Chapter 10
Utilising Second Life Machinima-Facilitated Narratives to Support Cognitive and Imaginative Engagement Across an Undergraduate Curriculum

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The Traditional Approach to Legal Education and Impetus for Change

Like many disciplines, legal education in Australia has undergone substantial change in the past 20 or so years, with change accelerated with the advent of the digital age. Nevertheless, it is still the case that in many ways it has struggled to completely shed the shackles of a traditional model of learning and teaching. Keyes and Johnstone (2004) identified the dominant characteristics of this model as including a teacher-focus, in which academics transmit material from within their own expertise in specific areas of law to their students. In this model, "most teachers uncritically replicate the learning experiences that they had when students, which usually means that the dominant mode of instruction is reading lecture notes to large classes in which students are largely passive" (Keyes and Johnstone 2004, p. 239). The model is almost entirely focused upon transmission of content knowledge, an approach that can trace its pedigree to the late nineteenth-century attitudes exemplified by the declaration by English jurist Dicey in 1883 that nothing "can be taught to students of greater value, either intellectually or for the purposes of legal practice, than the habit of looking upon the law as a series of rules" (Allison 2013, p. 499). A hallmark of the traditional approach is the teaching of doctrine and legal rules from case law (Pearce et al. 1987).

A negative consequence of the teacher-focus of the traditional approach is that it is apt to lead to surface, rather than deep-level learning, a process that has often been described as involving that which is written on the lecturer's page being transferred to the student's page without passing through the mind of either

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(Eison 2010). By contrast, it has been extensively argued and indeed demonstrated that instruction that is more student-centred in design can lead to deeper under-standing, an increased motivation to learn, greater knowledge-retention and an overall more positive attitude to the material being studied (Bonwell and Eison 1991; Johnson et al. 1991; McKeachie 1986; Meyers and Jones 1993). There may also be an implication inherent in a teacher-focus approach that success is to be measured by how well students regurgitate in assessment what they have been told in lectures (James 2000).

Another negative consequence is that governments and universities may be led to believe that the legal education may be provided for relatively little cost (Thornton 1991). Under the Australian system, the Commonwealth Government provides funding for public universities on the basis of a differential system, with different groupings or "bands" of disciplines receiving different levels of funding. At the same time, student contribution to the cost of higher education is also based on a differential system. Currently, legal education is in the lowest band for funding but assigned to the highest band for student fees. The result is that Australian law schools are starved of funding while their students pay full price for their degrees (Keyes and Johnstone 2004). This has had serious implications that have impeded the development of curricula for decades (LCA 2008). In particular, it has generally impeded law schools from deviating from the traditional approach (Johnstone and Vignaendra 2003). However, despite calls for reform (e.g. Pearce et al. 1987), this funding model persists today.

Nevertheless, the traditional approach faces challenges on a number of fronts. From as early as the 1990s, there was a series of reports in the USA (ABA 1992), England (ACLEC 1996) and Australia (ALRC 1999) that were critical of the content focus of the traditional approach—what lawyers need to know—and urged a shift to include an inclusion of skills and values acquisition and training in law curricula—what lawyers need to do. Nonetheless, with a few exceptions, these pleas failed to produce real change (Kift 2008).

There has been a rapid increase in the number of law schools in Australia since 1989. In the period from 1855 to 1989, there were twelve law schools. By 2014, there were 36, for a country which has a population approaching 23.5 million people. This growth has had a number of implications. It has meant that more students of varying backgrounds are undertaking law degrees. This, together with the high price of a law degree, has led to a commodification of legal education, with some law schools seeking to emphasise their distinctiveness and to distinguish themselves from other law schools, especially their local competition (Johnstone and Vignaendra 2003). At the same time, the legal profession has itself undergone dynamic change, driven by factors such as globalisation, competitiveness and competition reform, information and communications technology and a shift away from adversarial court proceedings as the main form of dispute resolution (Kift 2008). This climate and the close association that remains between the legal pro-fession and law schools (Keyes and Johnstone 2004) have provided powerful stimuli for change.

A further powerful stimulus has been a climate change of another nature. The demands of modern students, particularly those born into the digital age, in terms of their preference to study when, where and how they want, have been well canvassed (e.g. Frand 2000; Kift 2009; Oberlinger 2003). Modern students also exhibit changed patterns of engagement and disengagement (Kift 2008), often leading to low attendance in traditional transmissive lectures. Low attendance may additionally be attributable to students now juggling the competing time commitments of their work (in many cases necessitated by the high student contributions that they must pay), study and leisure (Moreau and Leathwood 2006; Tarrant 2006).

Machinima-Facilitated Narratives

The use of narrative is part of the human condition. Bruner described it as a "natural expressive form for any age and culture" (1990, p. 43). Narrative has been recognised as being able to assist in the development of cognitive abilities and the organisation of knowledge (Schank 2000). According to Wertsch (1998, p. 81): "The cognitive function of narrative form is not just to relate a succession of events but to body forth an ensemble of relationships of many different kinds as a single whole". Similarly, Ricoeur (2005, p. 278) saw the activity of narrating as involving the construction of "meaningful totalities out of scattered events". Dettori and Paiva (2009) considered the configuration created by relationships among narrative elements to be a crucial aspect for promoting active thinking and providing support for the construction of meaning.

