Gaming as a Literacy Practice

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ABSTRACT

This descriptive study was designed to be a detailed, informative study of a group of adult males who have been gamers since adolescence. The purposes of the study are to provide information regarding gaming as a literacy practice and to explore other vernacular technological literacy practices. The study sheds light on the merits of gaming and other new literacies by examining the literacy development of a select group of adult males. This research was centered on vernacular technological literacy practices, the evolution of gaming practices, gaming intersections, and supporting school-based literacy. Through extensive interviews with the researcher, the selected participants disclosed their gaming experiences as both adolescents and adults. They also shared their personal connections to gaming, and the technological literacy practices they are using in their present lives.

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A special thanks goes to my father, Thomas J. Conlin, who is no longer with me. Five years ago, when he learned that I was getting married, he said to me, "Promise me that you will finish." I am here today to say, "Dad, I did it and I love you!"

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CHAPTER 1

INTRODUCTION

The subject of my dissertation was born from my personal interest in literacy, adolescent boys, and gaming. I want to shed light on gaming as a literacy by focusing on males who have a history as adolescent gamers. Gaming is the practice of technologically-based problem-solving activities that players voluntarily select for the purpose of experiencing pleasure through efforts to achieve some level of success. The study examines:

- the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking;

- the evolution of their gaming practices into adulthood;

- the intersection of gaming practices and other aspects of their lives; and

- their views about supporting school-based literacy learning for current adolescent males.

Literacy

When examining the question as to why boys might not be interested in literacy or school, one must take a good look at the definitions of literacy and the society in which they are encompassed. Throughout my career as a teacher, I have come across many definitions of literacy. My present definition has progressed from a traditional one in which literacy is defined as school reading and writing to a more global, media-based definition. Currently, I have become interested in the definition of literacy proposed by Street (1997). This theorist explains literacy as "the way we think about ourselves as working and thinking beings" (as cited in Edwards & Corson, 1997, p. 138). According to Street and others, literacies are social practices

in which texts are involved in the attainment of a variety of human goals. Examples of literacies include:

- Using texts to make the world more just.

- Using texts to escape reality for a few hours a day.

- Using texts to get good grades in school.

- Using texts to help you learn a trade.

- Using texts to help you achieve a satisfying relationship with a god.

- Using texts to acquire wealth. (R. Lalik, personal communication, June 10, 2010)

From these examples, it is evident that literacies are human practices which rely on texts, as well as other resources to achieve a wide range of goals. From this perspective, texts are understood to be one source of information (Merriam-Webster, 2010).

Along these lines, Green developed a three-dimensional model of literacy that provides a method of exploring the interweaving of gender, literacy practices, and video game play (Sanford & Madill, 2007). The model consists of the following dimensions:

1. Operational literacy–Being able to handle written language proficiently, i.e., able to read both visual and print-textual instructions.

2. Cultural literacy–Knowing how to make and grasp meanings appropriately within the practice, i.e., adolescents found a social community, a purpose for developing skills, and an awareness of their community and the world beyond.

3. Critical literacy–Awareness that all social practices are socially constructed and selective, i.e., with the creation of spaces for conversation, adolescents can reflect upon their actions and beliefs (Lankshear & Knobel, 2003; Sanford & Madill, 2007).

Adolescent Males and Literacy Learning

Who a boy is today is heavily influenced by societal structures: family, friends, school, community, and the media. Any one of these factors can strengthen or hinder his success in the world. Adolescents are continually exposed to multi-literacies including written, oral, and media. Communities, such as ethnic, Internet, and popular culture surround boys day after day. These social constructs and relations influence adolescent boys' experiences with literacy.

Literacy learning for boys and others occurs in many forms and in many places.

- Learning can occur in both formal and informal contexts (Hull & Shultz, 2002; Street, 1995).

- Learning is a social process; it occurs through the direct or indirect interaction with others (Barton & Hamilton, 1998; Street).

- We learn from other peoples' words that have historically served other peoples' interests (Bakhtin, 1994).

- Literacy learning involves learning multiple types of literacy practices (Barton, Hamilton, & Ivanic, 2000).

- Literacy learning and literacy practices are not separate from peoples' identities (Ferdman, 1990; Gee, 2001).

- Literacy learning and literacy practices are ideological; becoming literate involves certain ways of understanding the world (Street, 1995).

- Literacy learning and literacy practices are situated within contexts that involve power; some literacies are valued more than others (Compton-Lily, 2007).

According to James Gee, the focus of learning and education is not children, nor schools, but human lives seen as *trajectories* through multiple social practices in various social

institutions. If learning is to be effective, then what a child or adult does *now* as a learner must be connected in meaningful and motivated ways with 'mature' versions of related social practices (Gee et al., 1996:4). Lave and Wenger (1991) argued that individuals learn by being a part of a community of practice and thus developing that community's ways of knowing, acting, being, and caring- the community's situated understandings, effective social practices, powerful identities, and shared values.

Gaming

In recent years, gaming has become prevalent as an activity among adolescents, especially adolescent boys. In their pursuit of gaming, many boys are like starving wolves, foraging for the latest feed. In school, their discussions of gaming are exhaustive, often persisting well beyond the ringing of the school bell. As their reading teacher, I was amazed by their knowledge and enthusiasm for gaming, having seldom witnessed such passion and desire about any other topic. It was like someone pumped fresh air into their lungs. I was witnessing a renaissance with these adolescent boys who were struggling for success with school-based literacy. It was as if both visual and digital nonprint literacies had great significance for them. As their teacher, I wondered whether their interests and passions could serve as pathways for teaching them to comprehend school texts as many theorists have argued (Beach & Myers, 2001; Lankshear & Knobel, 2003).

One aspect of this ever-changing society is the growth of communities in which gaming functions as a central activity. According to Bonanno and Kommers (2008), gaming is a highly stimulated, interactive, and social experience that merges the virtual with the real. Gaming is a small component in the media platform that exists today. Gamers are usually engaged in a problem-solving activity in which the ultimate goal is to achieve some level of success, such as

admission to the next level of difficulty, accumulation of additional points, or accumulation of

additional resources that contribute to further success in the game. For example, in the game,

Assassin's Creed (*Playstation 3*), the player has to eliminate all of the "bad" guys in all levels of

the game.

While gaming is a new form of literacy, children use similar strategies for gaming that

are required for successful use when reading of school texts. For example, when gaming

successfully, they:

- depend on their prior knowledge.

- make predictions, look for patterns, and select moves to master a certain "task."

- play with more ease and efficacy, after attaining a certain level.

- seek visual and audio cues and try a new move/strategy, when met with a challenge.

Some skeptics might ask, are children really demonstrating literacy while gaming? Gee

(1992) says yes. Reading comprehension is a meaning-making process involving both print and

nonprint texts. While children are gaming, they are using skills to make meaning similar to those

used in reading comprehension, but their experiences are more visual and interactive (Cook,

2005). Current research suggests that children are comfortable negotiating multiple literacies

and that, surprisingly; computer games do not appear to have a negative impact on children's

attitudes toward traditional reading (Mackey, 2002).

Sharon Cook (2005) argued that educators who believe that reading aloud from books is

the only important form of literacy are overlooking the real-world literacy lives of many

children. She conducted some research with her own children and found that they truly were

engaged in gaming. Cook witnessed motivation and a sense of purpose. The children asked

questions, responded, took turns, read aloud and listened. In her view, they are either learning

individually or as a group of learners. They are constructing their knowledge and developing multiple literacies.

Do the literacy skills acquired in gaming transfer to the classroom? Critics, such as David W. Breneman, the former Dean of the Curry School of Education at the University of Virginia and Edward C. Smith, Director of the American-Studies Program at American University, believe they do not. Breneman fears that this new literacy is not a proper teaching tool. Smith says, "I see an intellectual devolution, not a revolution, here" (Carlson, 2003, p. A31). Several critics believe that the combination of informal and schooled literacies causes a deterrent in the classroom for the teacher, as well as, the student. Some teachers see these gaming skills as obstacles in the process of learning proper literacy skills. Also, some critics believe that time spent gaming means less time for developing concepts, facts, and skills that are far more likely to be useful in achieving success in future pursuits, such as attaining a college degree and securing employment.

