Critical Literacy Learning through Video Games: adolescent boys’ perspectives

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ABSTRACT The rapidly growing phenomenon of video games, along with learning that takes place through video game play, have raised concerns about the negative impact such games are reputed to have on youth, particularly boys. However, there is a disconnect between the discourse that suggests that boys are failing in learning literacy skills, and the discourse that suggests that they are learning highly sophisticated literacy skills through engagement with video games. This article reports on a research project investigating the literacy skills boys are learning through video game play and explores whether these skills are actually beneficial and whether they aid learning or distract from more useful literacy learning and healthy pursuits.

Introduction
The rapidly growing phenomenon of video games, along with learning that takes place through video game play, have raised concerns about the negative impact such games are reputed to have on youth. A greater understanding of the ‘post-literate culture’ in which we live (de Castell, 1996), and, in particular, this form of entertainment/educational tool, is needed in order for educators and parents to assess its advantages and detriments, and to respond to widely held but largely unsubstantiated beliefs about video game play (Hagood, 2000; Prensky, 2001; Gee, 2003). Many educators and parents are concerned about video games contributing to children’s and adolescents’ violent behaviour and attitudes, encouraging sedentary practices and social isolation for youth, deterring them from reading, and provoking addiction or attention deficit disorders. Rather than viewing children and adolescents as capable and thoughtful individuals who bring an array of knowledge and experiences to new learning situations, they are perceived as needing protection from ‘harmful’ influences of little understood modes of activity. However, research on video game literacy and learning suggests that youth take up video games in highly sophisticated ways (Jenson & de Castell, 2004; Sanford & Madill, 2006; Mackey, 2007).

One such sophistication of video game play and creation is the clear link to literacy when ‘literacy’ is understood as more than print text (Gee, 2003). Alloway & Gilbert (1997) remind us that ‘what it means to be “literate” is constantly being negotiated and renegotiated as we become increasingly affected by technological and informational change’ (p. 51). Literacy in current times is a matter of applying the knowledge of reading and writing in a particular kind of script (‘letteracy’, as described by Lankshear & Knobel, 2007, p. 2) for specific purposes in specific contexts of use (Scribner & Cole, 1981). Youth continually participate in popular media, developing a wide range of skills in understanding and creating texts using alphabetic, visual, and oral semiotic systems in diverse ways. Players learn to interpret multiple sign systems, including maps, numbers, patterns, weapons abilities, and they learn how to communicate through online typing, reading, speaking through headsets to strangers, and listening to symbolic game sounds to help their game play. These cues and modern technological skills are becoming more necessary for various careers, and video games are aiding the learning process. Without an understanding of these complex literacy skills, educators and parents may feel at a loss of how to best guide students beyond the operational levels of using these modes of communication towards more cultural and critical practices.
The world of new technologies surrounds us, and it is males who appear to be both engaged in such activities and to be seen as less print literate than they used to be. However, adolescent males are more often, at more sophisticated levels, engaging with new technologies, e.g. video games, computer-based activities, and computer programming, thus developing skill and confidence in navigating digital spaces and new technological tools. From pre-school age, it is not uncommon for young boys to spend hours playing video games, trying out new strategies, puzzling their way through engaging and interactive ‘texts’. Worrying as this may seem to be, we have examined boys’ practices with these ‘texts’ (Blair & Sanford, 2004; Sanford & Madill, 2006, 2007), and we have concluded that literacy skills are being learned through new technologies. Video game play can be powerful interactive learning. Gee (2003) and Johnson (2005) present compelling arguments related to sophisticated learning occurring through engagement with video games. We believe that engagement with video games can shape perceptions of the world and of one’s place in the world, but we do not fully understand the nature of that relationship. There is, then, a disconnect between the discourse that suggests that boys are failing in learning literacy skills, and the discourse that suggests that they are learning highly sophisticated literacy skills through engagement with video games. There has been little research focused on adolescent boys related to the literacy skills they are learning through video game play – are these skills actually beneficial and do they aid learning or are they limiting, distracting from more useful literacy learning and healthy pursuits? What are the literacy skills being learned through video game play and how are they being used in relation to school literacies?

