  o Identify where you can, as a result, act to improve performance

Add a new discussion topic

Discussion		Started by	Replies	Unread ✓	Last post
					Andy Smith
Knowing your team		Murtuza Yusuf	4	0	
Co-ordinated Efforts			1	0	
High Expectations - Individual Needs			0	0	
Constructive Communication			1	0	
Managing expectations			0	0	
Individual Tasks & Team Tasks			3	0	
Decision making			3	0	
Needs and reality			3	0	
Comfort Zone			2	0	
Fun @work!!			3	0	

Identifying data removed   Identifying data removed

Figure 1: Discussion in Moodle

Participants who complete the minimum participation requirements for the course (it is not enough simply to have 'attended'), and who submit a completed ECA in the final week, are recognised by the company as TMCO Graduates and will attend a small local graduation ceremony to mark their achievement.

Background to Second Life and Sloodle

Second Life is a popular 3D virtual world featuring extensive opportunities for dynamic content creation and sharing. The content development tools and scripting languages are sufficiently powerful to allow users to create a richly detailed interactive environment and even their own games embedded in the 3D world (Rymaszewski et al., 2007). Free client software, available for a range of platforms, means that the initial costs of exploring and experimenting with the 3D platform are low, and this along with the freedom to create content has encouraged its use not just for entertainment, but for a wide variety of educational applications and uses. Second Life can be used quite simply as an enhanced and embodied 'chat room', allowing different users to meet virtually to collaborate, socialise or attend seminars. While such basic objectives can also be achieved with a wide range of other solutions, meeting in the 3D space

provides an enhanced sense of presence and is found by many users to be more engaging. Linden Research (2009) reports on this specifically with regard to corporate seminars and conferences held by IBM, and there is a long history of more academic research on 'presence'. Alternatively, more structured learning experiences can also be developed - from simple 3D models to complete immersive simulations. Healthcare and medical training has been one particularly productive and active area in this regard (c.f. Yellowlees & Cook, 2006; Taylor et al. 2009).

A series of reports published by the Eduserv Foundation (Kirriemuir, 2007, 2008, 2009) illustrate the rapid growth in use of Second Life and (to a lesser degree) other virtual worlds in higher and further education in the UK - with the most recent report stating that it now appears that almost all higher education institutions are engaged in some form of virtual world teaching, research or preparation. This growth is mirrored internationally, with endeavours also spreading to other education sectors. With much of the activity driven from the grassroots now increasingly receiving institutional support, use of virtual worlds in formal education settings is set to continue to grow over the coming years (Kelton, 2008).

In the corporate space, the potential of virtual worlds for training and enhancing internal and external communications has also been noted in reports by Forrester and IBM amongst others. In 2007, an IBM report (IBM, 2007) considered the role and example of massively-multiplayer online games, such as World of Warcraft, in developing leadership skills, but did not consider the use of such worlds in a business setting. The same year, a Forrester report on virtual worlds (Jackson et al, 2007) warns business strategy leaders to be realistic about short term benefits, but recommends that they start building frameworks for assessing potential business value. Less than a year later, a subsequent report (Driver, 2008) argues that within five years virtual worlds will be as important as the internet for work, noting the rapid growth of virtual worlds as real business tools with potential to reduce costs and improve the work experience. More recently yet, a case study co-authored by Linden Lab, makers of Second Life, and IBM outlines the significant return on investment (ROI) gained from using Second Life to organise and host a global conference for IBM staff (Linden Research, 2009). The report notes that the virtual conference provided many of the benefits that meeting in a traditional conference has over simply video-conferencing a number of presentations, and notes the greater social nature and sense of presence in a virtual world.