A narrative may not only convey important information. It may also provide "contextual cues" that enable information to be recalled in comparable situations (Ferguson et al. 1992). Rowe et al. (2007, p. 1) described the unique ability of stories to "draw audiences into plots and settings, thereby opening perceptual, emotional and motivational opportunities for learning". Narratives are capable of facilitating students' semantically encoding new information, as well as committing material to long-term memory (Ormrod 2004). In addition to aiding cognition, narratives can promote intrinsic motivation by encouraging active involvement and stimulating curiosity and imagination (Malone and Lepper 1987; Rowe et al. 2007).

Narratives are not limited in their nature or the language that they use. Accordingly, they may be true or invented, and depicted by words, text, static or moving pictures or a combination of these (Dettori and Paiva 2009). Technology, including 3D graphics and animation, is able to take advantage of, and enhance the learning potential of narrative in a variety of ways and for a variety of purposes (Dettori and Paiva 2009). It has been recognised that technology is capable of being an effective alternative to real-life learning experience such as clinical exercises, without the need to sacrifice the essential authentic context (Herrington and Oliver 2000). The use of 3D graphics and animations enables virtual characters and virtual settings to present essential information and set tasks in a simulated environment

and may therefore be an effective means of creating such an authentic learning environment (Agostinho 2006).

While professional 3D graphics and animation productions may be a stretch for many or most tertiary education budgets, especially the budgets of Australian law schools under current funding arrangements, machinima is relatively cost-effective means of creating effective learning environments (Middleton and Mather 2008). Machinima—a portmanteau of machine and cinema—has variously been described as "animated film-making within a real-time virtual 3D environment" delivered as digital video (Daly-Swanson 2007, p. 1), "real-world filmmaking techniques applied within an interactive virtual space where characters and events can be either controlled by humans, scripts or artificial intelligence" (Dellario and Marino 2005) and "making animated movies in real-time with the software that is used to develop and play computer games" (Lowood 2006, p. 26). Middleton and Mather (2008) suggest that machinima emerged in 2001 as a means of gamers sharing and celebrating their first-person shooter exploits with fellow gamers. However, its true origins as a narrative platform may be traced to a group called "The Rangers", who in 1996 made a video called "Diary of a Camper" using the *Quake* game to incorporate a storyline and characters (Kastelein 2013; Lowood 2006).

While a number of virtual worlds may be capable of supplying the necessary 3D graphics, such as *The Sims* and *The Movies*, the range of functionality provided by the Second Life virtual world, including the freedom to customise not only characters but also the props and indoor or outdoor environments in which they interact, and the way they are animated together with the camera angles with which to view the action, makes it highly adaptable to producing machinima for the purposes of incorporating narrative in learning (Bardzell et al. 2006).

Machinima in the QUT Undergraduate Law Curriculum

Development of machinima-based programs in the QUT undergraduate law curriculum has not been the result of an integrated master plan but rather has proceeded as a progressive evolution, the success of earlier programs paving the way for the development of further programs. The first program, *Air Gondwana*, was introduced into the then first-year undergraduate law subjects, Contracts A and Contracts B, in 2007 as a means of teaching the skill of negotiation. Since then, seven more machinima-based programs have been implemented across seven different subjects. All utilise machinima created using the Second Life virtual world, with screen activity recorded using the FRAPS video capture program. Voices for characters have been provided by the author and other members of the law school staff, students and friends (a total of 48 characters being voiced by 35 different people) and recorded separately using the Audacity program, with video and audio then edited by the author using Sony Home Studio software. Still images were created using the in-built snapshot feature in Second Life. Apart from the voice work by colleagues and others and, where necessary, advice or input from

colleagues concerning substantive content in areas of law outside of his expertise, all of the programs have been solely created by the author, without the need for formal training or background in multimedia or film production, and without the need for technical support in software or multimedia development. Online components of programs are accessed by students via modules created using Articulate Storyline 360 authoring software which are uploaded to the university's Blackboard Learning Management System.

The programs not only embrace a variety of areas of law across different stages of the degree but also range in focus from substantive content (e.g. criminal law and contract law) to practical skills (e.g. negotiation and interpretation of statutes), and ethical awareness and professional responsibility. They also vary in the degree of integration in subject curricula, some only addressing discrete portions of subjects while others range across multiple weeks or entire semesters. Some are used for formative purposes only while others facilitate summative assessment.

The programs are stand alone in the sense that each may be undertaken independently without requiring the prior completion of any of the other programs. Nonetheless, in the light of the promotion of engagement achieved through the use of narrative in *Air Gondwana*, and notwithstanding the absence of an overarching plan, programs developed subsequently are linked by storylines forming part of a common narrative featuring recurring characters, forming a universe of virtual people, settings and relationships that are collectively dubbed "The Complex Narratives Project" (see Fig. 10.1).

Where necessary "flashback" sequences are used to pick up elements of narrative from previous programs so that students do not need to remember those previous elements or be at a disadvantage if they did not do the previous programs (e.g. if they transferred from another university). A brief survey of the programs and the storylines running through them is warranted to explicate the wide potential offered by machinima and the narratives that it may portray.