What I am certain of is that my male students were engaged with literacy. Many critics would disagree, but I am willing to dispute their claims based on my observations with my students. One of my students would come in everyday and ask me if we got any new gaming magazines such as "X Box" and "GamePro" and I would have to tell him that we only get new ones once a month. He would read those magazines from front to back multiple times. If my boys were not reading these magazines, they were on the computers looking up "cheat sheets" for the videogames. "Cheat sheets" have codes which help gamers achieve success with the game. They may, for example, learn ways to gain more lives, gather supplies to stay alive, and/or secure more weapons to use. To be successful, gamers have to be able to decipher what the codes are and how to use them in the game. Through their efforts, the boys were

internalizing and comprehending the texts that they were reading. The text on the computer screen was informal, but it contained clusters of words that needed to be interpreted and applied at a later time.

New Literacies

Advocates of gaming believe that new literacies, including gaming, can become springboards to other more traditional literacies. These new literacies range in form and delivery, such as media, Internet, visual, computer, consumer and scientific. They are a new means of representing knowledge and communicating (Alvermann, 2005). The following terms make up a small list of examples that represent new literacies.

1. *Multimediating*: a performance artist who used digital technologies in his work with disadvantaged young people and indigenous people in Australia.

   Multimediating grew from a project of Michael Doneman. He considered multi-mediating as a verb; open up several windows at the same time, a chat window, the Web and e-mail. A person is mixing and matching his/her time in each environment, communicating in different ways among different communities, sending and receiving simultaneously, role playing (Lankshear & Knobel, 2003).

2. E-*zining*: *Grrrowling* with the *Digitarts*

   Digitarts was a project dedicated to providing young women who are emerging artists and/or cultural workers with access to knowledge and equipment necessary for the development of their arts and cultural practices in the area of new technologies. Digitarts remains a venue for emerging multimedia artists to showcase their work and a place for young people to display their computer skills. Digitarts offers a coherent alternative to the co-modification of youth culture by

making space for young women and men to become producers and not merely consumers of culture (Lankshear & Knobel, 2003).

3. Meme-ing: David Bennahum

   Meme-ing is a powerful meta level literacy. The root, "meme" is a contagious idea that replicates like a virus, passed on from mind to mind. Meme-ing attempts to project into cultural evolution by imitating the behavioral logic (replication) of genes and viruses. Some examples of successful memes are 'GenX' (Doug Coupland), 'The Information Super-Highway' (Al Gore) and D/discourse (James Gee). The principle for meme-ing is simple yet fundamental: If *we* don't like their contagious ideas, *we* need to produce some of our *own* (Lankshear & Knobel, 2003).

4. Blogging: personal webpages from Jane Doe to Andrew Sullivan

   Weblogs are online personal diaries or journals that are added to by the owner anywhere from every now and then to multiple times a day. In the mid-1990s, blogging was confined to a small degree of online writing. Now, the Internet is home to blogs covering assorted topics and types, such as tech blogs, sex blogs, and commentary blogs. Blogs instill the personal touch and put the character of the writer out front, rather than disguising it (Lankshear & Knobel, 2003).

5. Map rapping: Peter Schwartz

   Map rapping invokes new technologies to communicate new ways of reading and writing the world that challenge old mindsets. Schwartz used the example of the Spanish missionaries who landed in California and were planning on crossing the Gulf according to the map, but all they crossed was an enormous desert. Their

superiors said that the map was right and they were wrong. When a person

believes in a map, it is hard to change his/her mind about it. If your facts are

wrong, then you will be relying on a map that is wrong too. Schwartz encouraged

people to challenge "mental maps"; use the process of scenario planning and

strategic conversation to help people plan for what lies ahead in their futures

(Lankshear & Knobel, 2003).

6. Communication guerilla literacies

    According to Michael Doneman, communication guerillas are committed to

    urging people to read media and other messages in ways that open onto critical,

    multiple analyses, and interpretations of these messages. Thus, numerous, active

    responses are generated by the readers and not by the message writers. Examples

    of communication guerilla activities include hacking, media hoaxing, pirate radio,

    and TV broadcasting (Lankshear & Knobel, 2003).

When you look across these new literacies, one aspect that is quite apparent is how so

many of them involve participants in an active construction of culture rather than a passive

acceptance of existing culture. Regardless of the cultural perspectives of the participants,

conservative or liberal, they are making new cultures as opposed to just quietly accepting

existing cultures. The hopefulness of new literacies is that perhaps they will move us again

toward more constructive literacies and less receptive literacies.

Sociocultural Perspectives of Literacy

The discourse that I witnessed in the classroom from my male students suggests that there

was no societal barrier for them; they were from different ethnicities, cultures, and

socioeconomic backgrounds. They did not have to worry about what their peers thought about

them. It was all open and free discourse about a topic for which they shared a great interest. The intensity of their thoughts and impressions of the games and how well they did was encouraging to me because I was seeing them take ownership of their literacy learning within the venue of gaming. Through their conversations about playing videogames, it seemed they were internalizing their funds of knowledge for use in other spaces in their literate lives.

Gee believes participation in video games allows a person to create a world in which he/she can take on an identity and deeply learn from the experience (Foreman, 2004). For example, in *Nascar 08 & 09* players customize their games. They select a name, body type, head shape, facial feature(s), hair color, skin color, height, and race team. All of these choices give a player a sense of ownership and control (Gee, 2005). These games encourage players to think, talk, and act. *Some* type of literacy is arising. In these virtual worlds, "learners experience the concrete realities that words and symbols describe" (Shaffer, Squire, Halverson & Gee, 2005, p. 106).

Through these experiences in multiple contexts, adolescents can comprehend the difference between abstract ideas and real-life situations. This learning is called situated understanding and is present, for example, when a player can solve a problem by applying the connections that he/she has with complex concepts. For example, in *Assassin's Creed* (*Playstation 3*) a player must kill the emperor by obtaining clues from various characters at each level. The player cannot find and kill the emperor unless he/she has the clues. In this example, the player has to understand the clues before he/she can succeed in the game.

To contribute to the video gaming world, adolescents sometimes take part in social practices, such as with the multiplayer online games. These players can explore their own identities with others. When they are playing collectively, they have the opportunity to converse

in these new communities about the game, dynamics of the game, and their expertise with the game. Marc Prensky, author of *Digital Game-Based Learning,* states that a community grows-up around a core-game mechanism, which is a set of complex decision-making that comes quickly and is well-paced (Foreman, 2004). The gamers can chat online, post news about the game, participate in forums, and exchange screenshots of the game (Shaffer, et al., 2005).

Video gaming experiences have increased motivation among learners. Many educators have ignored this startling revelation in past years and have not realized the impact that gaming has had on literacy. According to the 2002 Young People and Media survey, 64% of children across all age groups play computer games, on average, 34 minutes per day (Hayward et al., 2002). Approximately 25% of students stated that they played games for two hours at a time and half of them played games through the Internet. These students were not just playing by themselves; the data also indicated that they were playing with one or more friends. Social interaction as a mediating factor in gaming is evident from the findings of this study (Facer et al., 2003).

The TEEM report (McFarlane et al., 2002) identified an array of skills, knowledge, and understanding that students developed through their participation in computer gaming. Among these were: problem solving and communication skills; personal and social skills; language skills; mathematical knowledge; creative development; and knowledge and understanding of the world (McFarlane et al., 2002).

Literacy Learning of Males Across Time

For many boys, school literacy is neither interesting nor engaging. Boys often act as if they are bored at school. By nature, they are sociable. It is their talking, their oral grappling with meaning that leads to deeper understanding (Santa, 2006). Due to the lack of engagement,

we witness, more often than not, boys acting out and getting in trouble while their academic performance suffers. Millard (1997) suggests that boys are disadvantaged in academic literacy as a result of topic choices and lack of availability of texts that match their interests and needs (Smith & Wilhelm, 2002).

