

Computer games – pushing at the boundaries of literacy

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Catherine Beavis and Joanne O'Mara

SCHOOL OF EDUCATION AND PROFESSIONAL STUDIES, GRIFFITH UNIVERSITY &
SCHOOL OF EDUCATION, DEAKIN UNIVERSITY

The need to expand traditional, print-based versions of literacy to also incorporate attention to multimodal forms of text and literacy in the English curriculum is now well established. Much can be learnt about students and their literacy practices from the exploration of their engagement with digital culture – particularly videogames – from their out-of-school lifeworlds. However, the emerging set of skills and competencies or, the 'new' literacies and literacy practices associated with multiple and ever-emerging genres generated through information and communications technologies, present challenges in terms of how they might be conceptualised as literacy (or not) and how the multiple dimensions entailed in gameplay are increasingly a part of what it means to be literate in the 21st century. Drawing on two case studies of classroom work, the paper describes approaches to conceptualising the complexity of digital texts and their access, production and distribution and the opportunity to create spaces where students could interact, socialise and learn in both the real and virtual world. Dimensions such as play, interactivity, action, movement and time raise challenging questions about the limits and possibilities of constructing games and gameplay as texts and literacy practices that push the boundaries of literacy.

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Introduction

The project *Literacy in the Digital World of the Twenty First Century*¹ was particularly concerned with what might be offered to English and literacy curriculum and pedagogy through researching and teaching with and about video games or computer games. Computer games raise particular challenges when conceptualised as textual forms, given their powerfully interactive

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nature, the ways in which they rely on action to proceed and the ways in which gameplay and time (real time, game time) are ephemeral and difficult to replicate exactly between instances of play. Within games studies arenas, claims as to whether games should be conceptualised as narrative or play (the 'narratology/ludology' debate) (Aarseth 1997, Juul 2001) and a resistance to the use of paradigms drawn from fields such as literature or cinema to describe games and gameplay (Aarseth 1997), have shaped the emergence of the field. While the polarisation implied by such positions has been largely replaced by a recognition of the coexistence to varying degrees of both dimensions, action and narrative (e.g. Frasca 2003, Salen and Zimmerman 2003) it remains the case that, from the point of view of both games studies and literacy, computer games present boundary issues in terms of definition and engagement with respect to literacy. In particular, dimensions such as play, interactivity, action, movement, time and ephemerality raise questions about the limits and possibilities of constructing games as texts and gameplay as literacy practices, positioning computer gaming as requiring what Kress (2006) terms a new disposition to text. Clearly, a range of textual and literate practices are entailed in playing video or computer games, with the reader/player's construction of the narrative they create each time literally shaped by both player and machine (Galloway 2006). It is also the case that games work compellingly as puzzles and as play, and as 'learning machines' (Gee 2003), where the skills and knowledge entailed in playing or making games move well beyond learnings constrained to individual and specific curriculum areas such as English or Technology.

In this paper, two of the team members, Catherine and Jo, describe curriculum units undertaken by teachers in the schools in which each of us worked. We use these cases to document and promote approaches to the study and use of digital games, and the opportunities offered by the incorporation of games into the curriculum to open up space for students to be critical makers and users of these multimodal forms. We outline key features of each unit, focusing on the ways in which the teachers broached the challenges, opportunities and dimensions offered by computer games with their students in the middle years of secondary school. Our thinking around these units has been powerfully shaped by discussions from Kress (2006) and others about new dispositions to text, and by calls from Alverman (2008), Corio, Knobel, Lankshear and Leu (2008) and others, for greater research and reflection on the implications of adolescents' online literacies for the teaching of literacy.

The two units differently address the promise and opportunities provided by the incorporation of computer games. Both are set in Catholic Boys Schools. In the first example, described by Catherine, Mark uses games to specifically develop critical literacy and research skills, positioning the students as researchers into gaming texts and practices in a way that capitalises on the students' engagement and interest. He is working within

the formal parameters of English curriculum, anchored in concerns with text and textual analysis of written and multimodal text. The second example, as described by Jo, shifts the focus from teaching critical perspectives and reading onto production and design. She presents John's work in using game design in the classroom, as he utilises 21st century ways of working and web 2.0 communication practices as the framework for classroom organisation, management and behaviour.