In their Introduction to Law subject in the first semester of their first year, students undertake *Indigo's Folly* which facilitates their study of the skill of statutory interpretation. This is a skill that is crucial for legal practice, with the ever-increasing proliferation of statute laws, but one with which is notoriously difficult to engage students using traditional approaches. The program uses machinima videos to depict a narrative involving Ian Indigo, the owner of a warehouse property, who seeks advice from Jess Astrild, a lawyer with the fictional Odin's Lawyers law firm, concerning the interpretation and application of the variety of statute laws governing the conversion of the property into a night club, "The Sapphire Club". These machinima videos are complemented by a range of documents such as simulated Acts of Parliament and Hansard (the reports of proceedings in parliament), with their interpretation and application being discussed in small group tutorial classes. The program also includes several modules of multiple-choice questions, created using the Articulate Storyline 360 program, which comprise fact scenarios also based on the Indigo narrative, illustrated by Second Life images as a means of assisting cognition of the facts, and which provide feedback on both correct and incorrect responses.
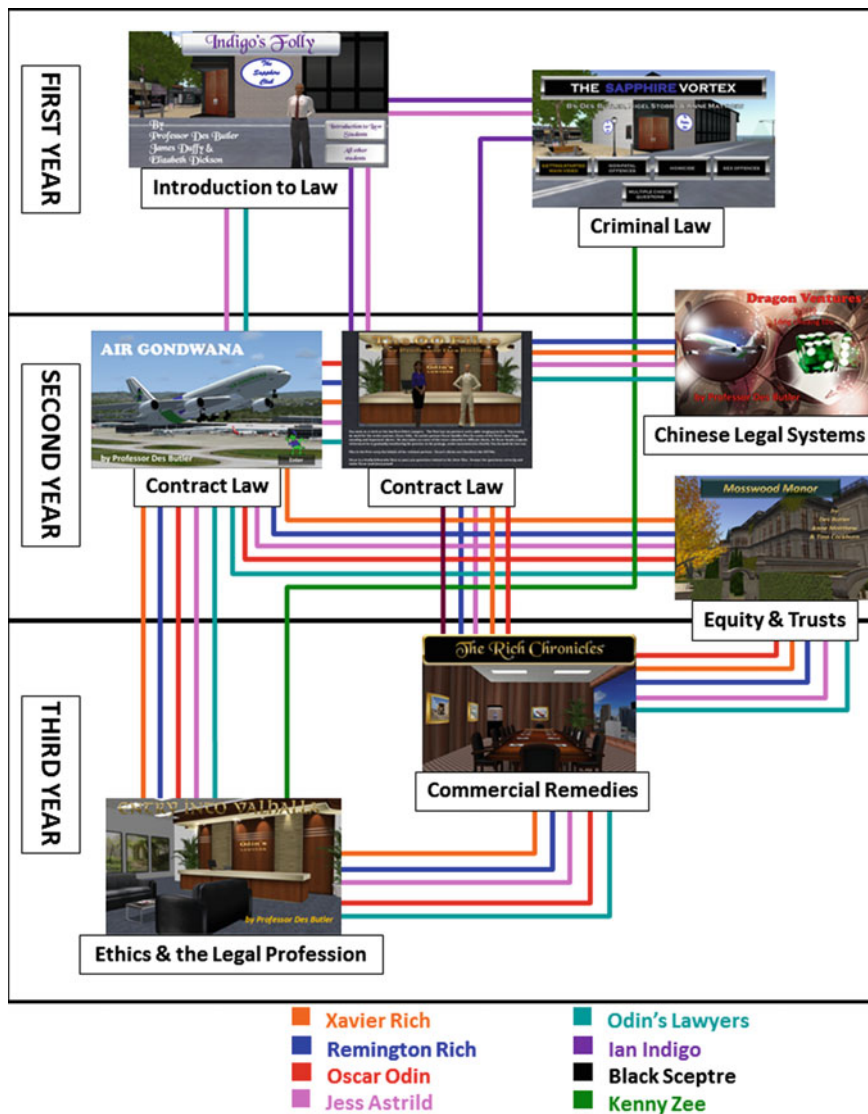
Fig. 10.1 "The Complex Narratives Project": Second Life machinima programs in the QUT undergraduate law curriculum showing the storylines (by character) that link the programs

The Sapphire Vortex in the second semester of first year Criminal Law subject uses a 15-min machinima video to depict a series of connected events occurring at the Sapphire Club, including a rape, a glassing (of the owner, Indigo), a one-punch homicide, a stabbing, and drug and property offences. This video is supplemented by machinima videos of the various subsequent court proceedings, which depict prosecutors and defence barristers making submissions to judges and magistrates.