The history of boys' literacy has evolved a great deal. In mid-nineteenth-century England, literacy was taught and practiced by the working classes as a means to achieve better working conditions and political power (Smith & Wilhelm, 2002). These working classes set up Sunday schools to teach children to read and write. The elite class worried that the working class was gaining political power and the children's learning would threaten their status. Hence, public schools were created to undermine the value of literacy from Sunday schools. The end result was a shift in focus from literacy as power to the study of literature selected by elite groups.

In the late nineteenth century, fears developed that working-class boys were reading too much and wasting their masters' time. Many libraries were full of office boys or clerks using their masters' time for reading what most masters construed to be the most trivial literary trash (Reynolds, 1990). Once again, the elite class was concerned that working-class boys were reading too much and claimed that they needed to spend that wasted time on working.

Times continue to change. Nowadays it is accepted, and most likely expected, that boys become highly literate in a world that is driven by technology (Smith & Wilhelm, 2002). Many believe that they should "use their literate power to exercise personal power and choice" (Smith & Wilhelm, 2002, p. 17). Even so, the focus of literacy instruction at school largely ignores the enhancement of political power in favor of attainment of high scores on government-generated tests (Ravitch, 2010).

Focus of the Study

One way to shed light on the merits of gaming and other new literacies is to examine the literacy development of people (particularly males) who have been gamers. Typically, when we examine literacy, we look at boys in their adolescence and try to figure out how we should work with them. One approach that has not been used very often, but could be very fruitful, is to look at literate adult males who share some of the same attributes of these boys (e.g., gamers) to learn how their literacies developed over time.

One way to study their literacy development is to conduct extensive interviews with them. The following four research questions served as the foundation for the interview process used in this study:

1. What are the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking?

2. What is the evolution of their gaming practices into adulthood?

3. What is the intersection of gaming practices and other aspects of their lives? and

4. What are their views about supporting school-based literacy learning for current adolescent males?

To further frame the interviews, the multiple dimensions of literacy, identified in professional literature and discussed in chapter 2, were used since all dimensions of literacy play a significant role in culture and should be included in the analysis of my data.

CHAPTER 2

REVIEW OF LITERATURE

In this chapter, I provide a review of the literature for the following topics: literacy, adolescent boys and literacy, gaming and learning theory, gaming as vernacular pursuits, gaming and socialization, effective school learning and gaming, and boys' learning in and outside of school.

Literacy

Aspects of what is included in literacy can be drawn from different views of literacy. These views include literacy as traditional, schooled, new, multimedia, functional, critical, and social practice. Traditional and schooled literacies are centered on the thought of literacy primarily involving traditional texts and writing in efforts to develop cognitive skills that learners are expected to bring with them into a wide range of venues. Alvermann and Hinchman (1998) believe that traditional literacy is "structured processes of schooling whereby students are taught to read and comprehend texts as well as produce their own written works" (p. 52).

New literacy is a new look at how teaching of reading and writing occurs (in the classroom and beyond) and how that influences our world. According to Paul Finn (1999), new literacy includes "those strategies in the teaching of reading and writing which attempt to shift the control of literacy from the teacher to the student" (p. 35). Farstrup and Samuels (2002) believe that new literacy includes "skills, strategies, and insights necessary to successfully exploit the rapidly changing information and communication technologies that continuously emerge in our world" (p. 313).

Multimedia literacy encompasses different media and social formats that incorporate literacy. Karchmer and Mallette (2005) define multimedia literacy as "assembling knowledge

from multimedia resources, strategically navigating through hyperlinks, critically comprehending various forms of information, engaging in electronic forms of communication, expressing ideas in multimedia formats and socially mediating problem solving through online and real-time collaborations" (p. 167). According to Alvermann (2005), "Literacy is multimodal, and rather than receive information from static texts, learners actively create meaning dynamically across diverse media" (p. 75).

Functional literacy focuses on how people use their ability to process print in everyday situations in their efforts to "survive." Wepner, Valmont, and Thurlow (2000) state, "People are able to process print in their environment, whether it be, for example, newspapers, train schedules, or official government documents" (p. 5). Functional literacy "refers to how well a person can read materials associated with 'survival activities'" and "may be broadly defined as being able to respond appropriately to written language; in this sense, it is one of man's most valued skills" (Castell, Luke, & Egan, 1986, p. 8).

Critical literacy focuses on how texts work and influence people and the world. According to Luke (2000), critical literacy is "teaching and learning how texts work, understanding and re-mediating what texts attempt to do in the world and to people…" (p. 7). Edwards and Corson (1997) believe critical literacy "is a means to understand one's relationship to the means of production, and to realize control over one's work, knowledge, political rights and freedom" (p. 147).

Social practice is a type of literacy that involves people, language, education, culture, and history. From this perspective on literacy, Larson and Marsh (2005) state "literacy is primarily something people do; it is an activity, located in the space between thought and text… Like all human activity, literacy is essentially social, and it is located in the interaction between people"

(p. 10). According to Muspratt, Luke, and Freebody (1997), literacy is "socially creative constitutive elements of larger human practices—discourses—that humans construct around their myriad purposes and values" (p. 96). Selfe and Hawisher (2007) believe social practice is "literacy that happens out in the world of social, cultural, and institutional activities. Literacy is at home, in the world of talk, action, interaction, and values, not only in people's heads" (p. *ix*.).

In my assessment of literacy, there is not one view of literacy that supersedes the others. Each one contributes importantly to a robust understanding of literacy. As will be explained in Chapter 3, these multiple dimensions of literacy will be used to guide the interview process and the analysis of data for this study.

Adolescent Boys and Literacy

When discussing literacy, one is wise to examine the relationship of gender and literacy because gender seems to be implicated in literacy learning (Smith & Wilhelm, 2002). In this section, I will focus on males, especially young males, because many experience difficulty with learning literacy at school (Moje, 2000). Smith and Wilhelm (2002) have developed the following list of behaviors that globally describe boys in contrast to girls:

- Boys take longer to learn to read.

- Boys read less than girls read.

- Boys express less enthusiasm for reading.

- Boys are more inclined to read graphic novels and comic books.

- Boys are more enthusiastic about reading electronic texts.

- Boys like to read about hobbies and sports (pp. 10-11).

This list is not meant to describe boys in a negative manner but to provide some insight into boys' life experiences. In relation to literacy, many times boys are forced to read feminine-

based literature such as *Little Women* and *Jane Eyre* leaving many boys with the impression that literature does not concern itself with concepts, issues, or practices central to their worldviews. According to Smith and Wilhelm (2002), critics, such as Voss, believe that schools unconsciously discriminate against many boys, denying them a chance to be male and literate. This pattern can, in turn, lead boys to be less interested in reading than girls.

It is challenging not to pit boys against girls when examining academic success. Telford (1999) and Millard (1997) believe that boys need to have choice in school and be recognized as individuals. Educators need to think of better ways to meet the needs of boys, whether it is in or outside of school. Well known researchers, Heath and McLaughlin (1993), Mahiri (1998), and Moje (2000) are among many who feel adolescents, particularly males, "employ powerful literacy practices outside of school that then go unrecognized, untapped, or unvalued in school" (Smith & Wilhelm, 2002).

While research on boys' literacy learning across time has received little attention from researchers, there are studies of boys regarding their attitudes, learning to read and behavioral problems, as well as of low reading achievement related to boys, and boys as struggling readers. Most of this work has been done with young children. For the purposes of this review, I will include those studies most relevant to school literacy.

One such study addressed five-year-old boys and their attitudes about reading. The study was conducted by Lever-Chain and colleagues (2008) with 60 English boys. The participants were randomly selected from 18 schools. A tripartite model of attitude was used to measure the boys' attitudes. The modeladopted by Matthewson (1994) included three components of attitude: affect, cognition, and behavior. The participants were shown 15 photographs and four

line drawings. They were asked to circle one of three expressive faces below each visual that

best represented their feelings about that particular photograph or drawing.

Findings from the study suggested that many of the boys were able to form distinctive

and favorable attitudes about reading. The phrase "like reading books" was repeated by many of

the participants in their transcriptions. Even more positively, some boys said, "It's lovely" or

"It's fun" (Chain, 2008).

