Literacy in the digital age: Learning from computer games

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Abstract

The need for literacy and the English curriculum to attend to digital literacies in the twenty-first century is well established. Although studies in digital literacies have examined the inclusion of computer games in schools, there has not been an extended study of English teachers incorporating computer games into their teaching and learning through action research projects. This paper outlines the structure and progress of a research project exploring the uses of computer games in English classrooms. We argue that much can be learned about the teaching of both print and digital literacies from examining computer games and young people's engagement in online digital culture in the world beyond school.

Keywords

Literacy, *computer games*, *English*, *curriculum*, *digital culture*, *youth*

Introduction

The richness and complexity of young people's textual/literate experience in online worlds has increasingly challenged contemporary iterations of literacy in the school curriculum. Challenges come in relation to issues of identity and community – who our students are, what world they are part of, and what their expectations of communication and text-related practices might be. Among literacy educators and researchers there is increasing interest in young people's engagement with the texts, the opportunities for representation, creativity and engagement, the 'new literacies' generated there, and the implications of these literacies and forms of engagement for literacy education and the curriculum in school (Marsh and Millard, 2000; Alvermann, 2002; Corio, Knobel, Lankshear and Leu, 2008). At the same time, the massive changes brought about through globalisation and the networked world – changed social structures and new communicative forms (Gee, Hull and Lankshear, 1996; Kress, 2003) – mean that many teachers and schools are actively searching for ways to respond to students' experiences and needs in present and future worlds, and the 'right mix' of new and traditional forms of organisation, pedagogy and curricula.

A number of studies have investigated various dimensions of this engagement in a wide range of sites, from fan fiction sites through mobile phones, multiplayer computer games, flikr, youtube, and a swathe of social spaces such as facebook, myspace or twitter. Such studies variously explore the forms of literacy and communicative practices entailed, the power and attractiveness of the affordances of the online world, the intermeshing of the online world with identity, relationships, values, ideology and globalisation, and the role of digital and online spaces and technologies in young people's lives. (e.g. Ito, Okabe and Matsuda, 2005; Thomas, 2007; Black, 2008; Steinkhueler, 2008; Davies and Merchant, 2009). This paper reports on the interim stages of a project set up to research what might be learnt about literacy in the digital age and the implications for English and the literacy curriculum, through looking at computer games and the social and literate practices entailed in playing them.

The project, *Literacy in the Digital Age of the Twenty First Century: learning from computer games* (Beavis, Bradford, O'Mara, and Walsh, 2009) was funded by the Australian Research Council, with Thomas Apperley as Research Fellow and Amanda Guiterrez as Research Assistant. The project was based on the premise that learning more about how young people interact with texts outside school, and more about the nature of those texts and digital forms, has the capacity to provide insights and information to strengthen the teaching and critical analysis of both multimodal and traditional print texts. In doing so it confronts a key paradox in contemporary education, which posits that the skills demanded for an increasingly technological and changing work-place are

not being learned in schools; rather they are being learned through youth's 'engagement' in virtual worlds. Through collaborative case studies with high school teachers, this research investigates computer games, new forms of text and literacy, youth subjectivity and the role of video games in adolescents' lives.

In its initial conception the project was primarily concerned with computer-based games on Macintosh and PC platforms, hence the usage of the term 'computer games'. Over the course of the project however, the scope has widened to include other platforms such as PlayStation, Xbox and PSP, so that the project encompasses the wider spectrum of video games. Computer (video) games were taken as exemplars of global, ICT-based popular culture where meaning is built from multimodal elements, and where young players have to be actively learning and involved in order to play.

Working in partnership with the Victorian Department of Education and Early Childhood Development, the Australian Centre for the Moving Image (ACMI) and the Victorian Association for the Teaching of English, the project works with English teachers and students, who are computer games players in five Victorian Secondary Schools, to address a range of questions exploring the kinds of literacies entailed in playing computer games and the implications of games and young people's engagement with them for literacy and the English curriculum. The project uses a combination of an online survey, close study of individual expert games players, analysis of a range of popular computer games, the development of a model for games analysis and education, and a three year programme of action-research based professional development. It set out to identify the kinds of literacy practices young Australians are engaged in as they play computer games, to identify the ways in which computer games shape young people's values and sense of identity, to develop, trial and evaluate a model for computer games education and teacher professional development and to develop classroom approaches for analysing digital texts such as computer games, and for teaching with and about such texts to strengthen understandings of both print and multimodal forms of literacy.