Case study 1:

Working with games as texts: reflexivity and analysis

Mark works in a large Catholic Boys School with a strong emphasis on supporting boys and increasing literacy and engagement. Trained as a Media and English teacher, Mark was interested to explore angles for teaching with and about videogames that would foster the development of close reading, critical analysis and reflexivity about the role of games in students' lives and their interactions with games, and of the ways in which games were shaped and marketed to appeal to different age groups. Working with his Year 9 English class of boys aged about 15, Mark structured his unit around exploring the twin themes of representational violence – 'violence as text' – and retrospective reflection on students' earlier gaming selves. Mark had been interested in a recently released report on computer games (Brand 2007) and their 'affirmation of games in context'. He began the unit by surveying his students about their playing of console games. Taking *The Simpsons Hit and Run*, and *Grand Theft Auto IV*, he structured the unit around a comparative analysis of the two games, and of the playing styles, expectations and structures of games pitched at younger and older young people respectively. Reviews of both games from the *GameSpot*² site were downloaded for discussion and analysis.

As part of the work in this section of the unit, students were asked to undertake their own analysis of games of interest to them. Their reports frequently demonstrated their mastery of the review genre both in writing and in online multimodal form, a deep knowledge of specific games and the gaming environment, and the capacity to anticipate what new players would need to know, while also assuming a shared degree of internet savviness and knowledge. Thus Stephen, for example, prepared a detailed account of *Halo 3* with embedded images for his Gameplay report. Sections included 'Online gameplay', 'Games Online' – with subheadings, 'ranked', and 'social' – and 'Major League Gaming'. In his own words, but utilising the language of games, he introduced the game, outlined what to expect, and what players need to do to play the game. At the end of his review, he provided his name in the everyday world, his hotmail name and address, together with his online character's name, under which 'he can also be found playing on XBOX LIVE'.

2 For more on *Gamespot*, see <http://au.gamespot.com/>

Marketing and audience: Observing a younger player

As with much critical literacy curriculum addressing texts of multiple kinds, part of the rationale for this unit was to help students become more reflexive and aware of the components and appeal of games, their generic features and the ways they are presented and marketed to appeal to different audiences. Drawing on the principle that it is easier to identify aspects such as ideology or generic conventions in texts somewhat removed from those with which one is immediately engaged, Mark structured the next section of the unit around a young boy's playing of a much simpler game than those most of these students played currently, but one they would all be familiar with. He showed his students a video of an 8-year-old boy playing *The Simpsons Hit and Run* on a small TV propped on top of a dressing table in his parents' bedroom. In the video, the young boy, James, plays the game on a Play Station 2. James focuses avidly on the small screen, occasionally talking to himself as he negotiates a tricky move, and physically turning from side to side as he moves the controls. The game is a little difficult for James, but he persists, something Mark attributes to James's love of the Simpsons from TV, together with his determination to master the game.

After students had viewed the video, Mark asked them to think back over what they had seen, and to analyse James's gameplay. He asked them to think about different aspects of the young boy's gameplay that were similar or different to their own, and to speculate about what the implications of these similarities and differences might be.

One set of questions related to the physical, embodied dimensions of gameplay. What did they notice about James's movements, and his physical relation to the screen? Did he seem bothered by the size of the screen, and if not, why not, in their view? They were invited to observe his body language, to comment on his skills and knowledge and on physical aspects of his gameplay; to discuss the role of elements such as camera angle and sound in contributing to the pleasure and atmosphere of the game, and whether and in what ways the game worked as violent or funny. Analysis of James's play was a springboard to reflecting on their own gameplay skills, knowledge and histories. They were asked to make comparisons with themselves as younger players – what they knew then and what appealed to them at that time, in comparison to what and how they played currently; what skills they had learned playing games, whether console games 'helped you in some ways with your ability as a student' and to outline how they would teach a 7-year-old to play *The Simpsons Hit and Run*.