A longitudinal study of Finnish children by Halonen (2006) examined the relationship

between learning and reading and problem behaviors (internal and external) that occurs during

the transition from preschool to primary school. A total of 196 (104 boys, 92 girls) 5- to 6-year-

old children participated. The children were examined six times over the course of four years:

twice during their preschool year, twice during their first primary school year, and twice during

their second primary school year. Each time a child was examined, his/her reading skills and

problem behaviors were measured. The reading skills were measured using three categories:

letter knowledge, reading words and sentences, and sentence comprehension.

Problem behaviors were measured by a questionnaire, which was based on the Johns

Hopkins Depression Scale and the Strengths and Difficulties Questionnaire. The questionnaire

consisted of 14 (nine internal and five external) statements that were read to each child in an

interview. The study suggested that difficulties in learning to read, internalizing problems (i.e.,

depression), and externalizing problems (i.e., aggressiveness). Problem behaviors are

developmentally linked in a collective manner. The researchers believed that reading difficulties

increased the likelihood of internalizing problem behaviors (Halonen, 2006).

A study by Chatterji (2006) examined assessments of 2,296 students of various ethnic,

gender, and socioeconomic groups to study their reading achievement gaps. The Early

Childhood Longitudinal Study (ECLS) reading assessment was used to measure reading mechanics and reading comprehension. The ECLS reading measures are a continuum of integrated processes of reading and writing and focus heavily on phonics and decoding skills. In the minority ethnicity and poverty groups, boys were behind females upon entering kindergarten and the gap increased by the end of first grade. Gender differences were statistically significant in first-grade reading achievement. Boys showed a deficit of -0.31 standard deviation unit in reading compared to girls (Chatterji, 2006).

A study by Limbrick, Wheldall, and Madeline (2008) examined definitions of reading as they were translated into different methods of identifying reading disability to determine the effects on observed gender ratios for reading disability. The authors wanted to examine themes and issues related to the prevalence of boys labeled as poor readers. They placed emphasis on the means by which reading disability has been defined and measured over the years and its influence on reported gender ratios.

Common methods of identification for reading disability are discrepancy formulae, response-to-intervention (RTI), and low achievement methods (Limbrick et al., 2008). According to the *Diagnostic and Statistical Manuel of Mental Disorders-4th edition* (American Psychiatric Association, 1994), discrepancy formulae compare observed reading achievement to expected achievement based on a person's chronological age and measured intelligence. RTI is a multi-tiered approach that incorporates three stages: whole class instruction, closely monitored instruction, and one-to-one instruction. The goal of RTI is to provide early reading intervention, and match teaching to the needs of the students and monitor progress (Vaughn, Linan-Thompson, & Hickman, 2003).

Methods for describing low achievement, such as discrepancy formulae and RTI, receive criticism because of the inconsistency in reporting rates, especially regarding reading disability for boys. Across different studies of low achievement, there are a wide range of tests and cut off points for diagnosing reading disability (Limbrick et al., 2008). For example, in one study, the lowest 15th percentile is considered reading disabled compared to another study in which the lowest 25th percentile is classified as reading disabled.

Classroom behavior is a major factor that contributes to the prevalence of boys being identified as reading disabled more often than girls. Many boys are often seen misbehaving whereas many girls more often exhibit passive behavior. As a consequence, boys are more likely to be identified as poor readers (Limbrick et al., 2008). The authors believe that there is clear evidence that boys are diagnosed more often than girls with reading disabilities because of the salience of their misbehavior.

Over the last couple of decades there has also been considerable concern about boys' achievement in post-secondary school. Such research includes sex differences in quantitative SAT performance, poor achievement for minority males, male college attendance related to family income, comparison of male versus female college attendance, gender gaps in college performance and persistence, and re-evaluating the university attrition statistic.

The Pallas and Alexander (1983) study, Sex Differences in Quantitative SAT Performance: New Evidence on the Differential Coursework Hypothesis, provided a test of the hypothesis that sex-linked differentials in high school mathematics course-taking account for sex differences in Scholastic Aptitude Test (SAT-M) performance. The authors gathered data on the students' standardized quantitative test scores at high school entry, student course enrollment and course performance, and their SAT scores. The researchers were able to examine any

quantitative performance differences between girls and boys and if course selection and course performance impacted performance differences during their high school years. They found that female quantitative performance was not inferior to that of males at the beginning of high school. The 12th grade SAT-M performance indicated that the females performed lower than the males. Even though the boys out-scored the girls at the end of high school, the girls outperformed the boys on course success, reducing slightly the overall male-female performance gap (Pallas & Alexander, 1983).

Academic achievement for African-American males in the United Sates has been below average for many years. Some researchers explain this pattern in terms of attendance in large urban schools and poverty. According to the National Center for Education Statistics (NCES), 24% of adolescents attending urban schools represent the highest percentage of households that are at the poverty level (NCES, 2003).

These findings also hold true in other areas, such as health care and nutrition. A study was conducted with 33 African-American adolescent males (13-17 years old) who had been expelled or suspended at least one time (Martin, Martin, Gibson, & Wilkins, 2007). The participants attended an alternative school, which provided an after-school program that included tutoring, counseling, and social activities. Students attended the after-school program approximately three hours, five days a week. Each student was administered The Kaufman Brief Intelligence Test, Second Edition (KBIT) and the Kaufman Test of Educational Achievement-Second Edition (KTEA). The test results provided predictors of how well the participants would perform in school. Results of pre and post testing indicated an increase in school attendance and academic performance and a decrease in discipline referrals and expulsions/suspensions. The

intensive after-school program provided an opportunity for the participants to improve their academic standings and their social practices (Martin, et al., 2007).

Socioeconomic factors, such as poverty and ethnicity, are critical when examining male college attendance. Researchers Cameron and Heckman (2001) examined educational attainment using data from the National Longitudinal Survey of Youth (NLSY). They estimated "how family background, family income, college tuition costs, labor market opportunities, and cognitive ability affect the age- and grade-specific schooling choices of Black, Hispanic, and White males starting with those choices made in their early adolescent years" (Cameron & Heckman, 2001, p. 457). Cameron and Heckman found that when they control for family background, minorities are more likely than Whites to graduate high school and attend college. Long-term factors, such as family income, are the largest contributors to this pattern.

Recent research has shown a tremendous reversal in gender achievement. In 2006, Goldin, Katz, and Kuziemko, showed that the performance of female high school students surpassed male students in most subjects. The ratio of male to female college graduates has significantly decreased and now the majority of college graduates are female (Niederle & Vesterlund. 2010). Many researchers believe that female college graduates outperformed males because of their high school academic performance.

The paper, "Why Are Men Falling Behind? Gender Gaps in College Performance and Persistence" (Conger & Long, 2010), examined the disadvantage that males have in college, such as grades and credits earned. Conger and Long believe that the gender gap at the post-secondary level has increased over the past years. According to them, male college enrollment has fallen from 71% in 1947 to 43% in 2005.

High school performance is a strong predicator of college performance for both genders. DiPrete and Buchmann (2006) suggested that the female advantage in college completion is more likely due to the male-female differential in desire for what they refer to as "personal" returns, such as marriage and a higher standard of living. Such desire is typically higher among females. The researchers' analysis of gender gaps across eight institutions in Florida and Texas suggested that females outpace males in nearly all institutions and the drivers (credits attempted and course selection) of the gap are extraordinarily similar (Conger & Long, 2010).

The study, Re-Evaluating the University Attrition Statistic: A Longitudinal Follow-Up Study (Gallander, Bowers, Gordner, & Lange, 2006), investigated reasons why students withdrew from a university. The researchers interviewed 119 Canadian participants (44 males and 75 females) at a local university. The students who withdrew were labeled "leavers" and were divided into five categories: transferred to another university, transferred to college, took temporary leave, dropped out, and put on academic probation. The quantitative analysis of the study included the following measures:

- demographic variables,

- The Parental Authority Questionnaire (Buri, 1991),

- The Perception of Parental Reciprocity Scale (Wintre, Yaffe & Crowley, 1995),

- The Social Provisions Scale-Parent Version (Cutrona, 1989),

- The Self-Esteem Scale (Rosenberg, 1965),

- The Perceived Stress Scale (Cohen, Kamarack, & Mermelstein, 1983),

- The Beck Depression Inventory (Beck, Ward, & Mendelson, 1961), and

- The Student Adaptation to College Questionnaire (Baker & Siryk, 1984).