If indeed boys are learning important literacy skills through video game play, which is recognized as a powerful immersive experience (Friedman, 1995; Gee, 2003; Wolf & Perron, 2003; Johnson, 2005), are they also learning other aspects of the world? There is evidence to suggest that video games are teaching many important literacy skills, but are they also addressing socio-critical literacies? Are video game players critiquing and challenging the often highly patriarchal, sexist, and racist worlds presented in video games, or are they absorbing a world-view that emphasizes hegemonic, Eurocentric patriarchal values of competition, rationality, hierarchy based on power, and views that support racist and sexist notions of the world? This article examines questions related to the critical literacies that are being learned by boys through video game play and how they understand the relationship between values presented in video game virtual and ‘real’ world spaces.

Changing Perceptions of Literacy

The past decade has given educators, parents, and western society in general a very clear message about boys and their literacy learning – they are doing badly, and the downward spiral of their success in school is a continuing trend. International reports (Programme for International Student Assessment [PISA], 2005) and national reports (Government of Canada, 2004), as well as many local initiatives and public media, have generated a moral panic regarding boys’ success in school and in post-secondary education – ‘the trouble with boys’, ‘alpha girls vs. snail males’, and ‘report card notes gender gap’ encourage the notion that boys’ literacy skills are poor, worse than girls, and that we need to address these concerns in school and family literacy programs (Hammett & Sanford, 2008). For over a decade, however, the New London Group (1996) has called for a much broader view of literacy than portrayed by traditional language-based approaches. Literacy now encompasses a broader range of texts and reading and writing skills than have been traditionally recognized (Kress, 2003; Lankshear & Knobel, 2003; Sanford, 2005) as children and youth are surrounded by a burgeoning array of technologies and alternative literacies used for communicating information and ideas. Recently scholars such as Gee (2003) and Johnson (2005) have suggested that the literacy situation is nowhere near as dire as suggested through reports of high-stakes test scores. Gee has argued that activities boys are engaging in, such as video games, Internet use, chat rooms and blogs, are indeed enhancing their literacy skills. He proposes that video game creators employ numerous learning principles (e.g. transfer, practice, discovery) and that players (mainly males) are learning a wide array of literacy skills. Further, these are the literacy skills that will enable success in twenty-first century workplaces and communities (Prensky, 2006). Technologically literate students are developing skill in ‘reading’ visual, multimodal texts as well as traditional print-based texts of formal schooling; they are developing skill in ‘writing’ through the
same number of technologies, i.e. instant messaging, chat rooms, email, MSN, blogs, websites, computer games, as they learn to communicate effectively and efficiently, to create an array of new texts that can be shared with their friends and acquaintances around the world in an instant.

In a society of burgeoning information and technological advances, we as educators need to re-examine our commonly accepted definitions of literacy that focus on the reading and writing of print-based texts, in order to provide educational experiences that enable ongoing learning and engagement in today’s world. Kress (2003) suggests that ‘it is no longer possible to think about literacy in isolation from a vast array of social, technological and economic factors’ (p. 1). He sees the ‘dominance of writing being replaced by the dominance of the image; the dominance of the medium of the book to the dominance of the medium of the screen’ (p. 1). Literacy now relates to a much broader set of texts including visual, multimodal, and digital texts that appear in many forms all around us all the time. Gee (2003) reports that ‘boys are resisting school literacies’ where they have repeatedly been unsuccessful, ‘and instead [are] becoming literate in the semiotic domain of gaming which opens up experiences in different ways of speaking, listening, viewing, and representing’ (p. 18).

Youth, in particular males, are finding many literacy activities, largely outside the realm of the school institution, that engage them and sustain long-term interest, e.g. video games (including computer and console systems); these games provide an interesting, engaging, dynamic and social space for many types of boys, both those who succeed at school literacy practices and those who struggle. In video game play, these boys represent a cross-section of social groups, they can engage without interference or sanction from adults, whenever they choose or when they have opportunities, and in ways that provide social capital for making connections with peers in real-time and virtual spaces. Boys’ lack of success in formal schooling activities, so frequently reported in the public press, can, we argue, be framed as resistance, both unconscious and conscious, against meaningless, mindless, boring schooling or workplace activities and assignments; instead, they engage in activities that provide them with active involvement and interest (Smith & Wilhelm, 2002; Blair & Sanford, 2004). Video game play also serves as a form of resistance to stereotypical views of ‘boys’ which has categorized them, by virtue of the fact that they are boys, as unsuccessful learners. Video games are spaces where boys can be successful.