In fact, virtual worlds have been used in workplaces to support socialisation and as a platform for delivering training for longer than most people suspect (see, for example, Churchill & Bly, 1999), but it is clear that such use is only now emerging from the fringes, driven by the popularity and flexibility of the likes of Second Life. There are still a number of issues which can limit the acceptance of virtual worlds in the workplace, however. Setting up an environment can be a challenge for those lacking experience, and basic tasks such as navigating the 3D environment and communicating with others can be difficult for the un-initiated, although this is likely to become less of an issue over the coming years (Driver, 2008). A quite separate challenge is that posed by the lack of integration between the 3D training environment and existing web-based systems for supporting training and communication across the enterprise. Whilst effective for a range of role-play activities and simulations, virtual worlds are distinctly lacking at handling long form documents, or providing tools for tracking learner progress, conducting assessment and measuring student performance against learning outcomes. Conversely, these are some of the areas where web-based learning management systems (LMS) such as Moodle, Blackboard, Angel Learning or Desire2Learn excel, and are widely used in both formal education, government and corporate training contexts.

These factors helped motivate the development of SLOODLE - the Simulation-Linked Object Oriented Dynamic Learning Environment - a plugin for the popular open-source Moodle LMS which provides integration with, and teacher and student tools for, Second Life (Kemp & Livingstone, 2006). An alternative, and complementary, description is that SLOODLE is a plugin for Second Life which provides access to a Moodle backend for learner and teacher support.

SLOODLE provides a range of tools and features intended to support teaching and learning in Second Life. Some features are administrative in nature – such as providing a means for identity authentication between the web and 3D environments – matching the online identities of users who will typically have differing user names on the two systems. A virtual drop-box allows students in the virtual world to submit their own digital models and 3D creations and creates corresponding gradebook entries in Moodle recording submission details and allowing facilitators to grade work in the same web-based environment used for other parts of a course.

Other tools aim to support common teaching tasks. A presenter tool simplifies the creation of visual presentations in Second Life, allowing tutors to use a custom Moodle page to easily create presentations which may mix images, web-content and videos which can then be 'streamed' into Second Life. Presentations may be part of some lecture or created as part of a self-paced immersive learning environment. Without the presenter tool, tutors need to manually prepare images for presentation, upload these into Second Life, and then manually add these to some other in-world tool – a lengthy and time consuming process. Simple typographic errors or content changes can result in a requirement to repeat all these tasks.

Remaining tools are more in-line with the underlying social-constructivist pedagogical philosophy of Moodle – supporting different means for student engagement, dialog and reflection. A web-intercom mirrors typed chat between Second Life and a Moodle chatroom. This helps make conversations in Second Life accessible to a wider audience and also allows Moodle to act as a repository for archived conversations. This allows students and facilitators to review dialogue, and has proven valuable for students needing a means to record group decisions, and for those (such as students learning a foreign language) who wish to take time to review and reflect on previous discussions. Finally, a toolbar provides means for enhancing virtual conversations with a range of common gestures and for recording reflections and notes direct from Second Life to their Moodle blog.

In a subsequent section we highlight a few of the SLOODLE tools, highlighting how some of the features it provides can be used to support TMCO. A side benefit of integration that is worth noting briefly is that it can also aid acceptance of the organisational use of virtual worlds - some users of SLOODLE report that as colleagues and students become aware that the 3D environment links to their LMS they accept that it is indeed more than 'just a game', and some barriers to the introduction of Second Life are lowered.

Proposed structure and pedagogy for bringing a course such as TMCO to Second Life

In bringing an established, successful course such as TMCO into a virtual world it is imperative to identify the clear benefit to the participant, and to be certain that we are not 'doing it because we can'. This temptation is often recognised and cautioned against in the field of e-learning generally, for example Graham et al (2000) states 'Students must not feel that e-learning is just an afterthought tacked on, and therefore strong links with the subject aims must be evident'. Put simply, there must be a need before there is a solution. In this section we identify how the need in our case study was recognized and translated into pedagogy before the solution was found, creating a mashup model for the new course proposal.

The development of the course to date has done much to move away from repetitive training that meets an abstract conception of course delivery and instead work towards situating participant's learning in the domain of their practice, taking the theoretical notions from the learning modules and encouraging participants, where relevant, in shared problem-solving of real issues from the workplace. Comments from ECAs have reflected the positive value of this, and the swap shop style of learning in the first half of the course is now well established. However, participants from all three cohort regions have also consistently reflected through ECA comments and email and forum feedback that they would like to see more case study work in the course, and more opportunity for the role-play that they have valued in the face to face workshops. Table 1: Course Review/Proposed Course shows a scheduled review of the course by the lead tutor identifying several areas for change, creating the opportunity to draw in the suggestions for case study and role-play.