The quantitative data were used to examine differing demographic characteristics, high school average, parenting factors, psychological well-being, adjustment to university, and achievement in university. Overall, attrition rates appeared to be inflated because of the number of student transfers and not because of gender, generational status, race, or ethnicity. Transferring schools does not represent a negative experience and is consistent with the exploration of alternative career paths characteristic of emerging adulthood (Gallander et al., 2006).

Based on my review of the research on gender and student achievement, it appears that boys are not doing as well as girls in school success. The factors contributing to this differential achievement remain unclear.

Gaming and Learning Theory

In the last several decades new technologies have seeped into today's society at a phenomenal rate, locally, nationally and internationally. It is safe to say that most people encounter more than one medium of modern technology each day, such as television, computer, or cellular phone. Such technology has become a part of everyday life, just like eating and drinking. From the popularity of technology, gaming was born. According to Bonanno and Kommers (2008), gaming is a highly stimulated, interactive, and social experience that merges the virtual with the real. A new generation of learners is extremely attracted to gaming. Thus many have asked: Is this trend going to hinder a child's academic career?

According to the Federation of American Scientists, gaming can teach twenty-first century life skills such as analytical thinking, team building, multitasking, and problem solving (Clark & Ernst, 2009). Today's youth has grown up in an era of digital technology (Wepner, 2000). Children are especially attracted to digital technologies. Their knowledge of these

technologies derives in part from their interest in games and gaming. According to the 2002

survey, Young People and Media, 64% of United Kingdom children across all age groups play

computer games, on average, 34 minutes per day (Hayward et al., 2002). Furthermore,

approximately 25% of these students stated that they played games for two hours at a time and

half of them reported playing games using the Internet.

Today's technological environment is made up of fast audio and visual components, full

of extreme color and sound (Annetta, 2006). "Games expose players to deeply engaging,

visually dynamic, rapidly paced, and highly gratifying pictorial experiences" (Foreman, 2003,

p.15). Youth are encouraged to embrace this atmosphere by learning to multi-task and avoid

linear thinking, a form of thought valued by many of their parents and teachers and reflected in

many traditional forms of instruction. Many students today process information in groups,

finding patterns in video games in order to achieve increasingly higher scores (Korzeniowski,

2007). Researchers, such as Liz Simpson, founder of the Learning Research Institute, feel that

students are being underserved in the public school system and video games offer educators a

potential way to reach them more effectively (Korzeniowski, 2007).

Educators who are unfamiliar with gaming, computers, and video systems often feel

threatened by this new media culture frenzy (Brand, 2003). They have difficulty grasping the

concept that these video games *can be* educationally worthy. According to Brand (2003), the

notion of "moral panic" also resides in many teachers today, especially those who are foreign to

the gaming culture. Moral panics are processes by which individuals or groups identify a threat

to society (Brand, 2003). Recently, video games have become the leader in the media

technological world for initiating moral panic.

A German philosopher, Johan Hulzinga, studied the element of play in culture in 1938. Hulzinga's thesis was simple: "play is the precursor to culture….. play underpins language, civilization, law, war, knowledge, literature, philosophy, and art" (Brand, 2003, p. 2). Hulzinga argued that the opposite of play is seriousness. "Any game can at any time wholly run away with the players… The contrast between play and seriousness is always fluid… Play turns to seriousness and seriousness turns to play" (Brand, 2003, p. 2). One could think that Hulzinga was discussing the relationship between work and play, traditional culture and pop culture, and education and entertainment.

Gaming can be understood as an example of play. According to Gee in *Good Video Games + Good Learning* (2007)*,* many video games are good for a person because they provide pleasure that coincides with learning. It is good for the soul because the player is involved in thought, reflection, and engagement. Good video games act as a catalyst for one's process of learning which must encompass pleasures. "These pleasures are connected to control, agency, and meaningfulness" (Gee, 2007, p. 10). Pleasure and learning should be thought of as a preferred pair when discussing the academic environment for a child. Traditional teaching has masked this idea because all too often learning is perceived as work and not play, as seriousness without pleasure.

Gee (2007) agrees with Hulzinga that play is the foundation of learning for humans. Learning that takes place is the driving force for humans. Unfortunately, many schools have embedded in students a fear and avoidance to learn, just as an anorexic fears, and thus avoids, food. These same people who fear and avoid school learning are often deeply involved through games (Gee, 2007). They remain unaware that they are "learning" while being quite aware that

they are having fun. They behave much like many scientists and craftsmen who experience their work as play when they are deeply engaged in its processes.

People who often have this sensation of fun could be experiencing "flow," a loss of the passage of time and space while being completely engrossed in some pursuit. The famous Hungarian professor, Csikszentmihalyi, believes that people experience this flow because they are in an ecstatic state (Farmer, 1999). Csikszentmihalyi used artists as examples for his theory. Many artists are able to experience a feeling of being outside of what they are creating with their hands. "Csikszentmihalyi accounted for this feeling of being consciously outside of the creation as due to the psychological limits of consciousness" (Farmer, 1999, p. 1).

Csikszentmihalyi's empirical research showed that people were generally unhappy doing nothing and happy doing things (Farmer, 1999). According to Csikszentmihalyi, the following items are common characteristics of a "flow" experience:

- completely involved, focused, concentrating;

- sense of ecstasy- of being outside everyday reality;

- great inner clarity- knowing what needs to be done and how well it is going;

- knowing the activity is doable- that one's skills are adequate, and the doer is neither anxious or bored;

- sense of serenity- no worries about self, feeling of growing beyond the boundaries of ego- afterwards feeling of transcending ego in ways not thought possible;

- timeliness- thoroughly focused on the present, don't notice time passing; and

- intrinsic motivation- whatever produces flow becomes its own reward.

Games are prime examples of activities that promote a state of flow for many boys. Gamers are often deeply engaged, unaware of anything else around them, and inattentive to time and space. For the most part, they are happy and entranced in their gaming activity.

Because many educators and teachers are members of a generation that grew up in a far more restrictive media culture with different media experiences than the youthful generation of today, it is often difficult for them to recognize the benefits of gaming (Fromme, 2003). In a study of an earlier generation gap, author Margaret Mead (1970) states:

Ironically, it is often those who were, as teachers, very close to former generations of students, who now feel that generation gap cannot be bridged and that their devotion to teaching has been betrayed by the young who cannot learn in the old ways. (p. 81)

Several video games foster learning within the framework of formal education, offering students an experience that they can actually apply. According to former Microsoft chairman of advanced learning technologies, Steve Molyneux, traditional blackboard learning sees the learner as a passive recipient of knowledge, whereas game-based learning allows students to become an active member of their education (as cited in Bentley, 2006, p. 1).

Gee (2007) offers a similar view of teaching. He explains:

All the facts and information the learner is studying would make a lot more sense if the learner had had any opportunities to see how they applied to the world of action and experience. Without that, they are 'just words' for the learner. (p. 82)

Gee (2007) refers to these games as "real-time strategy" games. For example, in *Rise of Nations*, a player creates a civilization of his/her choosing and is forced to make countless decisions. In the game, citizens are sent out to gather resources (e.g. food, water, minerals) and use these resources to construct domestic and military buildings. In these buildings, people such

as soldiers, leaders and scientists are trained. As the player collects and builds, he/she can advance in age which allows his/her civilization to achieve higher levels of complexity (Gee, 2007).

Scholars including Dewey (1964), Greene (1978), and Pagano (1991) agreed with Gee (2007) in the belief that instruction without meaning is a misuse of students' time, especially if they cannot apply that instruction to anything else in their lives, such as out-of-school activities. According to Dewey, "Meaning does not lie in experience. Rather, those experiences are meaningful which are grasped reflectively" (Dewey, p. 69). Too often students suffer from the loss of meaning in their school experience.