Theoretical Framework

This research draws on a theoretical framework for alternative or ‘new’ literacies and on conceptions of critical literacy learning. Momentous changes related to literacy are occurring (Kress, 2003; Lankshear & Knobel, 2003, 2007) which affect how we learn and how we understand knowledge. Although the learner who has technological knowledge is increasingly advantaged in the world, schools are not quick to adopt practices that embrace new texts and new ways of interacting with texts, e.g. visual, multimodal, and interactive texts. Additionally, literacy has traditionally been connected to more feminine interests and abilities (Skelton, 2001), hence limiting the provision of literacy activities that embrace new ways of interacting and communicating traditionally seen as belonging to the ‘male’ world. Literacy learning should provide access for everybody to technological knowledge that informs how people communicate, form relationships, and develop increased potential in the work world. As researchers’ and some educators’ notions of literacy are rapidly changing, and as more and more literacy ‘texts’ are being produced, the need for critical engagement with these texts is recognized, i.e. an awareness of our interconnectedness with the rest of the world and our responsibility to interact with it in a positive way. This awareness creates an ability to act with conviction that leads to change based on Freire’s (1970) notion of conscientization, a type of learning which is focused on perceiving, exposing and taking action against social and political contradictions.

This research study of developing critical literacy skills through engagement with video games draws on a sociocultural understanding of masculine hegemony and gender. Hegemonic masculinity, suggests Kenway (1997), ‘is a position which is achieved as a result of collective cultural and institutional practices, and asserts its authority through these practices particularly through the media and the state’ (p. 50). Certain characteristics are associated with hegemonic masculinity, including ‘physical strength, adventurousness, emotional neutrality, certainty, control, assertiveness, self-reliance, individuality, competitiveness, instrumental skills, public knowledge,
discipline, reason, objectivity and rationality' (Kenway & Fitz Clarence, 1997, p. 121). Gender as a social construct impacts learning both in and out of school, dictating what is and can be learned and what is out of bounds. Gender, and therefore masculinity, is not fixed in advance of social interaction, but is constructed in interaction, and masculinity must be understood as an aspect of large-scale social structures and processes (Connell, 1995), such as video game play.

This article intends to develop our understanding of video game play as it relates to literacy learning, especially critical literacy, and examine how video game play and creation is interwoven with complex issues of gender and masculinity. Based on a sociocultural perspective in examining new or alternative literacies, we draw on Green's (1997) three-dimensional model to examine the complexities of literacy learning, both in its traditional and 'alternative' forms. As Green (1997) describes, we need to raise questions about operational dimensions (basic competence with the skills of reading and writing), cultural dimensions (competence with the meaning system of literacy as social practice), and critical dimensions of literacy learning (awareness that all social practices, and thus all literacies, are socially constructed and 'selective'). Using this model, we believe that as we embrace video games as a powerful learning tool (Gee, 2003) we will explore learning in all three dimensions, including the critical dimension. However, we believe that we need to find ways to raise critical questions relating to these texts and to disrupt unexamined hegemonic masculine attitudes related to power, status and exclusivity.

This research, drawing on critical literacy learning theory, proposes that despite their lack of perceived success in school literacies, boys outside of a school environment are learning literacy skills in highly complex environments that will lead to social, economic, communicational and technological utility, valued in the workplace for ‘success’ in modern life. We wonder, however, whether this success is taken up with unquestioned acceptance of dominant masculinity values and practices? What is meant by ‘critical literacy’? There seem to be differing views as to what constitutes critical literacy. As Green (1997) suggests, critical literacy is one dimension of literacy learning, developing an awareness that all social practices, and thus all literacies, are socially constructed and ‘selective’. Yet critical literacy is often discussed not in relation to social practices, but to technological skill levels. We wish to examine the ways in which video game play can enhance critical literacy at a global level, developing deep understandings of sociocultural and social justice issues.

Critical Literacy – what does it mean?

Video game research continues to promote and celebrate the critical thinking that is embedded within video games (Gee, 2003; Jenkins, 2000; Prensky, 2001, 2006): problem solving, understanding of rules, semiotic decoding, and reflection on game strategy. We agree with the importance of this perception of critical thinking, especially as a learning tool for adolescents, so infrequently used in the traditional classroom environment (de Castell & Jenson, 2004). However, we have found in our research that a more complex understanding of critical thinking, the deconstruction of ideologies, is not being developed through video game content, nor is it being practised during video game play.