These videos facilitate discussion in small group tutorial classes, in which students effectively role play the various judges and magistrates in making rulings on the various submissions. The program also includes modules of multiple-choice questions similar to those in *Indigo's Folly.* In the second year, Contract Law subject students undertake *Air Gondwana*. The first four modules of this program utilise a cognitive apprenticeship-style approach, with elements such as modelling, coaching, scaffolding, reflection and exploration (Brown et al. 1989; Collins 1991) for the teaching of negotiation skills to Contract Law students. This part of the program is used as a means of enabling students to obtain experiential learning of the practice of contract formation in parallel with their learning of the legal principles related to contract formation. The program is based on the contractual dealings of a fictional airline, Air Gondwana. It is set against a narrative involving a wealthy businessman (Xavier Rich) who, as a test of business acumen, installs his youngest son (Remington) as the head of one of his companies (the airline). The first three modules are completed online while the fourth involves an in-class activity. Instruction on negotiation theory in Module 1 is done by means of a 20-min video featuring a real-life narrator and includes vignettes which illustrate the various points made in the instruction and in which real-life actors portray a storyline involving the hiring of a pilot. The vignettes also model both poor and sound negotiation practice. The balance of the program utilises Second Life machinima. Modules 2 and 3 are completed online and use Articulate Storyline 360 as a platform. In Module 2, students practise the application of negotiation principles across a series of short scenarios (such as the commissioning of a new wardrobe for airline staff, the purchase of flight booking software and charter contracts), all of which are illustrated by Second Life images. Feedback is provided for each questions against which students may compare their answers. In Module 3, students practise the application of negotiation principles in the context of a single, more complex fact situation (the purchase of a supersonic aircraft). This immersive simulation involves interactivity akin to gameplay. It utilises machinima video, which includes some of the characters that appeared in the Module 1 storyline with the actors reprising their roles by lending their voices to avatars created in their likeness in the new adventure. The video stops at various points where students are asked questions concerning the application of negotiation principles in the context of the story. Feedback is again provided on the questions against which students may compare their answers. Module 4 is the culmination of the negotiation aspect of the program and requires students to engage in an in-class face-to-face role play involving negotiations over the use of a Pacific island on which the airline proposes to build a holiday resort. This exercise is facilitated in part by a "corporate video" showing the attractions of the island depicted by way of machinima. Personalised feedback on negotiated agreements is complemented by general feedback delivered by a machinima video shown in class, which features Remington Rich explaining the kinds of solutions students may have included in their agreements. The final module, Module 5 consists of *The Hercules Trilogy,* a trilogy of mini-modules featuring a storyline involving the airline's charter of a helicopter to service a fly in-fly out contract and combining machinima videos and simulated documentation

(including contracts, letters, emails and diary notes) to facilitate the in-class discussion of interpretation of contract terms. Together the two phases of *Air Gondwana*—the negotiation phase (Modules 1–4) in which students are actively involved in the authentic task of negotiation and risk allocation in contract formation and the Hercules phase (Module 5) in which they are involved in the real-world activity of contract interpretation—engage students in authentic tasks that closely resemble those typically encountered in legal practice.

In Contract Law, students also undertake *The OO Files*, a suite of five modules of multiple-choice questions packaged together using Articulate Storyline 2. This online program comprises of over 150 short fact scenario questions, each of which is illustrated by a Second Life image as a means of assisting cognition of the facts, and which provide formative feedback on both correct and incorrect answers. It is based on the fictional Odin's Lawyers law firm, with each module involving the student as a clerk assisting either the senior partner Oscar Odin or senior associate Jess Astrild to provide advice on contract law issues to a different client (including a construction company, Ian Indigo as the owner of The Sapphire Club nightclub, the Air Gondwana airline and a rock band called Black Sceptre). Due to its success, this program sets the pattern for the inclusion of similarly styled multiple-choice learning tools in programs subsequently developed (like *Indigo's Folly* and *The Sapphire Vortex*).

In *Air Gondwana* and *The OO Files*, a romantic relationship develops between Remington Rich and the lawyer Jess Astrild. This relationship is further featured as an important plot device in *Mosswood Manor* in the second semester second-year Equity and Trusts subject. This program was originally designed to facilitate the next stage development (after *Air Gondwana*) of students' negotiation training, which required exposure to a multi-party negotiation in the context of conflict. It did this by a negotiation exercise concerning conflict surrounding a family trust. This exercise was facilitated by machinima videos depicting the volatile relationships between three generations of the Mosswood-Rich family, leveraging students' familiarity with the relationship between Xavier and Remington Rich gained through the *Air Gondwana* program to build a bridge not only between the narrative but also the material being studied. A curriculum review in 2014 led to the negotiation training role being removed from the subject. However, trust law is a notoriously abstract area of law to which students traditionally find difficult to relate. While the program was primarily directed to negotiation training, it was found to have had an additional incidental positive impact on student's understanding of, and engagement with, the substantive trust law content of the subject. Consequently, the program was reconfigured in a fashion similar to *The Hercules Trilogy*, with its machinima video being redesigned and re-edited as a means of contextualising the abstract law relating to trusts complemented by simulated documents including trust deeds, wills, letters, emails and newspapers, to facilitate small group class discussions of that law. This reconfiguration highlights the adaptability of machinima-based programs, with the raison d'être of the program changing but the design strengths of the original iteration of *Mosswood Manor*, including the continuation of the narrative from *Air Gondwana*, the authentic

simulation in a real-world context and involving students in problem-solving activities, being maintained.

The same formula of machinima videos depicting narrative supported by simulated documents is also used in *Dragon Ventures* in the second-year Chinese Legal Systems elective subject. The Chinese Legal System is a complex interaction of communist ideology and a codified civil law influenced by the laws of the former Soviet Union and as such would, if taught by traditional means, be conceptually daunting for students whose training is otherwise focused on the Australian judge-based common law system. Instead *Dragon Ventures* utilises the narrative of Air Gondwana and the Xavier Rich companies as a device to explore the challenges of companies trading in China and thereby provides an authentic setting for an exploration of the practical impact of laws in that country. Machinima videos depicting a narrative supported by simulated documents and multiple-choice questions in the style of *The OO Files* are also used in *The Rich Chronicles* in the third-year Commercial Remedies subject, which in part depicts a continuation of the storyline in *Air Gondwana* Module 3 in which the supersonic aircraft purchased by the airline is involved in a number of legal disputes to the embarrassment of Remington Rich and otherwise involves members of the Mosswood-Rich family featured in *Mosswood Manor* in a variety of scenarios.