Regrettably, fear of standardized testing has led to a heavy reliance on skill-and-drill instruction and inattention to good learning principles in the classroom (Gee, 2007). Several researchers looked outside of the classroom and found sound learning principles at work within video games. Game designers are the responsible parties for incorporating these learning principles in computer and video games. When creating a game, the designers include the modeling of human interactions with and within complex virtual worlds (Gee, 2007). The learning processes are a part of these interactions. They require the player to become a character; thinking, acting, and deciding.

Through Gee's (2007) experience with examining video games for the purpose of finding good learning principles, he discovered that the 36 principles that apply to gaming are the same ones that many theorists argue are essential for the support of learning of school subjects. Here are examples from Gee's list of learning principles found in video games:

1. Create motivation for an extended engagement.

2. Create and honor preparation for future learning.

3. Let learners themselves assess their previous knowledge and learning styles and make decisions for themselves.

4. Build in choice from the beginning.

Recognition that gaming is a new form of learning is slowly taking hold among educators, while leaders in the corporate world are more quickly and enthusiastically grasping the concept. Michael Mussallem, CEO of Edwards Lifesciences states:

> To recognize new patterns and adapt quickly, to take advantage of situations as they occur, and to respond to them better than others becomes more important all the time. Our ability to learn fast, implement, and execute directly correlates with our long-term success (as cited in Bingham, 2007, p. 31).

Today's society must take responsibility to properly prepare our youth for the future, providing learning opportunities that are meaningful and relevant. Youth must possess the skills that will aid in their success as grown adults. As stated by Matthew J. Szulik (2007), CEO, Chairman, President, *Red Hat*, "Young people will be competing and collaborating on a global scale; open source and new technologies provide the opportunity to rebuild collaborative social structures that we have begun to lose in our communities" (p. 4). Corporate America is very concerned that its future work force will not possess these required skills.

Richard Van Eck, Associate Professor of Instructional Design and Technology for the University of North Dakota, presented "Generation G and the 21st Century: How Games Are Preparing Today's Students for Tomorrow's Workplace" at the EDUCAUSE Learning Initiative's spring 2007 focus session. Eck argues that games and play can be effective learning environments. These environments are considered effective because they are: immersive;

require the player to make frequent, important decisions; have clear goals; adapt to each player individually; and involve a social network (Eck, 2006).

In his presentation, Eck discussed the theory behind effective games for teaching and learning, as well as, Digital Game-Based Learning (DGBL). According to Mark Prensky (2001), DGBL is based on two premises:

1.   Learners have changed in some fundamentally important ways. The majority of people who are learning and being trained are under the age of 36.

2.   Under-36 individuals are of a generation that when growing up deeply experienced, for the first time in history, a radically new form of play—computer and video games. This new form of entertainment has shaped their preferences and abilities and offers an enormous potential for their learning, both as children and as adults (Prenksy, 2001).

DGBL is precisely about fun and engagement and the coming together of serious learning and interactive entertainment into a newly emerging and highly exciting medium. Prenksy believes that the huge wall that has separated learning and fun, work and play, for the last several hundred years is slowly starting to shake and will soon crumble (Prensky, 2001).

Three learning principles that are embedded in DGBL include: (a) play theory, cycles of learning, and engagement; (b) problem-based learning; and (c) situated cognition and learning. Play theory, cycles of learning, and engagement reminds the reader of Hulzinga's theory of play. Play is naturally used and it requires participation and interaction.   For example, when an accomplished pianist is playing the piano, he/she is unaware of the keys, his/her hands, and the score (Farmer, 1999).

Problem-based learning is highly beneficial; it is the highest level of learning. This principle requires the player to practice short and long-term goal setting. For example, the video game *Return to Castle Wolfenstein* offers players problems that send them down fruitful paths for what they will encounter later in the game (Gee, 2007).

Situated cognition and learning possess congruence of learning and performance contexts, as well as, relevance and "anchoring" of knowledge in authentic contexts. It emphasizes higher-order thinking skills, and it induces inferential reasoning, monitoring and regulation of problem solving and utilization of metacognition skills (Im, 2008). All of the learning that takes place in games is situated. Everything learned is relevant and applied to the player (Eck, 2007). For example, people construct different meanings for the word "coffee" when they hear phrases such as "The coffee spilled, get the mop" versus "The coffee spilled, get a broom." One must have had experiences with coffee in different forms and contexts to draw a correct inference (Gee, 2007).

Gaming typically stimulates three essential learning processes: questioning, cognitive disequilibrium (CD), and scaffolding (Eck, 2007). The first process, questioning, supports problem-based learning. A player in the gaming world is constantly being presented with situations about which they need to make decisions. The ability to self-question enables a player to evaluate what is on the screen and decide what the next step will be. For example, in *Mario* (*Nintendo*), players spend most of their time deciding what they want to do next (Church, 1999) in order to achieve the goal of getting to the next level in the game. In *Mario,* the player strives to save the princess. The player's question is: in order to save the princess, what would I do next?

The second process, cognitive disequilibrium (CD), activates problem solving and question-asking. Jean Piaget, the father of the concept of CD, believed this to be true. When people experience a discrepancy between something new and what they already know or believe, it produces a state of disequilibrium that they are driven to eliminate in order to achieve equilibration (Brennen, 2008). For example, when a game foils expectations (creating CD) without exceeding the capacity of the player to succeed, engagement is sustained (Eck, 2006). Games flourish on cycles of CD, which result in constant engagement. These cycles stimulate hypothesis formulation, testing, and revision. This pattern is repeated countless times throughout a game as the player is presented with immediate feedback (Eck, 2007).

The third process, scaffolding, was developed by renowned psychological researcher, Vygotsky, who stressed the importance of providing support for learning through high-levels of interactions during early childhood (Landry, 2003). The application of Vygotsky's theory of social support has been called scaffolding or building a framework of assistance that allows children to take their learning to the next level. Scaffolding helps children develop more complex thinking skills and strengthens their social skills**.** In his work on supporting learners, Vygotsky developed the concept of the Zone of Proximal Development (ZPD). This is a measure of how much more children can learn with support from adults than they can learn when left on their own (Landry, 2003). In relation to gaming, players want to be challenged and successful games constantly keep players in the ZPD. *Dimension M*, a collection of math games developed by Tabula Digita, engages scaffolding by having students become "first-person shooters." The challenge the player faces is to stop a biodigital virus from taking over the world while learning about functions and solving equations (Chandler, 2009).

One key feature of video games aiding in a child's learning experience is motivation. Motivation is a vital dimension of learning for any child's academic career. This term has been defined in a variety of ways. According to Wigfield (2004), intrinsic motivation comes from inside ourselves rather than external sources. When students are intrinsically motivated to learn, they become deeply involved in their activity and devote much time and energy to it. Students are more apt to learn new ideas/curricula when they are motivated by the material presented to them in or out of school. Video gaming has contributed to the increase of motivation for learners. According to Gee (2007), "motivation for humans lies in challenges…" (p. 36). The challenging aspect of gaming is what keeps students constantly engaged and wanting to spend a lot of time playing. In a world where products and media constantly seek a person's attention, video games are able to capture this attention. Motivation such as is this is a clear foundation for learning (Gee, 2003, p. 152).

Marc Prensky, CEO of Games2Train, states "Motivation can be a challenge for students. Video games come with a clear set of motivation tools, such as scores" (as cited in Korzeniowski, 2007, p. 1). The components of the "techie" world draw school-aged children in because they are rapidly changing, extremely stimulating, and award instant gratification. "Good games will challenge players just enough to keep them engaged and pushing to reach the next level" (Chandler, Jan.4, 2009).

Eck converted the famous saying from Robert Fulghum (2004), "Everything I really needed to learn, I learned in Kindergarten" to "Everything I really needed to learn, I learned from playing games." According to Eck (2007):

- Games teach me how to solve problems;
- Games teach me how to work with others and lead;

- Games help me be organized and detail-oriented;

- Games let me create things and tell stories;

Eck's statement is one more reminder that games based on sound learning principles can foster a learning environment in which students can feel appropriately challenged, confident, and successful.

