

Chapter 111

“I Want Them to Feel the Fear...”: Critical Computational Literacy as the New Multimodal Composition

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ABSTRACT

By utilizing digital tools that are nearly ubiquitous in the lives of youth, writing teachers can leverage these practices for developing traditional English language arts instruction and skills proposed by state and federal standards. In this chapter, the authors propose how the development of computational literacies through multimodal writing and video game design can help guide critical and academic development in an inner-city Los Angeles public school. In a research project where high school youth designed and created (programmed) a video game about an issue significant in their lives, students demonstrated their critical computational literacies, a concept that blends the critical consciousness of critical literacy and the skills and concepts behind computational thinking. Critical computational literacy offers the ability to integrate two seemingly divergent fields. By using these new media tools, students developed a more expansive and sophisticated way to communicate their ideas. This has significant possibilities for the English Language Arts, where most K-12 state standards still relegate students' literacies to over-indulgence of traditional means of reading and writing of text. In an ever-evolving culture that increasingly places more significance on visual, auditory, and textual stimuli through multimodal media on computers and mobile devices (Hull & Nelson, 2005; Jenkins, 2006; Kress, 2010), schools must educate students to critically “read” messages in the media, and in turn become effective producers of these tools of communication (Alvermann, et al., 1999; Margolis, 2008; Morrell, 2008). This research shows students engaged in deep, reflective processes in the production of their multimodal texts.

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INTRODUCTION

With enlarged pupils and bloodshot watery eyes, the lights turn on. The teachers in the room gingerly wipe away tears on their cheeks. They have just watched a digital storytelling project describing a high school student's recollection of her step mom's treacherous journey to the United States. On nearly every occasion where this student-produced project was presented to teachers, administrators, researchers, and/or preservice candidates, over a third of the audience is moved to tears. The power of these multimodal creations to communicate is undeniable (Cope & Kalantzis, 2000).

Often described as digital natives (Palfrey, 2008), the vast majority of children in K-12 schools today are growing up using multiple devices for communicating, accessing instant information, and spending hundreds of hours playing a variety of video games. In the past, communication may have involved one mode of interaction at a time; writing/reading a letter or engaging in a phone call. Today, many young people are increasingly immersed in a world of multimodal interactions since preadolescence. This is a shift that the teaching of composition must acknowledge and incorporate. One area that has witnessed this exponential growth is in video games.

Video game playing is a nearly universal phenomenon among teens; 97% of 12-17 year olds reported that they play computer, Web, portable or console games (Lenhart et al., 2008). Although young males have traditionally dominated video game consumption, a shift is occurring towards a more diverse audience (Williams, Martins, Consalvo, & Ivory, 2009). Unlike other popular culture medium like film, television, or music, video games are unique in their ability to respond and adjust to the player's decisions. This multimodal, interactional experience may partly explain the exponential growth of the video gaming industry over the past three decades. Beyond their commercial and consumer appeal, video game production offers its creators devel-

opment of systems thinking, roles and identity, representation, audience, message delivery, and intuition (Flanagan & Nissenbaum, 2007; Hayes & Games, 2008).

Some have argued that the consummate narrow and superficial messages and themes and underrepresentation and stereotypical depictions of marginalized groups in video games is attributed to the homogenous field of programmers. In 2009, only 3.4% Black, 5.8% and Latino undergraduates completed a Bachelor's degree in Computer Science (CS) from PhD-granting institutions (ZWeben, 2010). Among game designers, the numbers are even more stark: 88.5% are male (Gourdin, 2005) and 88.3% White, 7.5% Asian, 2.5% Latino, and 2% Black (Williams et al., 2009). This data partly explains the preponderance of stereotypical representations but more emphatically points to an exigent need to promote and diversify the video game design industry.

By limiting the production of new technologically advanced tools to a highly selective and homogenous group of individuals, much of our digital world will continue to be dictated by a smaller and smaller sphere of influence. The composition of these tools is itself a gateway. As our globalized world becomes increasingly shaped by the operations of computational tools, those who hold access and power to these tools of creation are readily revising and rewriting the intentions of the public. Rushkoff (2010) states,

Just as we think and behave differently in different settings, we think and behave differently when operating different technology. Only by understanding the biases of the media through which we engage with the world can we differentiate between what we intend, and what the machines we're using intend for us – whether they or their programmers even know it (p. 21).

Rushkoff emphatically pushes for a need to (1) gain access and knowledge to the tools of computational production and (2) critically analyze the

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