Structure and methodology

The methodological challenges entailed in researching young people, computer games and literacy require a mix of perspectives and methodologies that are sensitive to the complexity of the enterprise. Paradoxes and problematics include such matters as the location of research on largely out-of-school literacies within the context of the school, the selectivity of what students are prepared to show (and of what adults may be able to see) within the online world, and the need for researchers to be familiar with games at the same time as recognising that

their adult experience is qualitatively different from those of the students they observe. Researching games and game-playing requires a recognition that what constitutes 'the game' is itself in some ways different for every player, at the same time as games are both fixed and fluid, interactive and predetermined, with agency functioning in paradoxical ways. Further, as a multidisciplinary field, games studies draws on sometimes contradictory paradigms, with challenges also in how (and whether) to conceive of games and games related practices as forms of literacy. This has led not only to questions about the ways in which, and degree to which, we might incorporate games as texts into the English/literacy curriculum, pedagogy and assessment, but also to debates about the 'limits of literacy' when time and action are added into the already multifaceted accounts of literacy such as those offered by the Multiliteracies model (New London Group, 1996) and Design (Kress, 1997, 2003; Gee, 2003).

The research is organised around three strands: (i) Computer games as textual forms; (ii) young people and global digital culture and (iii) professional development and computer games education. In order to understand the complexity of computer games, the ways in which young people read and interact with them and the implications and possibilities that games and game play offer for understanding digital literacy practices, the study juxtaposes analytic frameworks of different kinds – literary, dramatic, semiotic and pedagogical. It draws on a range of theoretical resources to analyse and make use of the data generated, utilising three theoretical frameworks to analyse the texts and young people's engagement with them, and a fourth to structure the organisation of the professional development model and provide a basis for the action research projects planned around ICT:

- A framework for analysing narrative, structure and ideology in multimodal texts, adapting a range of models from the fields of children's literature, digital culture, drama and semiotics and also drawing on literary and play theory and grammars of visual design to analyse the structures, ideologies and features of games (Kress and Van Leeuwin, 1996; Aarseth, 1997; O'Mara, 2003; Bradford, 2001, 2006).
- A media and cultural studies based approach that brings together institutions, texts and audiences to provide a generative framework for understanding both texts and the social and literacy practices surrounding them. (Buckingham and Sefton Green, 1994; Buckingham, 2000; Sefton-Green, 2004).
- A sociological framework for understanding the functions and consequences of digital literacies in the lives of adolescents and their embeddedness in games culture, global marketing, school contexts and literacy education (Bourdieu and Wacquant, 1992; Carrington and Luke, 1997; Albright, Purohit and Walsh, 2006).

- A 3-D model about literacy, pedagogy and ICT for teachers to engage in collaborative research with their students to explore and analyse digital texts and their engagement with them (Durrant and Green, 2000).

Four schools formed the kernel of the research, with a fifth school joining the project in 2008. The five schools, two inner urban state secondary schools, two large Catholic boys' schools – one in outer Melbourne and one in a country town two hours from Melbourne – and one large independent school, became involved by virtue of teacher interest in new media, popular culture and multimodal literacies, and the demographic and social diversity of their cohorts. Participating teachers are working across the three years of the project to undertake action research projects, developing case studies of the leisure time literacy practices of one or more of their students, trialling approaches to teaching with or about digital texts and literacies, or exploring options for using insights gained from observing young people's out-of-school literacy practices to support the teaching of in-school traditional print literacy. At the same time, groups of students have been taken to the Games Lab at the Australian Centre for the Moving Image (ACMI), to enable the observation of game play, with support from the ACMI partners in providing computer games education and experience for teachers and researchers additionally.

In the first year of the project, following the initial approaches and negotiations with schools, an initial period of professional development and discussion took place about computer games, literacy and English, as well as the relationship between computergames and learning more generally. Professional development days at the Australian Centre for the Moving Image allowed teachers to come together and share ideas, and for input and theoretical perspectives from the research team and from Vincent Trundle and Brett McLennan from ACMI. Planning took place around the logistics of working with computer games in English, together with an introduction to action research and the establishment of a message board. Analysis of specific games was begun, and the first round of action research projects planned. Interviews were undertaken with students and teachers with student focus groups at the schools and during the ACMI days. A survey of students' game playing practices, preferences and experiences was undertaken at the end of the year.