Gaming as Vernacular Pursuits

Today students are experiencing an increasingly greater range of vernacular literacy practices, such as gaming, texting, blogging, IM-ing, online gaming, surfing the websites and social networking. As "digital natives," children have been born into a world filled with digital literacies. Examples of these practices are being a video game genius, a podcast producer, and a pop culture expert who can text message without looking at his/her cell phone (Massey, 2009). In an era when young generations are digital-friendly (Prensky, 2001) and video game savvy, the role of video gaming in children and adolescents' cognitive development must not be overlooked (Harushimana, 2008). The demand to stay ahead with this rapid change in their lives falls on their educators and parents. Educating today's generation of learners requires an understanding of the new digital environment into which they were born (Harushimana, 2008).

The following three empirical studies were conducted on the everyday practices of video gaming and youth (Fromme, 2003). A European comparative study (Beentjes et al., 2001: 96), conducted in 1997 and 1998, focused on the number of minutes spent each day on various types of media. The interactive media studied included: the Internet, the personal computer (PC), and electronic games. Data suggested that children between the ages of 6 and 16 spent 32 minutes per day playing electronic games, 17 minutes per day using PC software, and 5 minutes per day using the Internet.

A German study in 2000 (Feierabend & Klinger, 2001) found that, for children between the ages of 6 and 13, playing computer games was their most prominent PC-related activity. In that study, 60 percent of the children said that they "rarely" or "sometimes" used a computer during their leisure time. Playing computer games was the most popular activity for these children.

The third study, also conducted by Feieraband and Klinger (2001), included participants who were between the ages of 12 and 19. An issue of gender arose in this study. Even though playing computer games was again the most popular activity, it was more so for boys than for girls. The researchers suggested that perhaps girls, as they get older, lose some interest in computer games and use a PC for other types of activities, whereas, boys tend to use the PC strictly for "gaming" purposes (Feierabend & Klinger, 2001).

A study of the Internet and computer games use by adolescent boys and girls examined the prevalence, frequency of use, and psychosocial predictors of such use (Willoughby, 2008). The study took place over two unspecified time periods, 21 months apart. At Time 1, subjects were in 9/10th grade. A self-report questionnaire was administered to the students. This was used to determine participant sex and the number of computers in their homes. At Time 2, subjects were in 11/12th grade. The same questionnaire was administered during this time. Boys averaged 1 to 2 hours a day of computer use over time, whereas, girls reported less due to their decrease in time spent gaming. The prevalence and frequency of use was more dominant for boys.

The research described here suggests that vernacular pursuits such as gaming allow students the opportunity to feel successful outside of their school learning. Among many

adolescents, playing video games is a popular activity, especially for boys. These vernacular practices help adolescents stay ahead with the demand of technology in their lives.

Gaming and Socialization

A research project between the years of 1995 and 1998 was facilitated by a research team at Bielefeld University in Germany. The group was interested in defining a new sociology of children. They believed that a revised concept of socialization was needed: "The child may no longer be seen as mere putty to be worked on by external forces but as someone who actively participates in the ongoing construction and deconstruction of his social and cultural world" (Fromme, 2003, p. 6). The group wanted to obtain a clearer understanding of how children used computer and video games and how these media were incorporated into their leisure activities.

The researchers considered the children to be experts in their own field of gaming. They were confident that the subjects would provide them with relevant and valid data. The age range of the children was 7 to 14. The approach to the study was descriptive and analytical. The project included 1,111 children who completed a three item questionnaire at school. The areas covered by the questionnaire included the use of computer games, social context of use, parental mediation, preferred games and importance of leisure activities. The children were asked to judge different features and qualities of computer games, which focused on general acceptance, visual and acoustic presentation, dramatic involvement and required competency. Approximately one year after the main study was completed, 21 qualitative interviews were conducted, which focused more closely on individual preferences and socio-economic backgrounds in order to identify different types of computer game usage (Fromme, 2003). Unfortunately, how these children were selected for the interviews was not specified in the report.

To differentiate among the 1,111 participants, the researchers administered a pre-test using three categories: regular gamers, casual gamers, and non-gamers. The items that were created were intended to show how children describe their frequency of playing computer games. The following items were used:

1. I play video or computer games regularly
   a. Several times a day
   b. Every day
   c. At least once a week
2. I play video or computer games casually
   a. Mostly on weekends
   b. Quite seldom, maybe once or twice a month
   c. Once in a while, but then maybe for several hours
   d. In another way

3. I don't play video or computer games

   a. Never tried it
   b. Only tried it, but didn't continue
   c. Use to play, but don't play anymore

The findings indicated that a larger proportion of boys played video games regularly (55.7%) as compared with girls (29%). Researchers concluded that children who regularly engage in playing computer games, do not ignore other activities, such as sports, reading and spending time with peers (Fromme, 2003).

The study also examined when children played computer or video games. The participants were offered six different situations:

1. When there is nothing else to do
2. When I don't want to do my homework
3. In any possible situation

4.   When nobody is there to do something else with

5.   When friends are there who play with me

6.   When the weather is bad and I cannot go outside

The most popular responses were numbers 1, 4, and 6. The researchers observed that for the children, video and computer games were important media to pass the time between other activities and to fill other parts of the day (Fromme, 2003). The researchers concluded that society should not be concerned that the gaming culture for children is impacting them in a negative manner. The nature of gaming apparently did not isolate the research participants from other activities, either individual or group. Children still liked to read and play sports.

Research conducted by Orleans and Laney (1998) examined the interactions between socialization and adolescents. Thirty-two subjects were observed in a home setting, approximately three times for about an hour each time for a total of three hours per child. The children were observed using computers on their own and with others. Adolescents whose parents were least involved in their computer time were more likely to interact with others among their family and friends. Researchers labeled these adolescents as "sociable" and described them as creating their own social-computer world, gaining pride, and developing a sense of community (Orleans & Laney, 1998).

Taken together, the available research suggests that gaming provides students the chance to identify with themselves and their peers. The confidence that comes from gaming aids many adolescents in their attempts to socialize with others. In the video gaming world, students can take part in social practices.

Effective School Learning and Gaming

A 1985 study conducted by the National Council of Teaching Mathematics (Eck, 2006) was conducted in order to better understand the effectiveness of learning mathematics through the use of games. The researchers wanted to identify how game taxonomies aligned with learning taxonomies. Eleven games were created which varied in age appropriateness and difficulty level. The hypothesis was that games might be better at promoting learning at some levels than others. The researchers analyzed three types of game use (pre, during and post instruction) and how/when teachers applied the games in the curriculum. The researchers found differences in learning taxonomies and whether games were used prior to, during, or after other instruction (Eck, 2006). They concluded that instructional games, designed and created correctly, could be used effectively in the learning environment.

Instructional games, often called "serious" games (Gee, 2007), possess necessary learning elements, such as problem-solving skills and situated cognitive thinking. For example, arcade-style games (which emphasize fun and speed) promote accuracy, automaticity and visual processing. Adventure games, in which a player assumes the role of protagonist in an interactive fiction (Wikipedia) such as *Final Fantasy XI* and *Assassin's Creed,* provide narrative driven, open-ended learning environments that promote hypothesis testing and problem-solving skills (Eck, 2006).

Marc Prensky (2001) has developed an extensive list of games that could be implemented in today's classroom curriculum. Among these he included:

- Algebra - "The Algebots: Beat the Game, Pass the Course,"

- American History - "Revolution,"

- Asian History - "Eyewitness", and

- Chemistry - "MeCHeM" (http://www.socialimpactgames.com).

Educators who use games such as the examples above must integrate them appropriately. This process requires the understanding of the game, its alignment with the curriculum, the instructional strategy, the student's learning needs, and the intended results (Oblinger, 2006). Such alignment is necessary to ensure the achievement of learning outcomes.

A study conducted in 1999 with 300 children, examined the impact of videogames with school curriculum (Gros, 2007). The research team used *Gameboy* and designed 46 games in language and mathematics. For language, one objective was in place, the process of decoding. For mathematics, two objectives were created: to familiarize the student with the basic structure of skills and to learn and apply basic mathematical contents (Gros, 2007). Teachers who used these games in their classrooms reported that videogames were easy to use and the experience was positive.