Lankshear & Knobel (2003) address the revolution of literacy practices due to technological advancements and comment, ‘the entire epistemological base on which school approaches to knowledge and learning are founded is seriously challenged and ... made obsolete by the intense digitization of daily life’ (p. 155). Turkle (1995a, b, 1999) suggests that these new ways of knowing affect our identities, shaping and reinforcing hegemonic masculine views for the boys who engage in alternative literacies such as video games. This is a concern for educators and for parents of children and adolescents who are blindly using technologies such as video games without questioning the messages they are reading. Messages regarding gender (de Castell & Bryson, 1998), violence (Keegan, 1999), and power are prevalent in many popular video games. Prensky (2006) recognizes these possibilities and suggests that conversations about video game content and play with children in order to address their perceptions and world-views are essential. If, as Norton-Meier argues, video game play ‘is about the action and interaction of values, dilemmas, and decisions’ (2005, p. 430), opportunities need to be made for adolescents to critically examine the video games’ values and decisions. If video games are a powerful learning tool, as suggested by Gee (2003), Johnson (2005) and Prensky (2001), we must also find ways for video game players, still
predominantly males, to raise critical questions relating to these texts and to disrupt unexamined hegemonic masculine attitudes related to power, status and exclusivity.

Freebody & Luke’s four-resource model of literacy (1990), i.e. (1) code-breaker (How do I crack this?); (2) text-participant (What does this mean?); (3) text-user (What do I do with this, here and now?); and (4) text-analyst (What does this do to me?) suggests a range of literacies that can be applied to different texts using different ‘critical’ lenses. We argue that in order to understand the impact of video game play and creation on adolescents’ learning, identity development, and understanding of the world in which they live, educators need to pay more close attention to how the last of these questions can be taken up with and by adolescents. Although critical literacy often is considered in reference only to textual or technological features of a text – observable skills and techniques – we posit that critical literacy involves analysis and critique of relationships among texts, language, power, social groups and social practices. Critical literacy involves the questioning and challenging of attitudes, values and beliefs that lie beneath the surface of a text. As Shor (1999) suggests, ‘critical literacy thus challenges the status quo in an effort to discover alternative paths for self and social development’ (p. 1). We need to pay attention to ways we engage in and interrogate our world, if, as Shor argues, ‘We are what we say and do. The way we speak and are spoken to helps shape us into the people we become. Through words and other actions, we build ourselves in a world that is building us’ (p. 1).

Setting the Context
One of the ways that critical literacy can be applied to video game play is to engage players in the construction of games. This research project examines the ways that game players’ thinking shifts when they move from consumer/player of video games to a more active role of producer/creator. Observations of video game-playing and video game-making teaching sessions for this research were conducted in a unique setting, a private business venture called the Game Academy. The Game Academy (http://www.thegameacademy.net) was a unique video gaming centre offering five separate gaming rooms with multiple consoles, big screens, leather couches, and surround sound. During the course of a summer and subsequent autumn, the Game Academy hosted video game design camps. Students, aged 8-12, would sign up for a class that met five times. The students were paired off and taught by an older adolescent – the instructor – who had previously been given a week-long course in using and teaching the software Stagecast [1], a computer software program that enables youth to create a two-dimensional video game and includes helpful tutorials.

The participants in this study involved nine adolescent males, aged 11-16, who were observed and interviewed about their experiences playing video games, creating video games and instructing video game design to younger students. The participants attended public and private schools across the city and their academic (school) success varied. Many of them did not know of each other until teaching at this camp. Each instructor was a video game player and most of them had considerable knowledge about computer technology as well. After a week of training, which consisted of learning the Stagecast software, creating a video game, and discussing the role of coaching students in these camps, the instructors were responsible for facilitating the learning of two younger students as they created their own video game in a one-week summer camp. The instructors were also integrally involved in the production of their students’ games, including the structure, genre and theme of the games. The researchers observed nine week-long video game making sessions held over a two-month summer period, following up each session with focus group interviews and individual interviews with the instructors. Additionally, digital still images were taken of the games being created and played, and the conversations between instructors and their students were audio-taped. Following the sessions, the transcripts and visual images were analysed and coded for significant themes, using Green’s (1997) three-dimensional model of literacy.