Week	In Moodle	Reflections on existing course	Recommendations for change
0		Face to Face course, participants are shown screenshots of Moodle	Face to Face course
			Participants to see machinima of Second Life, receive instructions for getting online.
			Resource activity has now become a database of useful resources that transfers from course to course, so any participant can add/access at any time
1	Common Room: Introductions	Difficult to find the balance between not overloading in first week (as with earlier version of course) but maintaining group focus on keeping momentum going and seeing this as continuum from face to face course.	Social event in Second Life to allow socialisation with environment and to provide synchronous point of focus for continuation of group working as cohort. Also provides early opportunity to link avatars to Moodle IDs (for Sloodle) and address any fear factor.
2	Knowing Your Team: Learning module Discussion forum: ECA swap shop	Weeks 2, 3 and 4 are the strongest element of the course at the moment with significant engagement and contribution from the majority of most cohorts.	No change
3	Delegating: Learning module Discussion forum: ECA swap shop		No change
4	Managing Key Relationships: Learning module Discussion forum: ECA swap shop		No change
5	ECA Introduction: Template and sample provided Time allowed for development	Networking calls Although the time in this week is allocated for working on part one of the ECA, many participants see it as a break and don't work on the ECA until the following week when prompted by individual reminders.	Networking calls Exchange forum brought forward into same week as ECA introduction to combat sense of 'week off'. Voting opened on choice for role play topics
6	ECA Exchange: Discussion forum: Exchange of development plans	Most work in this forum occurs during weeks 7 and 8	2 separate Second Life sessions (weeks 6 and 7 to allow flexibility in timing) where participants work in pairs to role-play one to one interviews. Interviews are streamed back into Moodle for reflection in weeks 7 and 8.
7	Recognising Difference: Learning module Discussion forum: Relate a learning outcome to personal experience	This is consistently the least used discussion forum, averaging just 3 or 4 postings during week 7. My requests for feedback indicate that participants find it a useful and relevant module so the issue is not with the module, but perhaps with the loss of momentum following the 'time out' period for working on the ECA. Current discussion – sharing experiences of difference – is clearly not sufficient to draw participants in.	

8	Projecting Yourself: Learning module Discussion forum: Resource gathering activity	Discussion forum for this module is currently a resource gathering exercise, attracting perhaps up to 8 postings in the closing weeks of the course. There continues to be value in sharing additional resources but propose moving this to an editable database within Moodle that runs concurrent to the course and can be accessed/added to at any time. The database can be copied from cohort to cohort and continue to build.	
9	Managing Complexity: Learning module Discussion forum:	Reflective discussion forum asking participants what they will take forward from the course.	
10	Submit ECA Discussion forum: feedback and farewells	Use of this forum varies considerably depending on the cohort. Any feedback provided usually reflects personal preference and is rarely valuable to the course. Participants often discuss routes for keeping in touch as a group without any significant conclusion.	Instead of feedback on course participants now asked for footprints to leave for next cohort. Participants informed about Facebook group – direct link to be provided in feedback email to those who have submitted ECA.

Table 1: Course Review / Proposed Course

As the second half of the course sees an average drop-off in forum participation of up to 75% there is clearly room to change the means by which learning is supported across this area, so we have scope and subject to be developed. The challenge then becomes how to combine role-play and case study as the participant's preferred modes of learning within the context and logistical restrictions of the course.

In pedagogical terms it is apparent that participants are looking for more opportunity to construct meaning from theory. The seminal research positions in this tradition come from Vygotsky's theory of social cognition (1934) and Piaget's developmental theory (1936).

The course team, recognising that social constructivism was already a successful pedagogy within TMCO, returned here to source the next development of the course. Social cognition theory emphasises the significance of societal context in learning, where meaning is socially produced and situationally interpreted. Vygotsky proposed that the ability to construct meaning through systematic organisation of information is initially culturally developed or imposed, but transfers structural organisation into personal meaning by a process that comes from an understanding of everyday concepts mediated by previous social and cultural development. He recognised these everyday, experiential concepts as *spontaneous* and those that are externally imposed through cultural development as non-spontaneous or *scientific*. Cognitive development therefore comes from a dialectical process of shared problem-solving as the learner passes through the Vygotskian zone of proximinal development - a state of transition from needing help to becoming independent in a task - assimilating the scientific into the spontaneous.