In their third year, students also undertake *Entry to Valhalla*, a suite of modules in the Ethics and the Legal Profession subject. Apart from self-test multiple-choice questions illustrated by Second Life images, it includes machinima videos to depict multi-layered real-world ethical dilemmas and wellness issues confronting legal practitioners in the fictional law firm, Odin's Lawyers. These include dilemmas concerning the romantic relationship between the lawyer Jess Astrild and her client Remington Rich, the conflict of interests arising from a dispute between Remington Rich and his father Xavier over the running of Air Gondwana due to the failed supersonic aircraft venture depicted in *The Rich Chronicles*, and ethical issues arising from a scenario involving one of the original *Sapphire Vortex* defendants allegedly subsequently framed by a police officer. *Entry to Valhalla* accordingly draws together various storylines running through the other programs. Each video features a lawyer in the law firm approaching the two senior partners of the firm seeking advice concerning the ethical dilemma they are confronting. In class discussions, students role-play the senior partners in relation to the appropriate advice they should give.

In addition to these programs in the undergraduate law degree, also worthy of mention for its different use of machinima is the *Black Sceptre* program in Entertainment Law, a subject taught as part of a Bachelor of Entertainment degree at QUT. This program replicates the learning activities in the negotiation phase of *Air Gondwana*, albeit in a scaled-down format, in order to teach negotiation skills to Entertainment students. *Black Sceptre* is based on the contract negotiations of a fictional rock music band, Black Sceptre. Unlike *Air Gondwana*, which was made with the benefit of a small learning and teaching grant that enabled the production of the Module 1 instructional video, *Black Sceptre* was unfunded. In place of the real-life instructional video and real-life actors of the former program, the 20-min

instructional video in Module 1 of *Black Sceptre* utilises Second Life machinima, and features instruction on negotiation theory by an avatar-narrator and vignettes starring avatars to depict that theory in practice by way of a scenario involving the band negotiating the use of a venue for a concert. The avatars also model poor and sound negotiation practice, including the appropriate use of body language. In addition, the program includes Second Life images to assist cognition of the facts by illustrating scenarios in a practice module, and machinima video to help facilitate an in-class role play activity by providing background briefing information necessary for a negotiation between the band and a film production company. The success of *Black Sceptre* as a means of engaging non-law students in the study of law led to the development of *Limelight Crux*, a program that combines machinima that periodically stops for questions (in the same fashion as Module 3 of *Air Gondwana*), those questions being in the style of the multiple-choice questions in *The OO Files*.

This collection of programs demonstrates that machinima may be successfully employed in a wide variety of ways, including the depiction of a background narrative to "set the scene" for the purposes of student activity such as a research assignment, to facilitate in-class activities such as workshop discussions or role plays, providing instruction and/or feedback, modelling behaviour and enabling aspects of gameplay. It can be used in conjunction with other cost-effective multimedia, such as simulated documents, letters and newspapers to enhance authenticity. It can also be used to teach both substantive content and skills, and for both formative and summative purposes (see Table 10.1). In addition, the collection illustrates the use of connected narratives running through programs in multiple subjects.

Reflections and Directions

Student Reaction

The success of Second Life machinima, videos and still images, as a means of facilitating authentic learning and engaging students, can be seen in the quantitative and qualitative results of surveys of each of these programs. A snapshot of the quantitative results to surveys conducted using a Likert scale (with the responses Strongly Agree, Agree, Agree, Neither Agree or Disagree, Disagree and Strongly Disagree) is provided in Table 10.2.

Authentic learning and engagement are among the themes typically emerging from students' qualitative comments. Students have commented on the ability of Second Life machinima to "humanise" characters in problems and to bring those problems "alive", making them easier to comprehend and more engaging, and making their learning more effective. One student said of *Entry into Valhalla*: "It puts [ethics] into a real-world perspective, putting faces to names, seeing the people, makes it easier to relate to the situation." Another student observed in

Table 10.1 Uses of machinima in the QUT undergraduate program

Program	Content (C) or Skills (S)	Formative (F) or Summative (S)	Background storytelling	Combined with mock documents	Instruction	Modelling	Gameplay aspects	Provision of feedback	Facilitate class discussions	Facilitate class activities	Illustrate facts to aid cognition
Air Gondwana	S	F + S	✓	✓			✓	✓	✓	✓	✓
Black Sceptre	S	F + S	✓		✓	✓				✓	✓
Dragon Ventures	C	F	✓	✓					✓		
Entry into Valhalla	C	F		✓		✓			✓		✓
Indigo's Folly	S	F	✓	✓					✓		✓
Limelight Crux	C	F	✓				✓				
Mosswood Manor	C	F	✓	✓					✓		
The OO Files	C	F									✓
The Rich Chronicles	C	F	✓	✓					✓		✓
The Sapphire Vortex	C	F	✓						✓		✓