Knowing what to look for, knowing how to play

In their work, the boys drew attention to differences in focus, strategies and awareness between younger and older players. Knowing what to look for, and knowing how to play, were key qualities the students focused on when

analysing James's play. Tim, for example, argued that the nature of attention – what got attended to – differed between novice and more experienced players:

some players pay attention to the minor details and stuff like the map, but when you're young you just focus on the game, as you know it, that's what you do. So when the oldies sort of pick up looking around the screen and stuff and you actually see like the different things, then you want to know what that means.

A second difference concerned the degree of prior information and background knowledge a player needed or might want before beginning the game. They believed there were significant differences between themselves and younger players when it came to gameplay. For many players, intertextual knowledge, paratexts and cross media narratives play an important role in providing the impetus for and pleasure in gameplay. While conscious that many players don't read the manual, or seek out information about the back-story or how to play the game prior to beginning, students felt this was particularly likely to be the case for younger players. They juxtaposed their own practices with what they saw, and argued that in the case of *The Simpson's Hit and Run*, at least, knowledge of the characters and scenarios were the primary drivers and organisers of gameplay. They believed that for players of James's age the kinds of intertextual knowledge that provided this impetus was more likely to come from related media, such as TV, rather than from paratexts specific to the game. The manual and other contextual information about the game was rarely if ever used:

Because the game is based around characters that people know, like everyday, people can actually say I know the Simpsons and they don't really [but] they just start playing it because they just want to, and they don't really pay attention to anything else. Because they're younger, they just say 'Oh, I want to start playing, oh give me a shot' instead of paying attention to the minor details.

Critical visual literacy

A driving force for Mark was to help students become more analytic, reflective and critical about texts such as these. Following their activities looking at James as a younger player, he drew on his background as a Media Studies teacher to take on games more immediately part of his students' contemporary world. He created a PowerPoint collection from a range of sources, and asked students to identify key features. Images from *Grand Theft Auto IV* were juxtaposed against shots of parallel scenes from television and print media reportage of similar events, which students were asked to analyse in detail. In order to do so, students needed similarly to draw on pre-existing textual knowledge, with questions designed to develop their capacity to identify specific elements and their effect, including camera angle, characterisation, composition, cross referencing to related texts and so on. By combining *The*

Simpsons Hit and Run, a game for younger players featuring universally known characters, and based on the more 'adult' but similarly well known *Grand Theft Auto III*, with analysis of images and screen shots from the recently released *Grand Theft Auto IV*, the unit provided a context to develop critical awareness and analysis of the ideological and textual dimensions of games, and of their own engagement as players.

The unit enabled exploration of such factors as the appeal of games and gameplaying and how that changed according to age; the kinds of knowledge and understandings that needed to be utilised to play games; features of genre and form; intertextual referencing within and across platforms and generic forms; industry and marketing dimensions, the interpellation of young players, semiotic analysis, and discussions about representation, representational violence, and the violence/effects debate.

Case study 2: Teaching game making and new ways of working

The Year 8 students at a regional Catholic Boys College make computer games with their teacher, John, within a semester of Multimedia Studies. Having already completed a semester of Multimedia in Year 7 (where all students have learned to make simple animations, manipulate images and construct other multimedia texts) in addition to skills they have gained through their engagement with new media outside of the classroom, the students come into the unit ready to design, construct and play their own games. In this case study, I (Jo) discuss three specific aspects of this work – firstly, the multi-literacies that the students utilise in their game construction; secondly, John's creation of what I call the 'wall-less classroom', as he organises the learning space to extend beyond the classroom walls; and thirdly, the ways in which the innovative classroom practices are dependent upon the relationships that John builds between himself and the class and between the students of the class.

Multi-literacies in game construction

The students use *Game Maker* for their game production. It is freely available at <http://www.yoyogames.com>, is easily installed on PCs (Windows only), and is well supported through the Yoyo Games site. Within the course, John has a commitment to using free software or software that comes with the computer, in order to show the students the potential of what they already have access to, rather than for them to think that they always need to purchase specific software or upgrade their computer. He explicates this view to the students and critiques the consumerism around computers. The *Game Maker* software is very successful in the school – last year every student made a playable game, and both teacher and students were very proud of this. The program enables

the students to easily make games that include complex graphics without having to use programming languages. This means that the students focus on designing and making the game rather than how to work the program. It is possible to make very sophisticated games using this software, and the games that I played that the Year 8s had made were impressive.