The challenge for TMCO is to create conditions where a participant's spontaneous concepts can encounter and ultimately become controlled by the scientific concepts that the course seeks to impose, and to provide the structure for shared problem solving through tutor or peer support (known in the Vygotskian tradition as scaffolding). This practice is established in the swap shop element to the course, which is currently the most successful element, but to repeat the swap shop model in the second half loses freshness and may push participants beyond their willingness and/or capacity to assist each other with this sort of direct solution. This solution would also ignore the calls for case study and role-play as favoured and familiar modes of learning, and the practice in interpersonal skills that role-play provides. Bailey and Butcher (1983) emphasised that effective interpersonal skills training should develop perceptual, cognitive, and behavioural skills components, and the requests for role-play highlighted an emerging need for greater interaction in the revised course. Simpson and Galbo (1986) define this as '...behavior in which individuals and groups act upon each other. The essential characteristic is reciprocity in actions

and responses in an infinite variety of relationships: verbal and nonverbal, conscious and nonconscious, enduring and casual. Interaction is seen as a continually emerging process, as communication in its most inclusive sense' (p. 38).

Moodle provides the capacity for collaborative work through applications such as the wiki or database, and the database has been adopted into the proposed course for resource building (see Table 2: Proposed Course), but there were no forthcoming solutions that met all the requirements by exploiting the VLE alone.

Laurillard (2002) poses that 'it is legitimate and necessary for teaching to go beyond the specific experience, to offer symbolic representation that allows the learner to use their knowledge in an unfamiliar situation.' Many recent studies have aligned social cognition with the emerging pedagogies of learning in virtual worlds and so the course team began looking towards this relatively new media for an innovative solution. Second Life was the virtual world of choice as The Open University has an established presence in this environment and so financial investment both in research and direct costs would be kept to a minimum. The lead tutor on TMCO has worked with Open University student groups in Second Life since 2006 (see Bennett and Peachey 2007), enabling a confidence and familiarity with both the advantages and disadvantages of facilitating learning in this complex setting, and had supported the OU Human Resources department in a successful pilot study using inworld role-play for professional development within the university (see Peachey, Broadribb, Carter and Westrapp in press).

Second Life offered an obvious solution for the role-play, but as a stand-alone element work was needed to integrate it successfully into the existing course. A solution was proposed that exploited the mashup potential of SLOODLE to integrate Moodle and Second Life, and enabled the role-play to provide material for a case study to be met through a model of social cognition.

The course team's understanding of the course and participant pedagogy, and our experience with Second Life, has led to the changes proposed in Table 1: Course Review / Proposed Course. In order to demonstrate a thorough critical evaluation for this development, the course team looked for an evaluation framework that supported curricula development in virtual world contexts. In 2006 De Freitas and Oliver noted that, 'Currently when tutors are thinking of introducing games- and simulation-based learning into their practice, they are faced with several questions, for example:

- Which game or simulation to select for the specific learning context?
- Which pedagogic approaches to use to support learning outcomes and activities?
- What is the validity of using the chosen game or simulation?'

They posed that at time of writing there was '[...] an over-reliance upon using available methods of evaluating leisure-based games (Kirriemuir & McFarlane, 2004)' leading to problems such as 'a mismatch between methods and content, the use of inappropriate terminology and concepts, and the use of approaches not based upon evidence-based research.' De Freitas and Oliver acknowledged the existence of general recommendations about the design of games for learning (e.g, Amory & Seagram, 2003) but argued that these recommendations were not useful to the stakeholders and consumers who wanted to employ such games. They developed a contextual evaluation framework to support educators in evaluating the potential use of games and simulations in their practice, and to promote a critical approach to the use of games and simulations in an educational context. Their checklist is a very practical tool for educators in a school, college or university setting who are considering the merits of embedding a games-based simulation into their curriculum. We have adapted the tool to make it relevant for evaluating the use of virtual world technology in work based training, and present this in Figure 2, below:

