THOUGHT PIECE

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THE USE OF AVATAR BASED LEARNING AS A MEDIUM FOR CRIMINAL JUSTICE EDUCATION

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Abstract  Computer and technological developments provide exciting opportunities for both classroom and distance learning teaching, but many educators feel they do not have the skills or support necessary to make the most of them. In this piece I describe and reflect upon my own experiences of learning about and using ICT tools to design and use avatars in computerised scenarios in my higher education teaching of Criminology and Criminal Justice. I consider their potential for future academic teaching, including the possibilities for improving learning opportunities for diverse learners. Further developments could enable students to become authors and partners in lifelong learning processes, though this would necessitate a rethinking of the pedagogies that inform much teaching.

Keywords  ICT; avatar; education; policing; pedagogy

The potential for the use of ICT and gaming type approaches in teaching and learning is increasingly being explored in both literature and research (e.g. Grimley et al., 2011). Lecturers are well aware of the impact of technology in the lecture theatre, where students increasingly bring their mobile phones, digital recorders and laptops to lectures (Rheingold, 2009; Tindella and Bohlander, 2012), yet the consideration of the potential for such technology to enhance their teaching and students' learning experience is in its

1 I am grateful to Jean Hine for her advice and support in preparing this paper.
infancy. One area where there has been some progress is in the realm of distance and blended learning with the development and use technology enhanced learning tools such as Blackboard (www.blackboard.com). Yet even here there is often limited use of the technological potential available, with many lecturers simply reproducing their lectures as a PowerPoint or Word file. The pace of technological developments means that the ICT sophistication of students has often outpaced that of their tutors and may result in lack of student engagement with study opportunities that appear dated and cumbersome. Software developments in particular are providing opportunities for the creation of new styles of teaching materials that can engage students with diverse backgrounds and wide-ranging learning abilities. In this paper, I describe my experience of developing one approach to providing enhanced computer aided teaching materials - learning how to create avatars and using them in computer based learning materials.

In a recent review of the future of learning undertaken on behalf of the European Commission, Redecker et al. (2011) note the development of 'informalisation' (p9) for future strategies of learning and education, recognising that 'ICT will change what we will need to learn and how we will learn in 2020-2030' (p44). This prediction of future education extends to what they term the personalisation of education, which they state will develop as a response to a more learner focussed process that will need to accommodate real life experiences and generate collaborative styles of learning. These adjustments of direction will necessitate new pedagogical methods to accommodate the 'changing, living, working and learning patterns' of society (p61). In this environment, educators will become mentors and guides to learners involved in a generally self-motivated form of academic engagement, rather than the director of the learning experience. To achieve these ends, Redecker et al. (2011) conclude that holistic changes need to be made, which include changes to pedagogy, curricula and assessment in addition to teacher training. This forecast, based on current and predicted trends, has implications not only for education generally but also for vocational education and training, requiring, as the Bruges Communique (2010) acknowledges, a need for increased flexible and non-formal lifelong learning.

The use of virtual worlds and their associated technology for academic purposes is a relatively recent development. Such approaches have much in common with gaming platforms where anyone, with practice, might become expert. They hold the potential for total absorption and an opportunity for players to take an active role in problem solving exercises. Such processes have been identified as being successfully linked to education: Grimley et al. (2011) provide a convincing acknowledgement of these benefits in a study which used computer games to support student learning in face-to-face teaching, noting:

...the computer game mode invoked perceptions of a more active and challenging learning experience compared with more traditional lectures. If we have a constructivist view of learning then ensuring that learners are active and challenged in learning situations is of paramount importance. These positive effects for the game mode compared with the lecture mode ought to lead to higher engagement for students. (2011, p6)
These results are reinforced by Dickey (2003) in the area of distance learning, as he notes the academic benefits of exploration, manipulation, the associated discourse and reflection between players/learners within such environs. This view is supported by work undertaken by Jonassen (1992, 1999), Lave and Wenger (1991), and Duffy and Cunningham (1996). The use of virtual actors (or avatars) as pedagogical agents to facilitate domain knowledge in expert systems has also been noted as being highly productive (Lee and Williams, 2004). Students benefit from teaching approaches which utilise elements of content and process from online gaming, especially if this can catalyse peer to peer learning opportunities and stimulate deeper levels of learning. For instance, Fisher, Higgins and Loveless (2006) recognise the potential for clusters of what they term 'purposeful activity', when associated with digital technology; particularly if linked to creativity and the development of responses to 'what if?' questions; approaches to problem solving and the development of hypotheses to inform action (Plowman and Stephen, 2005; Gee, 2004; Shaffer, 2007). When using technological tools for creative purposes learners have both 'hands and minds on', which provides opportunities to not only ask questions but also to respond to the consequences of their decisions (Sefton Green, 2005).