Finding Out – operational and cultural literacies enacted
In order to respond to the questions posed at the outset of this research project, after analysing the data (focus group transcripts, still images and video clips of the participants creating video games, and our own observation notes) that we had gathered over the months of working with the instructors, we recognized that we had to tease out more clearly the subtleties of Green’s literacy
categories, to examine the nuances of operational, cultural and critical literacies as he defines them. Using the distinctions of technological/textual critical literacy (i.e. competence with the tools, procedures and techniques involved in being able to handle the written language system proficiently), and sociocultural critical literacy (i.e. deeper understandings about interactions with others, power relations, and where values, standards and perspectives come from), we examined the operational, cultural and critical dimensions of literacy learning as identified by Green (1997).

Operational literacy includes but also goes beyond competence with the tools, procedures, and techniques involved in being able to handle the written language system proficiently. It includes being able to read and write/key in a range of contexts in an appropriate and adequate manner (Lankshear & Knobel, 2003, p. 11). We saw evidence of our participants understanding how computers work, using written and visual tutorials that were provided, applying procedures to create stages of their games, testing out their applications by playing the game, and applying past computer experiences to new situations. Cultural literacies, as described by Green, involve ‘knowing how to make and grasp meanings appropriately within the practice ... this means knowing what it is about given contexts of practice that makes for appropriateness or inappropriateness of particular ways of reading and writing’ (Lankshear & Knobel, 2003, p. 11). We observed our participants enacting many types of cultural literacies, including asking their peers for help, asking their peers to try out their game, critiquing their peers’ game and giving suggestions for making it better, employing aspects of narrative, characterization, theme, and thinking about each other as their audience.

Schools excel at teaching operational literacies, but creating video games requires many operational dimensions of literacy that are not easily recognizable to teachers and parents. Cultural literacies are not always explicitly taught in formal educational settings, but our participants could articulate their knowledge about their audience, about which of their students to engage in discussion to assist with the learning process, about the role of the teacher, and about what makes a good video game. We wonder, however, how we can make the cultural dimensions more apparent and explicit in order to encourage more critical awareness of how literacy learning is socially constructed.

The participants demonstrated a range of operational and cultural literacies as they helped their students develop video games. Through demonstrations, verbal and gestural interactions, the instructors and their students worked together to learn and reinforce a range of literacies. The following themes emerged from our analysis of data: (1) learning of technological literacies; (2) reinforcement of previous literacy learning; (3) social interactions to support literacy learning; and (4) creative thinking through literacy engagements is reinforced.

Learning Technological Literacies

The participants modelled, and learned for themselves, how to explore new technologies, to experiment, and try out new aspects of the hardware and software. Winston, pointing at the screen, suggested to his student, ‘Okay, look at the tutorial, read the directions, now go back to the game’. Jackson helped one of his students create the background for his game: ‘Go on to the first page, right click on it, no, double click, then go to “background”, then go to “get background”, now you can find the background, it’s on the desktop, you have to scroll down …’ Nolan commented to his student, ‘Hmmm, the wheels don’t all fit on the screen, this needs adjustments’.

Learning, however, was not confined to the video game design software; when the keyboard would not respond, instead of being frustrated or giving up, Alex seized the opportunity to teach his students how to navigate the Internet with only the mouse; the students were impressed and engaged by their own developing ability to cut and paste letters, to search, and to find photographs and import them without relying on the keyboard.

The participants also learned how to import text (both visual and print), to change the shape, direction, size and colour of the characters and backgrounds they were creating. One student asked, ‘I want it really big, no REALLY big’ and the instructor responded, ‘Okay, you have to copy that box, then drag your object over, see how it’s getting bigger?’ One student was having difficulties in enabling his character to move forward, and Winston responded by commenting, ‘You’re going to have to jump over, so basically, you jump over there, then jump over him and shoot’.
Basic programming concepts were learned through the video game-making activities as well. The participants learned how to create rules for movement and interaction in the games. Nolan asked one of his students, ‘When Zeke [the avatar] is in ghost mode he doesn’t get hurt, right?’ ‘Yeah.’ ‘Then put the bullets right up close to Zeke, then move the cursor, put the rule on the bullet, then drag it up, actually move it over another one, then move it past Zeke, then delete – you’re done!’ Other simple programming was learned by the participants – ‘now you need a “follow me” rule; ‘you need to make a rule for turning left’. The participants also learned to work with both ludic (play) and narrative (story) aspects of video game design, and were aware that both were needed to create a good video game. Comments such as, ‘Do you need to add any more weapons to make the game more fun?’ and ‘Zeke can turn into a ghost by moving up here, that way he avoids getting shot, and can move to the next level. Then he has to get away from the mummies or he’ll get his head blown off’ demonstrate that the students were aware of these key elements of video games and wanted to incorporate elements of play and of story into their games, even if it was at a very basic level.