In 2008 the classroom-based projects in schools began. Throughout the year, teachers and the research team worked together to plan, observe and document a variety of classroom units concerned with different games and aspects of game play linked to literacy and curriculum in multiple ways. Projects included *Game-O-Rama*, a class-based wiki developed by the classroom teacher, which provided a site for students to explore issues related to computer games and game play; case studies of

individual students; and curriculum units on specific games such as the 'fantasy football' game based on Australian Rules Football, *SuperCoach* (Herald Sun, 2008), or games linked to other popular forms, eg *The Simpsons Hit and Run*. In the country school, students were engaged in the practicalities of game design through the use of *Game Maker* software, with a drama related project planned for 2009. At the large private school that joined the project half way through the year, an extensive unit on fantasy and computer games was developed, built around *Lord of the Rings* – the book, film and game – which encompassed introductions; Jungian perspectives and the theories of Propp (1928/1968) and Campbell (1949) outlining classic structures of myth and fairy tale and their correspondence to narrative structures and psychological archetypes; discussions about character and avatar; and a comparison between print and multimodal forms. While initially grounded in traditional literature and literacy, the final piece of assessment required the students to design a narrative for a computer game and make an oral presentation of their 'pitch' for the game concept.

Students also had the chance to study a 'Serious Game' – that is, a game designed specifically for teaching and learning about specific content and curriculum areas. By great good fortune, a student teacher in one school designed and taught a unit on *The Macdonald's Game* (Molle Industria, 2006) – a game that critiques contemporary global economic practices and their effect through enrolling the player in a series of processes, choices and actions analogous to those entailed in producing hamburgers for the multinational mass market.

Project schools were also able to take advantage of the *Game On* exhibition, hosted at the Australian Centre for the Moving Image during this year. This interactive exhibition, organised and toured by the Barbican Art Gallery which is owned and funded by the City of London Corporation, showcases a history of videogames, from the earliest adaptations of arcade games, and games like *Pong* and *Space Invaders*, through to contemporary massively multiplayer games, and games played on a variety of platforms such as the X Box and the Wii. Classes from all project schools attended the exhibition, with teacherd using the exhibit as a catalyst for a student-based research project on computer games. As student-researchers engaging in fieldwork, they reported on the games played, the aesthetics of the avatar, the actions available to the avatar, and the space of the game. The process was chronological; starting with simple games, students developed an understanding of the increasing complexity of more recent and contemporary games while developing a metalanguage to discuss their experience, space, actions and interactions in game space. The data that students gathered formed the starting point for their own gaming portfolios, whose development will proceed around the paratextual (Consalvo, 2007) elements of gaming, reviews, FAQs,

walkthroughs, YouTube videos, gaming magazines, strategy guides etc. Through the design of a games portfolio, the teacher and students integrated writing, reading, speaking, listening and design activities around game play and the design of multimodal texts.

Based on work undertaken by the teachers during the year, and on theoretical readings and discussion, this year also saw the initial development of a Model for teaching with and about games and literacy, discussed and refined by the project teachers in the light of their experience and observations working with computer games, at the professional development day held at ACMI at the end of the year.

Preliminary findings

Survey

At the end of 2007 a survey was given to students to enable the collection of quantitative data around the general patterns and experience of game playing. Of the 331 students in the survey, over 80% indicated that they played computer games. The majority (41%) played games on their home computer, while a significant number used PlayStation2 (25%), and Xbox (10%). The remainder used a variety of mobile platforms (mobile phone, PSP), older generation consoles (GameCube), and new generation consoles (Wii, Xbox360). Students were asked to nominate up to eight games that they had played recently, and over 1400 games were mentioned in the responses. Despite this variety, however, seven games (and game series) made up 25% of the individual games mentioned, and 30 games constituted 50% of the total individual games mentioned. The seven games were: the *Halo* (2001-) series; the *FIFA* (1993-) series; *The Need for Speed* (1994-) series; *Counter-Strike* (2000); the *Grand Theft Auto 3* series (2001-2007); *The Sims* (2000-) series; and *World of Warcraft* (2004). These games rated at higher levels by age than the age of the students who played them. Games were most frequently – around 60% of the time – single-player or played in single-player mode; multiplayer games were played 20% of the time, and online multiplayer games were played were played with a similar frequency (20%).