Context	Learner specification	Pedagogic consideration	Mode of representation (tools for use)	Costs

What are the geographical locations for learners?	Who is the learner (eg role within company, business unit etc)?	Which pedagogic models and approaches are being used?	Which software tools or content would best support the learning activities?	Will existing trainers/coaches have requisite skills? What are the costs of training the trainers?
Will location affect ability to participate in synchronous activities (eg time difference, level of resources, accessibility, technical support)	What is their background and learning history?	Which pedagogic models and approaches might be the most effective?	What level of fidelity needs to be used to support learning activities and outcomes?	Will external expertise be needed to set up learning activities, and will this expertise be needed for support on an ongoing basis?
Will learners be given time to access at work or will they be expected to access from home?	What are the learning styles/preferences? Who is the learner group?	What are the curricula objectives? What are the learning activities?	What level of immersion is needed to support learning outcomes?	Can the training be established in a private space in a publically accessible virtual world, or is a bespoke environment required?
Does this context affect learning? (e.g. level of resources, accessibility, technical support)	How can the learner or group be best supported?	How can the learning activities and outcomes be achieved through existing virtual world technology?	What level of realism is needed to achieve learning objectives? How can links be made between the virtual world and reflection upon learning?	What are the costs of establishing a presence in the virtual world? Can space be rented temporarily or is a permanent presence necessary?
How can links be made/reinforced between the course and the workplace?	In what ways are the groups working together (e.g. singly, partially in groups) and what collaborative approaches could support this?	How can the learning activities and outcomes be achieved through specially developed software?	Can the virtual world be integrated with existing facilities?	Do resources need to be purchased or created? Can these be re-used or repurposed from existing resources?
How will the course be promoted to learners? Is participation mandatory?	What are the advantages to the learner in participating in the proposed activity/activities?	How can the learning activities and outcomes be integrated with any existing course provision, where relevant?	How can participation be tracked/captured/assessed? What are the security implications for working in this virtual world?	What are the costs of establishing multiple user accounts? Will accounts be reused between groups, or should each learner have a new account?
	What are the risks to the learner in participating in	How can briefing/debriefing be used to reinforce learning		

		the proposed activity/activities?	outcomes?		

Figure 2: Proposed framework for evaluating the use of virtual world technology in work based training

A key addition made for this context is the fifth column, costs, which is often a primary consideration when evaluating the introduction of new technology for training and may be particularly difficult to approach for those who are considering a first foray into virtual worlds. We have also taken the opportunity to acknowledge the potential for greater variety in learning contexts in a commercial environment, for example in TMCO participants may be in any country/timezone in the world and may be accessing from work, from home, or from a laptop in the field via satellite connection. Using this adapted tool has enabled the team to apply an objective framework to evaluating the new course proposal and to confirm the validity of the move into virtual worlds.

Student as Avatar

According to the proposal for the new course, participants would be allocated their avatar, watch a machinima[1] of some appropriate inworld activity and be talked through the process of the Second Life and Sloodle activity during a dedicated section of the face to face workshop, so that they are prepared for the socialisation activity in the first week of the online course. In this activity they will simply meet inworld and have the opportunity to practice working with an avatar, personalise it should they so wish, and reconnect with colleagues from the workshop. The provided avatars would be wearing generic business apparel, individualised sufficiently that no two avatars in the pool are matching.

The avatars would also have a small selection of clothes and accessories in each inventory, so that participants may personalise their outfits if they so choose, and the environment enables radical individualisation of each avatars bodily characteristics should users wish to experiment, or to reflect aspects of their own appearance – see Figure 3: Personalising the avatar.

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[1] Machinima is a film created inworld in a virtual world or game

Figure 3: Personalising the avatar

Avatars would have names drawn from a variety of nationalities, reflecting the global range of participants, and there would always be sufficient available to enable the correct gender allocation. It is acknowledged that whilst some users view the avatar simply as a tool with which to augment reality, others need to feel engaged and have some sense of ownership of their virtual body in order to mediate comfortably through it. The proposed compromise of providing ready-to-go avatars yet enabling personalisation seeks to meet as many preferences as possible, and as a relatively innovative activity will be monitored closely with feedback sought from early participants.