Reinforcement of Previous Literacy Learning

The participants not only learned new literacies through their engagement with technology, but also further developed previous understandings of literacy. We saw examples of knowledge of literary devices such as symbolism and contrast in the game creation: ‘Put these X marks on the tank, and then we’ll know it’s under construction’; ‘I want the background to be red here, to show how angry he is. Then in this one, we’ll make it green and blue, that is calmer …’; and ‘What are the elements?’ ‘Earth, air, fire, and water.’ ‘Yeah, I want all those in my game’. The boys drew from previous knowledge of character development as they created their avatars: ‘This character needs to be darker, because he’s evil’. Often the character development was visual rather than written; the students spent hours drawing their characters and naming them in order to reproduce them in their game later. And although some aspects of the game design were more ludic than narrative in nature, often the instructors encouraged their students to build on the story they were creating with their characters, as evident in the campers’ journals, so that the game levels progressed in some sort of narrative structure, showing previous knowledge of story development as well. Greg encouraged his student to think ahead in the plot of the game: ‘Let’s think about Stage 2, he could …’ ‘Smash into an alien, and drives on’, to which Greg responded, ‘Or … he could …’, encouraging brainstorming with which both students collaborated. Greg reminded his students to think about the storyline of their character and he related it to video game companies: ‘Like the expansion pack for Link. That’s what companies do, they say we don’t have enough money so let’s make an expansion pack’. Vocabulary, particularly in relation to computer and video game terminology, was developed and reinforced as they gained an increasing ability to use unfamiliar words in meaningful contexts: ‘Click on the icon, then move the cursor over to the right’; and ‘My graphics look a lot better than those in that other game’.

Social Interactions to Support Literacy Learning

The instructors became very proficient at helping those less knowledgeable, recognizing what to say and what not to say to support their students through frustrations and challenges. They provided lots of advice using language that their students could clearly relate to, such as ‘press on the colour thingy’, or pointing at the screen and identifying the word on the icon, ‘Get’ or ‘Undo, press undo’, combining oral feedback with gesture and symbols. Nolan offered, ‘I’ll draw that star for you, because I had practice when I drew my own’. A student recognized his friend’s competence, and commented, ‘Zack, I think you should make the levels because you’re good at making levels’. Guidance in the form of questions also helped the students to move forward to create their games: ‘Are you going to colour it? … That looks cool so far, do you want to write down the point of the game in your notebook?’ or ‘Is it going to be a maze or are you going to go around and kill stuff?’ Direct suggestions were also helpful: ‘You should have made a rule, so when you press a key you get your shark back’.

The participants clearly found enjoyment in the shared activity of creating their video games. An instructor commented to his student, ‘Hey, I’ve got an idea, Jackson, why don’t you make a
rule that has the sword moving, and then the character kills the octopus—sweet!' Another exchange between Jackson and his student suggested that they were enjoying the interaction: 'Is he going to have a weapon, or jump on them?' 'I was going to have him throw a ninja star.' 'That’s cool! That’s a pretty good star.' And although the instructors were always ready to make suggestions and offer advice, they recognized that their students had some autonomy; Nolan commented, 'You don't have to do what I say, it's only an idea, but it would be funny...'

The instructors all took their role very seriously and spent considerable time thinking about the best ways to further their students’ learning. Noel made a remark about a specific aspect of the avatar’s appearance: 'I think he needs something on his head, what do you think?' The student responded, 'Yeah, a hat or something, that’s cool!' Winston suggested new ways to think about creating the games: 'You need to do linear thinking, you need to think through to the end, and also think about the levels at the same time.' Nolan asked, 'So what do you want to do for the game tomorrow, what do you want to learn next time?' When the games were completed the instructors showed their pride in their students’ games by describing the game to the other instructors, by intently and respectfully watching the presentation of the games on the last day, and by playing the game with the students before it was presented.