Fifty per cent of the respondents played games for between one and five hours a week, just under 20% played games for six to ten hours a week, the rest played more frequently, with around 5% of the remainder playing games over forty hours a week. A significant number of students, particularly girls, were casual games players, and players of 'casual' games.

Students were asked to rate the importance of a set of items that deal with game-playing issues such as winning, avatar creation and social aspects within the game-playing environment on a three-point scale. The

highest ranked items were those concerned with winning, whereas the items that were to do with the social aspects created by game playing and avatar creation were ranked the lowest. There were only two reported differences in importance according to gender; boys tended to give: 'Getting Ahead' and 'Competing with Others' a higher importance than girls.

Students were also asked whether they believed their abilities to persuade, inspire, motivate and understand people outside the game had improved as a result of playing games. Most students saw no connection or improvement at all but a small group claimed a significant improvement in this area.

Computer games as text

Computer games are texts in the broadest sense of this term: they are cultural objects which both reflect and produce the meanings and ideologies of the settings in which they are produced and received. They are hybrid forms that combine visual, narrative and game elements while engaging players in energetic action and (in many cases) interpersonal and social processes. Computer games do not exist as texts until they are played; and each player approaches the game differently, depending upon disposition, experience of gaming, and knowledge of the world and of texts.

The game *Bully* (also known as *Canis Canem* (Rockstargames, 2006) has aroused a good deal of fear and alarm because it is associated with cultural anxieties about bullying. It is always necessary, however, to play games in order to examine critically the ideological frameworks that inform them. Players of *Bully* are positioned to align themselves with the central character, Jimmy Hopkins, as he finds his way around Bullworth Academy, the private college where his mother and stepfather have consigned him. But the game is so loaded with parody (of cultural institutions, human behaviour and other texts) that players are at the same time distanced from the figure of Jimmy, who is both the object and the subject of the game play. For instance, at one point he is used as a pawn by a female teacher at Bullworth Academy, who pretends to have sexual designs on Jimmy in order to further her romance with another teacher. While the teachers' behaviour is subjected to broad parody, Jimmy is seemingly unaware of the implications of the scene; he is, in effect, a cipher on which is loaded the meanings which players bring to the game. While the figure of Jimmy resembles the unreliable narrators of fiction, an added dimension of player experience resides in the fact that it is only by making Jimmy act that players can move through the game. This makes for a radical reflexivity, which both invites and resists player identification.

The place of games in students' lives

Interviews with students who self-identified as games players underlined the findings of the survey. For many students, games and game play form an integral part of their everyday lives. Games and game play are linked to friendships and family relationships, the development of personal authority and identity, the development of perceptions and understandings of themselves, and their location within youth culture, globalisation and contemporary life. Games for many students are highly social and occasions for communication and representation of self with immediate friends and online partners. Even among this group, however, not all students were deeply involved in games. Some students played games only occasionally, with their status as games players of varying importance depending on their friendship groups. Students often played with members of their family, and may have been introduced to game playing in general, or a specific game, through a family member. Amongst the country students, game-playing was particularly likely to be undertaken within the family, with a father, brother or less frequently sister or mother, or with a more distant relative. Students commented on their parents' views of games and game playing, and on whether they themselves played games, with the negotiation of parental attitudes towards games part of the dynamics of family and personal life. Although moral panics about students and computer games commonly focus on questions of addiction and violence, students often disclosed a self-reflexive awareness of themselves as players. Thus, one student noted that the game enabled him to 'do something that you can't really do in real life'.