In 1998 Wenger noted that "We define who we are by where we have been and where we are going" (p. 149) and argued that learning has a significant and profound impact on personal identity, as identity is mediated and evolves through our experience of learning. The issue of identity management in virtual worlds is a rapidly emerging field with many complexities far beyond the scope of this chapter but it is clear that there is a necessary triangulation for TMCO participants to manage their developing identity as a learner with their online identity as mediated through the Moodle environment and their identity as an avatar in a virtual world. This should be given due consideration in course planning and management where associated risks should be identified and mitigated for, especially for example in briefing and debriefing from role play activities. Further reading on identity and issues for learners in virtual worlds may be sought with Yee (2006), Robbins (2006), Meadows (2008), Adrian (2008), Ball and Pearce (2008) and Peachey (in press). It is suggested that the subject of how the TMCO participants relate to their avatars and to the management of their identity throughout the course would provide rich scope for a research study independent of general course evaluation.

Working in Second Life and The SLOODLE Mashup

As noted in the timetable of activities in Table 2: Proposed Course, the proposed use of Second Life within TMCO focuses primarily on two role-play activities, selected from a list of role-play scenarios by the TMCO delegates themselves via an online vote. A number of role-play scenarios have been conceived, the following example is given for illustrative purposes:

John(/Jane) has previously been a happy, outgoing team player but in the last month has started coming in late and leaving early, has missed several key deadlines and seems unhappy and distracted. The team leader has called John in to discuss his behaviour.

If this scenario were then selected by the cohort then pairs of participants would be given the interview to work through, with one of each pair being asked to role play John(/Jane), the other acting as the team leader. A notecard provided to the student taking on John's role provides the backstory, and different pairs would receive different stories, e.g.:

"You are John. Until recently you have been a productive member of the team, but last week you went for an interview elsewhere, didn't get the job and have been left feeling dissatisfied with your current role at Thomson Reuters"

"You are John. Until recently you have been a productive member of the team, but currently your mother-in-law is very ill and you are managing additional family commitments while your partner is away caring for her."

"You are John. Until recently you have been a productive member of the team, but a recent argument with a co-worker means that you now find it very uncomfortable to be around him in the office"

"You are John. Until recently you have been a productive member of the team, but you are currently concerned that another team worker is receiving more responsibility in delegated work and you haven't felt able to raise this."

The voting would be managed using one of the standard Moodle activities – the aptly named "Choice" activity. This activity, which provides a mechanism for conducting online polls and votes within Moodle is also accessible via Second Life using a corresponding SLOODLE choice tool (see Figure 4: Sloodle Course Choice Tool). This allows users to vote, and to preview the poll results in both Moodle and in Second Life. Providing these alternative interfaces to the poll creates an additional opportunity and introductory virtual world activity for delegates already familiar with Second Life and for those wishing to familiarise themselves with the 3D environment prior to the role-plays.

Request for increased line management support [2]

Delegation of boring/repetitive jobs [1]

Performance evaluation interview [3]