Creative Thinking through Literacy Engagements

Creativity was evident as the participants worked together to create interesting video games. After viewing a game in progress, Mark advised his student, 'To make it more exciting, why don’t you have your character throw the coins at the pirates? Then you can make them disappear.' Or the instructor would add creative ideas that the students would follow, such as Jackson’s question, 'Do you want to add in animation when he dies?' The student then responded by adding sound and action to that part of the game. The students also learned, through the guidance of their more experienced instructors, how to transfer an idea from their head or their journal to the computer screen and to the game play. One student had an exciting idea: 'Let’s try to make this guy crouching, then springing up.' Michael agreed, and was able to guide the student to successfully create his idea: 'Okay, but the program is made to do one thing at a time, so let’s find another way to do this'. As the goal of the activity was to make the most exciting video game they possibly could, it was all right to borrow and adapt ideas: 'Hey, I'm going to use that demon you put in your game' and 'How did you find that cool background, I want to use the same one'. As students learned new technological skills and developed creative ideas for their games, we saw a blending of operational and cultural literacies but seldom saw them critically engaging with their creations.

Locating the Critical Literacies

Throughout the themes identified above, and the examples used to support these, we can identify a proliferation of operational and cultural literacy learning, but saw much more limited use of critical literacy learning. Although the participants developed a more refined sense of operational literacies and adopted cultural literacies in their many interactions, their critical engagement was limited to aspects of the technological/textual and very few examples of sociocultural critical literacy were found.

The few examples of possible sociocultural critical literacy used by the students tended to use humour to explore ideas to challenge social norms and values. There is no explicit evidence to support the notion that the absurdity, the ridiculous, the outrageous, that was put forward in the name of humour, had any specific intent of disrupting or critiquing. However, this use of humour is apparent in other boys’ literacy artefacts, and is worth noting for future exploration. One example was a game that ended with a text box offering a social critique of game players and expectations: ‘Great job, you have beat the game and kicked some alien A……. well, butt. This game is rated AE for almost everyone (people who think butt is a bad word or kicking alien butt is wrong ... try a different game one with pink unicorns and colourful rainbows).’ Another example of possible social commentary was the descriptions of the game’s army characters; one of the characters is described as ‘This is Admiral Kosh, who can be found on the final level of your journey. He has very high health and telekinetic abilities to try to cause harm to you and your troops. Unfortunately, he missed with one of his abilities, and fired it at a mirror, making himself
look like a toilet’. Another example of the use of bizarre and ridiculous humour showed the antagonist as being chocolate chip ice cream that tried to kill the characters. Although these may be merely examples of silliness engaged in by adolescent males, they could be understood as exploring the range of ludic behaviours they could incorporate into their games as their characters and actions became more and more ludic(rous). These might also be evidence of attempts to point out the outrage(ousness), the ridicule(ous) and the senseless(ness) felt by youth in relation to contemporary society and values, as in the example of Greg suggesting to his students that they challenge the company ideology of ‘sell more’ in their game, encouraging them to recognize the consumerist ideology that was driving their narrative development.

In video games, as in many other popular culture forums, artists are expressing their emotions and feelings and views: some are political, some are edgy, some are desperate, some are hopeful – these texts portray the rawness of perspectives; often youth who have newly defined conceptions of the world, can see the world as ‘black and white’. As we consider the examples of operational and cultural literacies provided above, we see possible gaps and sites for disruption of normative views of society and their place in that society. However, we see many examples of dominant patriarchal responses to the world, involving domination through physical power and violence, control and power for its own sake, that perpetuate the hegemonic structures currently in place in many societies throughout the world. We see virtually no alternative ways of responding to situations created in the video games, only ongoing and relentless use of weapons, violent actions, and power to arrive at the endpoint in the game – winning. How, we wonder, can we help youth to consider ways to create messages about societal values that are more liberating, that are not problematic and oppressive for others?