In the production of the game, the students are involved in a wide range of design activities that can be categorised using the multi-literacies framework (New London Group, 1996). In categorising the tasks involved in the game making, I will describe some aspects of the design that most of the students completed in production of their games, before categorising the literacy skills I identify in each task.

The students begin their game making by developing an idea for the game and then planning how the game might work and what it might look like. This basic design requires students to utilise all multi-literacy skills, at least in imagination, as they think through the gaming space they will create and the various gaming elements they might use. They then create the resources for the game. These usually include sprites (little figures that can move around in the game world), and sounds and other effects that they will later insert into the game. For instance, to make a sprite, the student can either draw an image (using tools within *Game Maker* or another program) or import an image into the program to use. When doing this, audio and visual literacy skills are used, as selections are made about the overall aesthetics of the game, narrative elements (how the shape and look of the sprite will impact upon and shape the story) and sounds that might accompany the movement or actions of the sprite. I made a sprite from a funny headshot of myself. I then recorded two different sound effects for my sprite – a yelp of pain that I planned to use as the sound the sprite would make when it hit a wall and a gleeful sound that it could make when it leapt over something. While these are simple resources for the game, there are complex design and planning elements involved in their production that draw upon quite sophisticated multi-literacy skills, particularly in the areas of design/visual literacy and planning for gestural/spatial aspects.

After resources have been built, sprites need to be told what to do and linked to each other. So for instance, my sprite needs to be told how to move and where to move and to react to hitting the wall by playing the yelp of pain track and to react to leaping by playing the gleeful sound. While the students do not need to use programming languages to do this, they have to start thinking in very different ways about how the parts of multimedia are constructed, and how the parts relate to each other. The next logical stage is to design an opening room or grid layout. To do this in *Game Maker* you can work initially from a grid pattern and design a shape (like a maze for the sprite to go through) or various other configurations. The design of the room is very important because it shapes the pacing and difficulty of the game, and

the students spent a lot of time tweaking their rooms in the various levels they create. As the students design the three-dimensional spaces and program the sprites to move within them they are using visual and spatial literacy skills – spatial in thinking through three-dimensional virtual space, designing the ways in which this space can be navigated, visual in terms of the aesthetics of the layout and aesthetic choices made in the room production.

Even in this snapshot you can see that all aspects of currently described multi-literacy practices are used in this work, often all of them simultaneously. It is also clear to me that new textual forms have a temporal dimension, the design and usage of which is a literacy skill that should be included in the multi-literacies model. The ability to shape texts in terms of both anachronous and synchronous timing, the aesthetic qualities of the way time is manipulated and played out in texts such as those created by the students in *Game Maker* and the manipulation of time in dramatic space come to mind as clear examples of this.

Boys also utilise their understanding of genre in game design. A wide variety of game genres are possible, including shooter games, find and seek games, strategy games, adventure games, arcade games and puzzle games. Designing a game in a particular genre requires using the game attributes and sometimes the style of narrative plotline from that genre, and the students draw on their prior knowledge in this aspect of game construction from games that they have already played to enhance their own games and as a model for gameplay. One boy explained how he based the design of how the player moved between levels on how that aspect is structured in a commercial game. The students do this in a very conscious way, aiming to make their games as fun to play as possible. Some of the students put a great deal of effort into the narrative that structures the game, and this becomes a key feature of the game itself. Games that have this focus often had the humour, wit and sense of fun embedded in them that one would expect of Year 8 boys, and when a player played through the different levels of the game, something humorous (for Year 8 boys) would happen. The students felt real enjoyment is creating these elements in the games – because they were all making them for others to play (and have fun with).