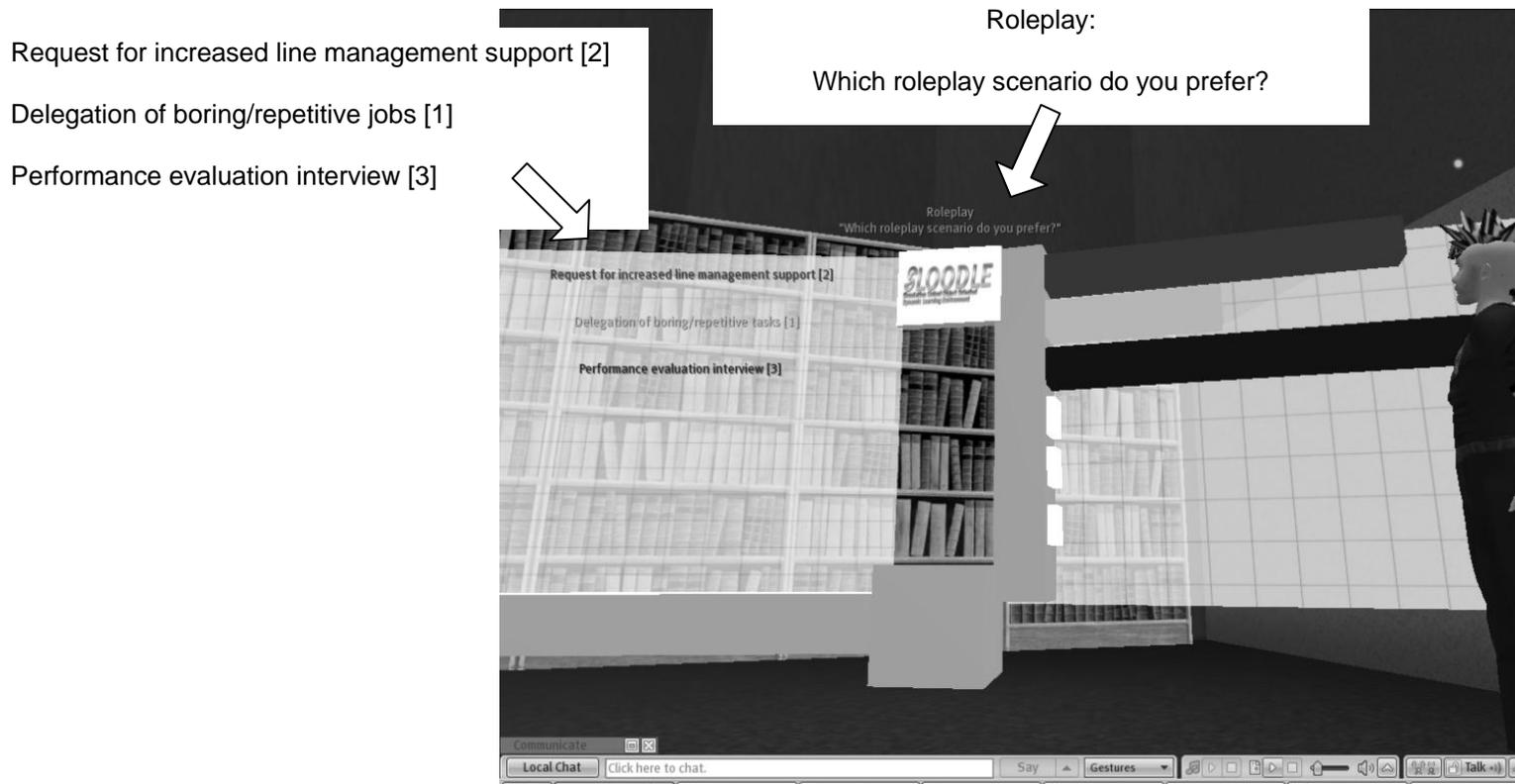Roleplay:

Which roleplay scenario do you prefer?

Figure 4: Sloodle Course Choice Tool

With pairs assigned, and suitably briefed, a prepared office setting in Second Life is then used for conducting the interview. There are two distinct communication modes that can be used for role-playing such meetings in Second Life. Integrated Voice-over-IP (VoIP) software allows users to talk to each other, and typed 'chat' communications also allow synchronous conversation. Despite the near universality of voice communications in Second Life, many users still prefer to use typed conversation. In a role-play scenario, especially where participants know each other, typed conversations help enforce a level of anonymity which may support immersion in the role-play. Spoken communication offers access to a wide range of voice cues, and allows more natural communication - especially where participants are slow typists.