Literacy, English and design

In our research with the teachers at the schools involved in the project, we consistently noted the importance of the paratext and design as tools for understanding the changing nature of literacy in relation to technological change, and as a basis for curriculum work with and around literacy and games. Important to literacy educators is Consalvo's (2007) reintroduction of the concept of paratexts to the study of videogame culture (Walsh & Apperley, 2008). They are defined as the system of media products – 'communications and artifacts' – which emerge on and about videogames that frame their consumption. This system includes a wide variety of products made by the videogame industry (guidebooks), specific paratextual industries which are parasitical to the videogame industry (cheat books, mod chips), and by the players' themselves (FAQs, Walkthroughs, YouTube videos). It includes procedural materials that are focused on game play, and various extra-gamic materials that use videogames as a platform, like Machinima (a form of filmmaking that uses computer game technology to shoot films in virtual reality) or reference the videogame aesthetic, like fan art and music. Importantly, for many games this also

includes material for the game, which was created by the players, like furniture and skins for *The Sims 2* (2005, Maxis), or maps for *Warcraft III: The Frozen Throne* (2003, Blizzard). The existence of these materials suggests that paratexts and their peripheral industries might be more interesting/significant than the 'originary' texts (Consalvo, 2007), not only because they shape games and gamers in the process of creating new markets, but because they resonate with adolescents' lifeworlds, in ways many school-based texts do not, and therefore need to be included within the literacy curriculum (Walsh & Apperley, 2008). Drawing on their out-of-school literacy practices, students engaged productively in the multimodal design of paratexts to re-represent their learning creatively, through multimodal design; because when students are permitted to design new screen-based textual forms, they are highly creative and better able to communicate their knowledge (Walsh, 2007). The notion of design, both literacy as design and the design processes in which students engage in the creation or modification of games, together with multimodal design of paratexts, provides an important future vehicle for work in schools.

Where to from here?

Other activities planned for 2009 include further action-research and school-based research, including work incorporating Drama and the use of *Game Maker* to develop and play with games, and a unit on serious games. The unit on serious games explores ways of working with computer games as texts with students by focusing on raising public awareness, affecting behaviour and empowering the learner through game play. The unit also focuses on the ways in which character works in a variety of serious and entertainment games and the accumulation and exchange of students' gaming capital (Walsh and Apperley, 2008, 2009).

Groups of students will again be brought to the Australian Centre for the Moving Image for further observation and analysis of game play. An additional round of interviews will take place, case studies of individual games players will be further developed, and the Model for games and literacy developed in 2008 will be trialled and refined. Teachers will also be engaged in writing workshops and the preparation of a book of teacher-authored case studies and resources. Analysis of specific games by team members will continue. The project will conclude with a minconference, devoted to learning from digital culture to improve the teaching of print and multimodal literacies, at which the teachers' work, the Model and the findings of the project will be presented.

The progress of the project thus far has thrown up a range of issues and questions about the nature of games and what it means to approach them

from an interdisciplinary perspective. This includes questions about how to conceptualise games as action within this frame, and whether working with games in English also crosses over into other areas, so that units might run across two or more curriculum areas to address more fully the affordances and possibilities of games.

The project is specifically concerned with intersections between games and literacy. The bulk of our attention in this paper has been on the ways in which project teachers and researchers have explored and reflected on the possibilities for studying games in school, and games as forms of text and literacy. However, the games themselves and the literacies and literacy practices entailed, are only half the story. Like any text, games come into existence as they are 'read' and played. More than this, for many students, digital culture and computer games play a powerful role in shaping not just their expectations of text but also of a range of practices and assumptions about communication, representation, self and identity, and about the global world and themselves as citizens of it. An important dimension of the project thus addresses the place of computer games in our students' out-of-school lives, the ways in which computer games are woven into their everyday practices and their relationships on and off line, their ongoing projects of identity and their constructions of and positionality within the world. In part, our attention has been on what their immersion in such texts and the digital culture of the online world might mean in relation to their communicative and textual practices and expectations, and the range of semiotic resources that they draw upon to make meaning in these worlds. In part, we have been working with teachers and schools, together with our industry partners, to tease out what the implications of this immersion might be for curriculum, literacy and learning more generally, and the kinds of frameworks, pedagogies and resources best able to support students to be critically and creatively active in both print and digital forms. This mix of tools and approaches, coupled to an active partnership with teachers and schools, positions us well, we hope, to be alert to issues such as these, and to weave our way carefully into learning more about what computer games and young people's engagement with them have to tell us about the teaching possibilities of both digital and traditional literacies.

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