Carroll (2000) explored the benefits of scenario based interaction with computers and highlighted the potential for multiple levels of learner reflection and cognitive interaction, stating:

> People know that they must learn new concepts and skills in order to be able to do new sorts of things, however, they also know that by just trying things out they can see and feel progress, learning as they accomplish something meaningful'. (2000, p58)

This links to the proposal by Mayer and Moreno (2002) that both narration and graphical images produce visual and verbal mental representations which link and integrate prior knowledge and then construct new knowledge. The generation of educational forms of machinima\(^2\) (Middleton and Mather, 2008) may be the result of such ideas and represent a truly blended curriculum.

This paper draws on my experience of learning develop scenarios with active avatars in my teaching in criminal justice, suggesting a pedagogy which could accommodate the development of a constructivist method of learning to address this predicted future of learning.

**My journey into a virtual world**

I first became interested in the use of ICT in teaching around five years ago when, as a non-technologist lecturer in psychology and criminology, I reviewed some of the potentials for using avatar based learning with 'ITC envy', considering what I might do if only I had the training and the time to learn to develop virtual people and places and

\(^2\) Machinima is animated filmmaking within a real-time virtual 3-D environment, as defined by the AMAS (Academy of Machinima Arts and Sciences).
apply this knowledge in a non-technological environment. I continued to monitor developments and last year I found some programming technology that was more accessible. I purchased the software in the hope of being able to make the potential real by devising a number of scenario based teaching tools in the area of criminology and criminal justice. I wanted to use this in computer (distance learning) and TV based (classroom) delivery to encourage student engagement by means of the development of avatar empathy, identified as a key component in student engagement (Morrison and Zemke, 2005; de Rosi et al., 2005; Matsumoto and Tokosumi, 2005).

Having found a fairly straightforward computer package which provided good on line support, I started to teach myself how to build the characters and the world which they would inhabit. I had previously attempted to find video clips that would help me to explain different academic concepts but found that whilst I could download and, in some cases, edit them (where copyright permitted), they never quite fulfilled my need and I would have to readjust my explanation awkwardly to match. Now I had the opportunity to download three-dimensional objects to populate and decorate the world I was creating in order to match my ideas.

Having previously taught student police officers psychological theory I was well aware that there was a short engagement period prior to the stage where boredom and irritation could set in. If I could catch their attention in that first part, I could hold their concentration through long teaching sessions (stretches of 4 hours and more). Some aspects of psychological theory can be disengaging to even the most interested student so I thought I would start with some of these areas. My first idea was to create an avatar that represented me and, armed with my new technological knowledge, I was able to adapt its lifelike appearance to capture some of my looks. I then began to wonder what it would be like if I had a twin online and that twin explored the nature-nurture debate and the various studies that psychologists have undertaken to consider this dynamic. If one twin, why not another: the good twin and the bad one, who perhaps danced around and caused mischief whilst the explanation was being presented. The students certainly did not expect that and listened with interest whilst the video presentation explored the debate. If that was a good method of providing information in a more engaging way, why not take it one stage further and try to develop vignettes that taught the lesson by example? As a result, I created a mum and dad who had a daughter who wanted an ice-cream. I explained the ideas of good parenting within the scenario - how some parents do not give the right signals to their offspring and as a result the learning experience is poor, thus bad behaviour is the result and is reinforced. The vignette ended with the daughter screaming for ice cream and the dad smacking her.
From this simple scenario, I wondered whether more meaningful exemplars might be developed. I created more sophisticated scenarios for teaching, which included a female avatar talking about her experiences of learning how to 'deal drugs' by describing links to processes within Bandura's Social Learning Theory (Bandura, 1962). The idea was to make learning about theory enjoyable by making it real. This short film has been used for teaching student police officers in addition to criminology students and provides an example of the practical application of a theoretical psychological concept.