Role-play in a virtual recreation of a real world setting, similar to this proposal, has been shown to be effective in previous work, for example Hudson & Degast-Kennedy (2009). There are several ways in which such a role-play may benefit from integration with Moodle. If the role-play is conducted primarily using typed chat, then the SLOODLE web-intercom can be used to copy all chat to a Moodle chat-room which can act as an archive of all such interviews. These can later be accessed via the Moodle web-interface and reviewed. The value here is that assessors then have a complete archive for review, allowing them to both grade and to highlight strengths and weaknesses. Students may review their own sessions for reflection. Previously, in a language learning setting, similar review was found to be useful - making typed conversation a valuable part of a course that also included VoIP enabled spoken conversations

(Livingstone, Kemp, Edgar, 2008). Usefully, the archive on Moodle lists the student name as recorded on Moodle as well as the avatar name - ensuring that the anonymous avatar chat is correctly associated with the corresponding students. A SLOODLE toolbar can be used by students to provide additional conversational cues, with common body language gestures such as nodding or shaking their head. Common gestures such as these can add to a role-play but are otherwise difficult for users new to Second Life to perform.

When using voice communications, the intercom is unable to archive the dialogue. However, where the audio from such sessions is recorded, it is still possible to use Moodle as an archive of interview sessions, though this will require additional manual intervention from tutors. Freeing students from having to type their responses, however, allows freer use of hands to control avatars. Here, the SLOODLE toolbar may be used to enhance the student communications or allow them to record notes during the interview while remaining engaged in the virtual world. It would fall to the TMCO facilitator to record the interview audio and upload to the Moodle forum – either as simple file upload or using one of a number of audio plugins available for Moodle (such as Audio Recorder or Audioconference module).

Following the role-play in week 6 the facilitator would choose one or two of the role-play discussions for group review and discussion in weeks 7 and 8, with permission from the participants involved. Thus, the virtual world activities – using the SLOODLE tools as required to aid logging and/or to enrich the interactions – are embedded within the larger course context.

Conclusions

After critically evaluating the new course proposal, the next step is to pilot the course and to evaluate the participant experience. Evaluations of courses that engage technology often provide more evidence of the functionality of the hardware/software than of the student experience, and the TMCO course team are keen to maintain an appropriate focus in this next piece of work. Laurillard (1994) writes about how technologies can be used to improve learning and reflects on a number of evaluative studies on the implementation of new technology that have, she comments, 'predictable outcomes' - for example it is necessary to have the right specification of hardware and software, and to be sufficiently competent in using it. These findings are so common that she argues they should be regarded as replications rather than findings. Laurillard poses a multitude of potential influences on a student's experience of any given activity with any given technology at any one time, including social, cultural and professional aspects of persuasion, and argues that this complexity of context must be mitigated for so that it can be removed from the equation when evaluating the fundamental question of whether/how a learning technology is improving learning. She defines a number of causal relationships within these contexts, and then presents an array of logistical factors that enable a facilitator to manage as many aspects of the student experience as are within their control. If these conditions are applied with the development for TMCO, then the evaluation should provide a truer measure of the student's engagement with the activity rather than, for example, their misfortune with the technology or inadequate preparation.

TMCO is a successful and established course. It has an average first time completion rate of about 85-90%, which is high given the context and responsibilities of the participant groups. Nearly all who withdraw during their first attempt do so because of extraordinary work commitments taking priority, and are encouraged by their local training champion to come back and complete with a later cohort at a more convenient time. Qualitative reflections from TMCO graduates are generally positive, and cite the collaborative activities and the opportunity to learn from peers as highlights of the course, but note that role-play and case study would be valued as additional learning tools. By looking backwards at what has worked well, and by looking forwards at new opportunities, the course team have identified a restructuring of the course that has the potential to build on existing strengths and engage students more deeply with their learning in an exciting new environment. The team have recognised the danger of adding 'technology for technology's sake' and have strived to apply a critical process of evaluation to the new course proposal, creating a tool that can be applied across the platform for training in virtual worlds.

In the last few years use of virtual worlds has expanded from niche into a rapidly increasing global commercial market. In 2006 the Open University was one of the first UK universities to have a presence in a virtual world; in 2009 there is only one university in the UK who does not have any form of activity taking place in such an environment. Where academia and front end research leads, the commercial world is quick to follow. Mahaley (2009) comments, 'As learning leaders continue developing people even as budgets are constrained, virtual worlds provide a new locus for learning – always there, as big as you need them to be and right at your fingertips'. We hope that readers will find our experience and reflections to be of practical value in their own circumstances, and will consider the merits of engaging with the huge potential for corporate training in virtual worlds.

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