Table 10.2 Snapshot of survey results

	Strongly agree/agree	Strongly disagree/disagree
Air Gondwana (2007) (*n* = 367)		
Helped me to understand the application of negotiation principles in real-world practice	**91%**	1%
Realistic setting for me to understand the principles of negotiation	**85%**	2.1%
Enabled me to gain an understanding of basic negotiation theory and practice	**95%**	0.8%
Enjoyed using as part of studies	**78%**	3%
Entry into Valhalla (2010) (*n* = 106)		
Helped me to relate my understanding of legal ethics to real-world situations	**82%**	7%
The law firm storyline helped my learning of legal ethics	**81%**	8%
Enjoyed using as part of studies	**72%**	11%
The OO Files (2011) (*n* = 263)		
Assisted my understanding of contract law	**96%**	0%
The law firm storylines were a valuable aspect	**68%**	5%
Will be a useful review tool for the exam	**95%**	0%
Mosswood Manor (2012) (*n* = 363)		
Helped me to see the real-world relevance of the unit content	**88%**	5%
Helped me to understand the relevance of negotiation to real-world practice	**88%**	3%
Helped me to understand the relevance of trusts in real-world practice	**85%**	5%
Challenged me to exercise skills in identifying which issues required a legal solution and which required a non-legal solution	**88%**	3%
Challenged me to synthesise my legal knowledge with my knowledge of negotiation theory	**87%**	2%
Enjoyed using as part of studies	**77%**	6%
Indigo's Folly (2014) (*n* = 186)		
Helped me to engage with the skill of statutory interpretation more than I think I usually would.	**85%**	2%
Encouraged me to think about the skill of statutory interpretation more than I think I usually would.	**87%**	1%
Helped me to see the real-world relevance of the skill of statutory interpretation.	**86%**	2%
Helped me to understand the skill of statutory interpretation in real-world practice	**86%**	2%
Enjoyed using as part of my studies	**83%**	2%

relation to *The OO Files*, which uses Second Life images to illustrate scenarios involving clients confronting contract law issues: "Legal discourse can seem quite sterile … the imagery gives the exercise character, context and a reminder that people are involved." A student commented in relation to *Mosswood Manor*:

> The entire thing just seemed more "real". Rather than having a page of facts presented to us, the use of various types of media (the videos, newspapers, emails, etc.) made me think "well this is (to an extent) just what I see clients bringing in all the time at the legal centre. This is about as real as it gets."

A student said of *Indigo's Folly*, the program designed to teach the otherwise abstract, notoriously unengaging, but nonetheless essential skill of statutory interpretation:

> I realised the extent to which legislation impacts the lives and choices of ordinary people. That helped to give a broader context to my studies. I realised how important it is to master the skill of statutory interpretation.

Another emphasised the ability of the same program to engage students:

> It was engaging. It was motivating. It was unlike any other tool I have used to learn. The program allowed me to maintain interest in statutory interpretation. The program also allowed me to really question and understand statutory interpretation. The idea of an interactive program allowed me to WANT to learn.

Student responses commonly include a large number who report that they find the programs to be interesting, imaginative, engaging and/or fun. In relation to the overall learning experiences created by the programs, a student said of *Mosswood Manor* that:

> The videos … were a really engaging way to deliver the information needed to complete the assignment, I would even go far as to say it made it fun. Answering a problem about the family made it a much more "real life" scenario and I felt it was a much more engaging experience than my other subjects.

These qualities lead to improvements in student learning. A student thought that *Mosswood Manor*: "Gave me a good idea as to working in a real-life problem in trusts and showed me the relevance of it … I've taken more of an interest in the subject itself since the [program]" while another felt that "it kept me entertained and interested … I remembered more than I usually would." A student said of *Air Gondwana* that: "I felt as if I was "learning" but it wasn't obvious that I was learning … I felt completely involved in the process."

As noted, the continuation of the *Air Gondwana* narrative in *Mosswood Manor* was based on the hypothesis that building a bridge between the storyline might help build a bridge to the subject matter being studied. That approach resonated with over half of the respondents, with only 12% disagreeing. Among the comments of those who agreed were observations that familiar faces made it easier to connect with the program; that it made the program interesting, entertaining and amusing; that it made the program more comfortable to do and that it helped give a depth and context to the program that made it feel more real world. Others went further and

indicated that the continuing story made them think how different areas of law linked together while others thought it made it easier to revise the previous negotiation skills that they had learnt. As one student stated: "I loved the continuity … it seemed as though the program was advancing with me and my skills … it also just made the whole thing more fun."

By contrast, a third of respondents felt that while the continuity in the story was interesting, it was not essential to the exercise and a new set of characters would have worked just as well. By contrast, a handful of this group of respondents reported that it had been so long since that they had studied contract law that they did not remember *Air Gondwana*. The significant portion of respondents who stated that they saw value in the continued narrative between *Air Gondwana* and *Mosswood Manor* may be seen as support for the hypothesis that engagement may be promoted by storylines featuring the same characters in multiple programs. Further research into the potential cognitive benefits that may be achieved by such an approach may therefore be indicated.