In another piece, an explanation of Sheldon's (1940) 'Somotypes' is provided by means of the use of three male avatars with the physical attributes of Endomorph, Mesomorph and Ectomorph, who are introduced to the student audience by a female avatar who then goes on to explain which type, according to Sheldon, might be prone to commit crime. Like the previous example this short film, when used for teaching, generates student engagement, debate and interaction both online and in teaching face-to-face.
A sequence of avatar focussed film, (akin to machinima), which captures a montage of events around various aspects of domestic violence (DV) has been used in my seminars where it provides a catalyst for reflection and invites students to consider what they might do under different circumstances. To begin my lecture, I start the film and students see and hear a couple who are arguing in the street. The class is then asked the question 'What would you do if you saw this? Would you call the police?'. In seminars where I have taught DV, students engage with this first scene and want to contribute to the debate. This undoubtedly starts them thinking about the various dynamics involved. The second scene shows a police officer in attendance. Students are asked whether a male officer, alone, should attend or whether perhaps other officers should be involved. At this stage students start to think about the procedural implications of police practice and their comments indicate that the majority had not considered whether gender makes any difference to an investigation.

Figure 3: Arguments in the Street

![Figure 3](image1.png)

Figure 4: Male and Female Officers deal with the event

![Figure 4](image2.png)

Once they have had time to consider this aspect, the film starts again and this time shows a male and female officer in attendance. They are both talking together in the same room as the offender and his victim. Again, the practical and emotional implications of such actions are considered by the students and they suggest that a better way of dealing with
the situation would be to separate the couple. The film starts again and the couple are being interviewed separately but the male is in the kitchen with one of the officers and students are asked if this is appropriate. The personal safety of the officer is considered as a kitchen holds significant dangers. The film then considers other victims of this type of offence and focuses upon individuals who perhaps would not normally be considered (children and older people) as the psychological and legal implications are discussed. How should victims be supported? What behaviours might they exhibit if they are victims or witnesses to this type of offence? The questions and opportunities for debate here are endless and throughout the discussion there are opportunities to explain process and theory, and students enjoy the learning. After the final clip, which looks at honour crimes, there is an attached news media report to ‘ground’ the discussion in reality, which considers the death of a real victim of this type of offence and provides an opportunity to discuss how the victimisation has been portrayed in the media.

I have since developed other materials where avatar actors deliver theoretical subjects in a meaningful way. The academic challenges inherent in engaging students with theory can become enjoyable (for both academic author and student learner) and dynamic when such concepts are contextualised in exploratory or explanatory scenarios. They can reflect reality or represent a more outrageous fanciful process in order to make a point. So, for example, Jeremy Bentham’s consideration of utility can be explained by a retired ‘Jazzy Jerry’ who is sitting in the garden of his sheltered accommodation with his helper. In a similar way, the theories of Karl Marx and their application to criminal justice and criminology are the basis of a number of short teaching videos. We can explore Marxist theory in Karl Marx’s ‘garden’ (like the focus of the garden in the film ‘the Godfather’). We have a discussion with Marx, Lenin, Stalin and Chairman Mao (Che Guevara is the bodyguard in this situation). To construct masculine voices for these presentations I have learned how to record my voice and alter its pitch which means that my males now talk like males – which is useful!

Figure 5: Karl Marx’s garden with ‘the communist mob’

3 ‘Honour’ crime involves violence, including murder, committed by people who want to defend the reputation of their family or community. BBC 2012 http://www.bbc.co.uk/ethics/honourcrimes/.
As my understanding of the technology has developed, I have become more creative combining music and narrative within Machinima. One example is a film which gives a 10-minute introduction to criminology for potential students, using avatar actors to show the theories of left and right realist criminologists applied to explanations of graffiti.

Informal feedback from students indicates that such methods of engagement are attractive, and have even generated applause at the conclusion of the presentation. From my experience, students find it stimulating and engaging, as described by writers such as Grimley et al. (2011). Academic staff also find this approach engaging. In a recent workshop for the Higher Education Academy, I was given an opportunity to 'showcase' some of this work to academic colleagues working in an unrelated area. It was rewarding to see how enthusiastic participants became when they too could see the opportunities presented by this type of teaching. There was a definite buzz amongst the group, which was reinforced by comments such as;

This is fantastic. I've struggled to find clips that would explain this aspect of my work.

I could use the programme to help with examples of x or y or z.

I don't have to worry about copyright issues!