The wall-less classroom

In the teaching of game making, John consciously tried to emulate the type of work practices that he imagines that the boys will encounter when they are in the workplace of 2020. I call this 'the wall-less classroom', because the students' work is located both within and beyond the classroom walls, the boundaries of the classroom extending infinitely into the online world. The classroom is organised so that students can collaborate with and rely on each other for new information rather than constantly turning to the teacher. From the first *Game*

Maker lesson, John sets up the idea that the students will use him as the last resort in finding out how to do things beyond what he demonstrates. This is not a 'slack way out' for him, as he knows the program intimately, but is a way of ensuring that the students develop their knowledge-finding resources. He shows the students the vast on-line community attached to *Game Maker* usage, with video tutorials available for most aspects of game making; Community WIKI and discussions; the possibility to upload games made for others to use; and structures the class so that they access these on a 'by demand' basis. In engaging with this community to seek additional information, students use a range of multi-literacy practices as they read instructions, post questions, reply to postings, read reviews, play instructional videos, follow diagrams; navigate the site and play their way through games posted as exemplars.

Classroom relationships and learning

In some ways it is obvious that developing a network of positive relationships within the classroom is a given for a successful experience, but too often we create disembodied curricula that focus on classroom planning, ignoring the importance of the social context of the classroom. In this case, the curriculum design and relationship development are mutually supportive, however, the success of the *Game Maker* usage in this case would not have been as far reaching without John's work on social aspects of the class. John was a very positive role model to them, constantly and openly encouraging and supporting the students, praising each one as they achieved something beyond themselves. In addition to the keen attention to where each student is at, and the pairings of students for information and help seeking as described earlier, the games are all shared in both formal and informal ways for feedback. When the games are at a first draft stage, the boys share them with each other in a community space, and they provide constructive feedback to each other about how the games work, what is fun, and any ideas that they have for improvement of the game. In this way, the classroom is a model for collaborative learning that uses the affordances of new technologies, but also relies on trust for its success. The students really enjoy playing each other's games, and gave high levels of recognition and support to each other. When they were interviewed, they were very generous about the work of other students, and they attributed great design features or games that were particularly fun to play to other boys in the class.

It is only possible for a teacher to step back from the role of delivering the curriculum out the front to creating a wall-less classroom that has no designated 'front' if teacher and students trust one another. The repertoire of multi-literacy practices developed through the game making, the wall-less classroom and the ways in which the classroom relationships are structured, position the students in the world of 21st century textual collaboration.

Conclusions

Playing computer games entails the use of a wide range of literacy practices – both ‘traditional’ and ‘new’. Successful gameplay entails simultaneous attention to a number of elements, including on screen semiotic signalling and juxtapositioning, contextual understandings of play and plot structures, related narratives and genres, games’ affordances and organisation and kineiconic (Burn and Parker 2005) elements of play. Recognising and mediating between features such as these entail complex literacy understandings and skills. At the ‘on screen’ level, in reading these multimodal texts players are required to identify (often constantly changing) individual elements, while simultaneously knowing what these elements in combination signify or mean. They are required to manipulate and change both elements and combinations as they play, so that play becomes analogous to writing – the management of elements in combination entailing multimodal ‘creativity’ – within the frame provided by the game. In some games, or with some software, as outlined in case study 2, this ‘writing’ or making extends beyond the parameters prescribed within the game, to allow players to be more deeply agential in writing back or creating something new and different in making their own characters, scenarios etc, extending to quite new games.

A second set of literacy practices entails the activation of intertextual and intergeneric knowledge, necessary to recognise the scenario and conventions and to know how to understand and play the game. This knowledge includes both older forms of related narratives, characters, genres etc, which pre-exist the game whether literary, filmic, games-based or from elsewhere, and those ‘paratexts’, as Consalvo (2007) describes them, that ‘spring up like mushrooms’ (Consalvo 2007, p. 8) around the game. Such paratexts might include reviews, websites, forums, magazines, walk throughs, cheats, Machinima and more. The notion of paratexts provided a useful framework for theorising around games and literacy, and students’ utilisation and production of both print and digital forms (Walsh and Apperley 2008).