Machinima and a Willing Suspension of Disbelief

The effectiveness of Second Life machinima as a means of simulation depends in part upon the degree to which students are prepared to undergo what the poet Samuel Taylor Coleridge first described a "willing suspension of disbelief". As Herrington et al. (2003) stated:

> There is increasing evidence that in order to fully engage with an authentic task or problem based scenario, students need to engage with a process that is familiar to moviegoers throughout the world – the suspension of disbelief. For example, consider the suspension of disbelief that audiences must undergo to enable them to become engaged with movies such as Star Wars, Mad Max, The Matrix, The Truman Show, and Back to the Future. Audiences need to accept the worlds that have been created, no matter how unlikely. Once the initial suspension of disbelief has occurred, it is only inconsistencies within the parameters of the plot itself that cause dissonance in the viewer. In other words, once the viewer has accepted the fundamental basis for the simulated world in which he or she is immersed, engagement with the story and message of the film is entirely feasible.

The extent to which Second Life machinima can facilitate a suspension of disbelief, and as a consequence the effectiveness of the learning environment, may depend upon the degree to which the notion of machinima as involving "real-world filmmaking techniques" (Dellario and Marino 2005) is embraced. Middleton and Mather (2008) noted that machinima may be sophisticated, artistic productions or, at their simplest, rudimentary "fly on the wall" CCTV-type recordings. While artistic productions of a type commonly seen in machinima contests may demand skill sets beyond those commonly held by most academics, little specialist film-making expertise is necessary to create productions that are superior to mere "fly on the wall" recordings. Machinima featuring avatars exhibiting no more than the default Second Life standing or sitting animations, for example, will seem less natural and as a consequence likely be less engaging than that of avatars exhibiting

customised animations of a kind that may be obtained freely or purchased for a moderate price either "in world" or from the Second Life marketplace website. Similarly, taking care when providing voices for avatars can assist in facilitating the suspension of disbelief. There is always a risk when voices are provided by non-actors that they will sound like they are merely reading from a script. For an audience that may largely comprise modern-day students who have grown up having watched countless television programs and films, this may sound unnatural and be a barrier to engagement. By contrast, all voices for the various programs at QUT discussed above, while provided by non-actors, were recorded separately from the corresponding video. Audio and video were later synchronised in the editing process. Not infrequently, such recordings may require more than one take, and editing may be more challenging if the voices are to be closely synchronised with lip movement, but it is a means by which avatar dialogue can be made to sound and appear natural and engaging. Indeed, in formal surveys, students often comment favourably regarding the voice work in these programs.

Machinima can be further enhanced and made more engaging by basic film-making techniques that, as in the case of programs at QUT, have not required specialist background or training but rather can be simply gleaned by the machinima maker paying careful attention to television or film productions and the techniques they use. These techniques include the use of "establishing shots" (wide shots that are often the first shot of a scene designed to show the audience where the action is taking place and perhaps all of the characters in the opening of the scene); a mixture of camera angles such as close-ups, midshots, reverse angles, over-the-shoulder shots and shots showing two or more characters; and not "crossing the line" (i.e. the imaginary line between subjects in a scene which if crossed can disorientate and confuse the viewer when reversing the camera angle in consecutive shots). Basic instruction and tutorials regarding such techniques are, in any event, also freely available on the Internet (see, e.g. http://www.mediacollege.com). Video may also be made seem more authentic if some effort is made to "dress" the scenes appropriately in the same way that settings are prepared for the purposes of real film-making. In other words, in the case of an office scene, for example, there is value in enhancing the scene by placing a variety of office supplies on the desk and populating the room with other office furniture to help create a realistic feel to the setting. For instance, in the case of Air Gondwana the detail added to a desk in an office scene extended to a coffee cup on a saucer with a spoon, holiday photographs featuring Remington Rich and Jess Astrild in desk picture frames and printed business cards bearing his name and details, which all incidentally appear at one time or other in various shots.

Finally, machinima may be further enhanced by the addition of sound effects, such as those freely available from specialist repositories of Creative Commons audio samples (see, e.g. http://www.freesound.org) and music, such as that available from other specialist websites offering Creative Commons resources (see, e.g. http://www.freemusicarchive.org).

Following these techniques can be more time consuming than rudimentary fly on the wall real-time recordings of academics providing voices for their own avatars.

However, it is an investment of time which can produce immersive and engaging learning environments for students, as attested to by students who have used the programs at QUT who frequently comment positively concerning the production values of the programs. For example, in contrast with the sentiments expressed by Walsh (2011) that Second Life machinima lacks fidelity because only human actors can convey non-verbal communication, a student observed in relation to *Entry into Valhalla* that the advantages of machinima over text-based questions included "nuances of tone, body language more accurately portrayed, so easier to understand" while another stated that "the video can depict more easily the non-verbal cues among parties". These techniques can promote a willing suspension of disbelief and produce a high level of imaginative engagement.

Moreover, multimedia productions featuring human actors are not without their shortcomings, most notably in terms of cost in the context of the limited funding available for universities. Limited budgets translate into limitations on the kinds of productions possible if human actors were to be used, including locations and cast size. By contrast, the machinima components of *Air Gondwana*, for example, include scenes in an office, an executive jet, an open road, an air field and aircraft hangar in the Ukraine which includes a supersonic jet fighter that is integral to the narrative, and a ballroom featuring a large number of "extras" dancing in the background. It also features a wide variety of scenes on a Pacific island, including beaches, caves, bushland and underwater (Fig. 10.2). Second Life offers a rich canvas for storytelling for little or no cost, whereas attempting to portray the same narrative using human actors would be beyond the reach of available university funding, even if it were practicable to find comparable locations in real life.