I am currently working on a new module in criminology and for the assessment component students will be given the opportunity to work on avatar submissions of their own, potentially, with peers from the computing faculty as facilitators. The technology available to our students and the potential that collaboration and student authorship of assessment might hold will provide an opportunity for a new, more student focussed, academic engagement, which I believe is a step in the right direction towards the predictions of Redecker et al. (2011) for the future of a truly student focussed education.

Where next?
Where does this leave vocational training and education or education for its own sake? Why should we be considering the development and adaptation of new pedagogies to accommodate the student of the future? I believe that the use of avatar actors offers the potential to engage with students not only within a different format facilitated by educational machinima, but also offers students ownership of their own learning experience. In our future technologically enhanced places of learning, it will be necessary to develop pedagogy that blends technical practice with academic rigour. We need to harness the potential of technology in order to enhance the learning experience for students and the teaching experience for practitioners. As teachers and trainers, we must reconsider some of the scholastic barriers that as academic specialists we currently appear to perpetuate, in favour of an educational experience without disciplinary boundary. Silo working in education can reinforce traditional ideas of training or working towards employment that lasts a lifetime, when the new reality is that those who are likely to succeed are individuals who are proactive and flexible in their expectations and are willing
to embrace lifelong learning. The job for life no longer exists due to changes in employment markets and because of personal choice.

Society is changing, with technological innovation being much more central to the lives of many members of the population, and yet this innovation does not seem to have permeated higher education to the same extent. Universities may offer laptops and tablets with 'special apps' to whet the potential student's appetite for a modern and exciting learning experience, but it often remains fundamentally the same. They might access the knowledge by linking to a snazzy PowerPoint sitting within a virtual library for their course but it feeds information in the way it has worked for a number of years - old pedagogies repackaged to look new. If, as has been suggested, the student of the future will participate in a sequence of learning experiences which fulfils their need for learning at various life stages, including the practical aspects of a vocational requirement, educationalists need to offer a highly flexible method or alternative methods of educational engagement. Such aspirations may readily co-exist with more traditional teaching theories and practices but may appeal to the more advanced structural learning, constructivist processes, which encourage both the flexibility of attaining sophisticated academic concepts in a flexible setting. We cannot afford to hold onto dated practices in education when, even now, instead of listening to our lectures many students spend their time texting their friends or checking their Facebook from their smartphones. New approaches, such as those I have developed, can engage students and open intellectual and empathetic learning channels, and may yet link to more traditional learning methods, as part of the learning experience is to elicit curiosity which might then lead to self-directed learning.

Reid and Usherwood (2002) identified how 'self-directed learning problems' provided medical students with an opportunity to own their learning by providing an academic response to case studies based in the community. Back in 1996, Watson and West highlighted the benefits that changes in continuous professional development processes had for vocational training for Occupational Therapists. They recognised that Problem Based Learning (PBL) provided clinicians as well as practitioners in Business and Law with the necessary tools to develop professionally and promote lifelong learning, noting:

>Vignettes and case-based problem scenarios create a learning environment that replicates the complexity, uniqueness, uncertainty, and non-routine nature of contemporary practice. (Watson and West, 2006, p4; Curry, 1992; Schön, 1987)

Both these learning examples would lend themselves to a student or academic response by means of the use of avatar centred technology, as would the police 'OSPRE' Part 2 (Programme Object Specific Performance Related Examination), in addition to training under the Initial Police Learning and Development Programme (IPLDP). The fundamental elements currently held within these training/teaching processes provide academics and trainers with a baseline which might be adapted to meet the needs of student centric learning. By including training in these technological advances as part of the learning experience, we are introducing an additional option for engagement in the same way that
students, not that long ago, were encouraged to learn to word process their academic scripts for marking.

To meet the challenges of the future outlined by Redecker et al. (2011), academics and their institutions need to become more proactive in their understanding and development of teaching and learning strategies for new 'personalised' strategies within education. This will require a willingness to step back from their current role as controller of the learning experience and fulfil a more subtle requirement as mentor/guide. In doing so, they must adapt and be willing to consider a more blended approach to learning which currently may not sit comfortably with their perceptions of 'what is teaching?'. It is not just the technophobic barriers of education which need to be disassembled but also the academic perceptions held by some that teaching should not be entertaining and engaging. This question may be counterbalanced by the debate over what we as educators mean by learning. New models of learning and how they might link to accepted practice are needed to ensure the practical and developmental fit between the process and the technology. This element, I fear, will prove to be the harder aspect to promote, but I hope that my experience shows something of what is possible.

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