Many of the practices in evidence, and the resources drawn upon by John’s students in their work with *Game Maker*, are recognisably ‘literacy’ practices, albeit many are in multimodal forms. However, much of what John’s students do in the design and construction of their games goes well beyond what most literacy or English teachers (and curriculum) would consider as literacy, and beyond the kinds of knowledge and resources literacy and English teachers draw upon. If being literate entails the capacity to design and produce as well as read and analyse texts of many kinds, it may be that working with computer games entails moving outside traditional boundaries of curriculum as currently conceptualised, in the context of multiliteracies and the digital world. Further, current iterations of literacy theory, including those addressing multiliteracies, cannot yet fully account for such dimensions of gameplay as time and interactivity. If multimodal ‘texts’ and other digital communicative

forms are to become part of curriculum in schools, further work is required to develop theoretical frameworks and forms of curriculum organisation and pedagogy that can adequately respond to the rich texts and engagements students participate in in much of their out of school worlds.

These case studies show two teachers who work in conventional school settings and have grown up with traditional dispositions to text themselves, designing innovative curriculum that develops new textual skills in their students. They are working towards closing the gaps of practice between students' textual experiences. Computer games, because of their inherent qualities, immediately shift the classroom attention towards innovation in working with new textual types, and towards revisioning the English curriculum in the contexts of the digital world, and young people's experience and needs in digital times.

References

- Alverman, D. (2008). Why bother theorising adolescents online literacies for classroom practice and Research? *Journal of Adult and Adolescent Literacy*, 52 (1): 8–19.
- Aarseth, E. (1997). *Cybertext: Perspectives on Ergodic Literature*. Baltimore: John Hopkins University Press.
- Brand, J (2007). *Interactive Australia 2007*, Bond University. Retrieved June 19, 2009 from <http://www.ieaa.com.au/research/Interactive%20Australia%202007.pdf>
- Burn, A. and Parker, D. (2005). *Analysing Media Texts*. London: Continuum.
- Consalvo, M. (2007). *Cheating: Gaining Advantage in Videogames*. Cambridge: The MIT Press.
- Corio, J., Knobel, M., Lankshear, C. and Leu, D. (Eds) (2008). *Handbook of Research on New Literacies*. New York and London: Erlbaum.
- Frasca, G. (2003). Ludologists love stories too: Notes from a debate that never took place. Retrieved December 31, 2008 from www.ludology.org
- Galloway, A. (2006). *Gaming: Essays on algorithmic culture*. Minneapolis: University of Minnesota Press.
- Gee, J. (2003). *What Videogames have to Teach us about Learning and Literacy*. New York and Houndmills: Palgrave Macmillan.
- Juul, J (2001). Games telling stories? A brief note on games and narratives. In *Game Studies* 1. Retrieved April 1, 2009 from <http://www.gamestudies.org/0101/juul-gts/>
- Kress, G. (2006). Communication now and in the future, qualifications and curriculum Authority. Retrieved June 3, 2009 from http://www.qca.org.uk/downloads/12292_commun_now_and_in_the_future.pdf
- New London Group (1996). A Pedagogy of Multiliteracies: Designing Social Futures. *Harvard Educational Review*, 66(1), 60–92.
- Salen, K. and Zimmerman, E. (2003). *Rules of Play* MIT Press Mass
- Walsh, C. S. and Apperley, T. (2009). 'Gaming capital: Rethinking literacy', in P. Jeffrey (Ed.) *Changing Climates: Education for sustainable futures. Proceedings of the 2008 AARE*. Coldstream, Victoria: AARE.

Games and software cited

- Microsoft Games Studios (2007). *Halo 3* <http://halo.xbox.com/halo3/>
- Rockstar Games (2001). *Grand Theft Auto III* <http://www.rockstargames.com/grandtheftauto/>
- Rockstar Games (2008). *Grand Theft Auto IV* <http://www.rockstargames.com/grandtheftauto/>
- Vivendi Universal (2003). *The Simpsons Hit and Run*, <http://www.vivendi.com/vivendi/-accueil-en->
- YoYo games (2008). *Gamemaker 7* <http://www.yoyogames.com/mak>