Nevertheless, even if these techniques are employed, machinima videos will never enjoy universal approval among students. Formal surveys of the programs at QUT have generally shown a very small number of critics of the programs, who tend to fall into one of two camps. The first group consists of students who would appear to be gamers themselves. It would seem that for them no production with graphics less than the latest quality first-person-shooter games will be considered to be satisfactory. However, in 2013, the executive producer of one instalment in the

Fig. 10.2 Selection of scenes from *Air Gondwana* illustrating the potential of Second Life machinima as a means of portraying narratives

Call of Duty computer game franchise commented on the ballooning budgets now needed for so-called "AAA" game development, observing that they were becoming harder and more expensive to make due to the demand for better graphics and "more realistic looking art assets" and that only bigger studios may soon be able to afford the "scary" cost of development (Makuch 2013). While it may be difficult to confirm exact figures, since published costs may also include marketing and distribution expenses, it would seem that development budgets for such games could be between $20 and $60 million (Superannuation 2014), with a game like *Star Wars: The Old Republic* in 2011 being described in a LA Times as perhaps "the largest entertainment production in history", having involved 800 people and costing an estimated $200 million to develop (Fritz and Pham 2012). Accordingly, expectations of AAA game standard graphics are unrealistic and cannot be accommodated by university productions developed on meagre budgets.

The second group consists of students who view machinima as "cartoonish" and therefore not appropriate for university study. Research has shown that a small number of both students and staff will spurn such innovations in technology, particularly game-based design, for a complicated mix of personal conceptions concerning play and learning (deWinter et al. 2010; Gee 2003). Such resistance is likely to manifest itself in an unwillingness to suspend disbelief, which is needed for cognitive realism. Without sufficient cognitive realism, these students may regard the learning environment as being artificially situated and as a consequence perceive the technology to be an impediment that is distracting them from their learning (Matthew 2012). An appropriate response to the concerns of such students may be the simple provision of at least print-friendly versions of transcripts of the videos as an alternative means of providing them with the content of the narratives that form the basis of the relevant study activity.

Sustainability and Maintaining Continuity

If properly designed, machinima can be a sustainable resource. This is because machinima can depict fact scenarios that continue to be realistic and relevant year after year, thereby forming the basis of class discussions and other activities for successive year groups. Thus, while, for example, laws may constantly change, the application of those laws may be left to be discussed in class rather than requiring repeated changes to the machinima.

However, a challenge that may need to addressed in the case of multiple programs linked by a common narrative is if there is change in one or more of the subjects in which those programs reside, which may have impact on the continuity of that narrative. Such a change may occur in different ways, including a change in teaching staff in a subject in which a machinima-based project resides accompanied by a change in learning and teaching philosophy that has a different attitude to such initiatives, and more structural changes such as a course curriculum review that has flow-on implications regarding when and/or how particular subjects are taught.

The latter challenge arose in relation to the programs at QUT. A review of the undergraduate law curriculum implemented from 2015 rearranged the order of several subjects and therefore the order in which students encounter the various storylines. To a large extent, the strategy of designing the programs as stand-alone exercises and using flashback sequences to convey any necessary foundation for the continuing storyline can provide a measure of protection for the overall narrative from the loss of a program through changes to individual subjects. Further, as already noted, the curriculum changes that removed the negotiation training aspect from the Equity and Trusts subject were addressed by removing the negotiation component from *Mosswood Manor* and reconfiguring the program so that it instead focuses on trust law issues and facilitates class discussions of this abstract and difficult-to-comprehend area of law.

Changes to the order that students encounter certain subjects may be a greater challenge to maintaining continuity. For example, a reordering might have a significant impact on the continuity of a connected narrative, such as a character now dying in one program and then reappearing in good health in a subsequent program. Reordering of subjects under the curriculum review at QUT did not have such a dramatic effect, but nonetheless required changes in script and voice work and re-editing of some machinima. Indeed, in some cases, the reordering strengthened the connections between some of the programs. This was, however, more a matter of good fortune rather than design: while the programs were acknowledged by the architects of the new curriculum as valuable components of the respective subjects, it could not be expected that maintenance of continuity in the narrative running through them would figure in the factors taken into account when settling the new curriculum. The risk of subsequent changes to curriculum is therefore one to be borne in mind when designing programs featuring connected narratives.

Conclusion

Virtual simulation allows students to benefit from experiential learning (Middleton and Mather 2008) and is inclusive of a range of learning styles (Burbules 1999). The use of narratives depicted by machinima can be a cost-effective means of promoting imaginative engagement, assist cognition, provoke active thinking and provide contextual cues that aid later recall.

The experience of multiple programs linked by storylines featuring recurring characters in the undergraduate law degree at QUT provides a valuable case study of the positive outcomes that such programs may produce for student engagement and authentic learning. It demonstrates that machinima may be used in a variety of modes for both summative and formative purposes and to teach both substantive content and skills, as a component of a blended learning environment that can provide a learning experience that is adapted and appropriate for modern-day students. Machinima, if properly designed and created using basic film-making techniques, is capable of promoting a willing suspension of disbelief and enables

the creation of authentic learning experiences. It can enable an environment in which students take an active, practical role in their learning and can appreciate the relevance of the material they are studying to their future professional careers.

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