In this article we suggest that socio-critical literacy holds potential for not only learning, but also for enabling video game players to engage critically with the ‘texts’ of video games, an aspect of engagement we think is of vital importance as adolescents/young adults are spending more time actively involved with video games. It is in the act of creating video games – of producing text – and being guided by supportive adults to think more broadly and consciously that the possibility of engaged critical literacies can be seen. The production of games enables the potential for slowed-down depth of thought, supported by conversations with adults about reasons for particular choices in order to address questions such as: Why choose that genre of game? Why was a particular avatar selected? What is the purpose of selecting particular colours and shapes in the production of characters? What was the intent of creating such farcical actions? Through uninhibited, informal conversation, values and beliefs begin to be revealed and encouraged through supported conversation with a more experienced ‘other’. Through the creation of their own video games, we have opportunities to engage youth in not only problem-solving activities, but in the types of inquiry that challenge existing hegemonic values and beliefs, those that support and maintain inequality and injustice in the world, such as racism, environmental abuse, sexism, homophobia, classism, fear of difference, materialism and ecological destruction. With the inception of ‘serious’ games, addressing issues of world hunger, disease, war and homelessness, parents, teachers and school curriculum can engage with video games in positive and productive ways. There is a need to create opportunities for thoughtful exploration of sociocultural critical literacies that engage the overlap of operational, cultural and critical dimensions of literacy learning.

**Conclusion**

When considering the future of video games, we see the potential for addressing various important personal and global issues within games, and in the design of games, as well as in dialogue about games. As we work with adolescent video game players, we have become concerned with the prominence of ideologies that promote hegemonic patriarchal values in society, ideologies that greatly impact players’ identity formation, with little or no opportunity to examine the values that are being perpetuated and little opportunity for developing alternative ways of being and enacting ‘maleness’ in the world. Gee (2003), Jenkins (2000), Prensky (2006) and Lankshear & Knobel (2003) recognize that video games are not being addressed in school settings, and like Shaffer et al (2005), are warning schools to ‘catch up’ (p. 105). Squire (2003) extends this argument to suggest that video
game design and creation holds great potential for learning and disrupting many of the messages embedded in video games. De Castell (cited in Secko, 2005) observes that ‘Digital games are not really taken seriously or well understood ... But digital games are a powerful cultural force’. Children and adults alike spend considerable amounts of time engaging with digital or video games, and in 2004 computer and video games topped $10 billion in the USA alone. Rather than being gripped by a ‘moral panic’ over the effects of these games, we need to learn more and encourage critical engagement with these new digital texts. Teachers are encouraged by literacy researcher Carmen Luke (2004) to ‘break out of the tried and tested certainties of old analytic tool boxes and provide students with the same kinds of critical, self-reflexive, and “productive” analytic tools we expected them to apply to traditional media’ (p. 145); students need to be producing, not simply consuming. Rather than simply banning or ignoring these powerful but contentious texts, adolescents and adults will benefit from finding ways to critically examine how these affect them as individuals and as members of society, and to use these powerful learning media for social change and betterment.

Although the critical examination of the content and the transactions between the players and the game play is being largely ignored, we believe that with an expanded understanding of critical thinking, the continuing development of video games like Contagion! [2], Food Force [3], Homelessness [4], or Prisoners of War [5] can provide alternative ideologies and address often ignored social issues. These educational, online video games offer players an opportunity to play as an avatar (character) situated within complex life issues, such as disease outbreaks, world hunger, or local homelessness; these games allow players to feel involved in complex social issues, enough so that they can discuss the issues afterwards with some knowledge. In addition, students can be offered opportunities to design video games with software such as Stagecast, Game Maker (open source, online video game maker), and RPG Maker (computer software or Playstation 2 software enabling the creation of three-dimensional role-play games). Creating their own video games while questioning the values and purposes of various video games enables adolescents to recognize the social implications of video game content and use video games to disrupt or complicate many socio-political issues in society that need examination. They move from critical consumers to critical producers of texts that continue to entertain, and at the same time actively engage and enable youth to address significant global issues.

Notes

Acknowledgements
This article was developed during the workshop ‘Researching New Literacies: consolidating knowledge and defining new directions’ held on 16 and 17 October 2006 at Memorial University of Newfoundland, St John’s, Canada. This workshop was supported by grants from the Social Sciences and Humanities Research Council of Canada and the Canadian Society for the Study of Education.

References
Critical Literacy Learning

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http://dx.doi.org/10.1598/JAAL.49.4.4


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