Greenfield (1996) studied the influence of the use of videogames on improving students' strategies and procedures with school learning. She studied 12-16 year olds who played adventure games and concluded that videogames:

1. aid the development of strategies for reading three-dimensional images;

2. help to develop learning through observation and hypothesis-testing;

3. broaden the understanding of scientific simulations; and

4. increase strategies for parallel attention (Greenfield, 1996).

Although Greenfield did not align this analysis with school curriculum, nonetheless, she concluded that games can be used in the classroom if they possess necessary learning elements such as problem-solving and decision-making. The critical part of using games in school is to

make sure that they encompass the appropriate factors to ensure that learning outcomes are not threatened.

Boys' Learning In and Outside of School

A Canadian study conducted by two professors (Sanford & Madill, 2007) focused on video game play and creation/composition as a learning activity that consumes a great deal of out-of-school time. In their study, they examined the multi-literacy activities that engaged boys' time and attention, and the types of literacy skills and understandings learned through their engagement. The study consisted of observations, audio recordings, one-on-one interviews, and focus group interviews. The participants' ages ranged from 8-16 years. Through their participation in gaming, these young males found a social community, a purpose for developing skills, and an awareness of their community and the world beyond. They learned fundamental literacies which they can apply to their everyday technological world. These included operational, critical, and cultural literacies (Sanford & Madill, 2007). The researchers concluded that school relevant learning is happening through the play and creation of video games. These boys enjoyed a range of fictional literature, including fantasy, science fiction, and adventure. The traditional way of learning, such as "reading straight from a book" is not occurring in these out-of-school literacies; however, these boys are "reading," in alternative forms of literacy, such as chat rooms, blogs, and video games (Sanford & Madill, 2007).

Harushimana (2008), a California high school teacher, examined the impact of video game content on written discourse. She conducted an analysis of narratives composed by urban freshman males. The following questions were explored:

- How can pre-digital educators negotiate literacy with digital natives?

- What does adolescent writing reveal about the influence of videogame content on adolescents' cognitive processes?

- What does adolescent writing suggest about teaching with and learning from video game story lines?

In her study, Harushimana conducted a reading/writing workshop. She asked the students to compose their own stories. The writing had to include entertainment, story line, plot conflict, rising action, falling action and resolution. Their narrative writing included ideas from popular videogames, such as *Legend of Zelda, Tales of Destiny,* and *Resident Evil*. She examined each story and found through the Internet that these videogames contained similar characters, plot and themes that reside in classic literature, such as *Beowulf* and *The Odyssey* (Harushimana, 2008).

Literacy educators who are also video-game savvy have engaged in drawing parallels between classical literature and video game stories (Brinckerhoff, 2007; Hidley, 2006). Roger Travis, professor from the University of Connecticut, has found many analogies, in particular, the game *Halo* and Virgil's *Aeneid.* According to Travis, both tell a story about a more-than-human hero defeating two enemies "…who nevertheless bear an important resemblance to the ones we and the Romans face in our respective presents" (as quoted in Brinckerhoff, 2007, n.d., n.p.). Games currently being developed, such as *E. Bronte's Wuthering Heights: Heathcliff's Revenge* and A. Miller's *To Kill a Mockingbird: Furor Excessum* are precursors of the literary videogame genre (Kotaku, 2008). Derek Hidley (2006), editor of the *Bittersweet Art and Literary Magazine,* believes that one "…can apply all those classic themes we have come to love in English…. gender roles, class struggle, treatment of children, etc. to any video game story" (2006, n.p.).

Smith and Wilhelm (2002) conducted a study with 20 young high school-aged males. They wanted to investigate the literate lives of boys, in and outside of school. They wanted to see how boys' lives related to other boy roles, such as friend, brother, athlete, musician and game player. They conducted many interviews with boys at different times throughout the school year. The study examined *what* is taught and how teachers need to engage students in thinking through ideas that are relevant to them. The boys' responses revealed their interests in their out-of-school literacies. Overall, the boys were motivated during these activities because they wanted to solve a problem. Smith and Wilhelm encourage other educators to give boys the chance to experience learning in a manner that is of interest to them. The boys' motivation and interest are driving factors in their school success. If they are successfully engaged, the chances of their being willing to participate in school learning will be greatly increased (Smith & Wilhelm, 2002).

CHAPTER 3

METHOD

In this chapter, I describe the design of the study as well as the methods used. I begin with a statement of my research questions, and I explain the research interest that resulted from my personal experience as a formal middle school literacy teacher. Next, I describe the research design, the study participants and the selection process I used. In the data collection section, I describe the rounds of interviews that I conducted with study participants. I also describe the analytic procedures I used to make sense of the data. I conclude the chapter with a brief summary.

Research Questions

The following research questions guided this study:

1. What are the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking?;

2. What is the evolution of their gaming practices into adulthood?;

3. What is the intersection of gaming practices and other aspects of their lives?; and

4. What are their views about supporting school-based literacy learning for current adolescent males?

In order to shed light on the role of gaming and other new literacies, I examined the literacy development of adult males who were gamers as adolescents. I conducted interviews with 12 adult males. The four research questions served as the foundation for the interview process.

To better understand literacy development, I used the multiple dimensions of literacy which are identified in the professional literature and discussed in chapter 2 to help frame my interviews. I believe that all of the dimensions of literacy are critical and therefore all are included in the analysis of the data.

Research Interest

My original plan was to examine adolescent boys, gaming, and literacy. This interest stemmed from my personal literacy interests and my career as a middle school literacy teacher for 10 years. My own love for literacy began as a young girl and stemmed, I believe, from my parents' love for reading. Each of their nightstands always held at least one book. My bedroom had a gigantic bookshelf lined with classics, such as *Charlie and the Chocolate Factory* (Dahl, 1964) and *Stuart Little* (White, 1945). As Cicero said, "A home without books is a home without a soul" (Cicero, 106 BC-43 BC). Every summer, my parents and I would set a goal of how many books I was going to read. Each year, as I progressed in age, so did the number of books. I read the entire *Hardy Boys' Mystery Stories* (Dixon, 1927-1979) and *Little House on the Prairie* (Wilder, 1935). Consequently, my desire to read outside school filtered into my academic career. I knew as an adolescent that I wanted to be a teacher and share with my students my love of reading. I had always thought that everyone else loved to read as much as I. In high school, I was exposed to classic literature such as *The Catcher in the Rye* (Salinger, 1951)*, The Scarlet Letter* (Hawthorne, 1990)*, To Kill a Mockingbird* (Lee, 1993)*,* and *The Canterbury Tales* (Chaucer, 1989)*.* In my college career, I explored such writers as Hemingway, Fitzgerald, and Hawthorne.

As a reading teacher, my challenge was to encourage my boys to read something, anything. Just *please* read! So often they expressed disdain with regard to reading. I observed

such lack of interest in conventional reading among boys who were fluent readers as well as those who struggled to attain fluency. If the topic did not interest them, they did not want to read. On the other hand, I was amazed by their desire to play video/computer games, talk with each other about games, and strengthen their self-esteem through gaming.

In the second half of my teaching career, I was one of the original teachers to pilot the reading intervention program: *Read 180* (Scholastic, Inc., 2005). I attended several intensive trainings and documented a plethora of data for the county officials to inform their decision about whether to adopt the program for the entire county. *Read 180* is centered on a 90-minute schedule with a 3-part module: small group instruction, computer instruction, and independent reading.   The class is comprised of fifteen students, divided equally among 3 groups. The students were comprised of struggling and often illiterate readers, those for whom subject matter reading seemed irrelevant and not worth their time or effort (Alvermann, 2004). A third of our enrollment consisted of English for Speakers of Other Languages (ESOL) students, who always showed significant gains in achievement. My daily challenge was to get those "stubborn boys" to read. I would do my "song and dance" and try to excite them about reading but their interests were dead asleep.

After my first year of teaching *Read 180* and learning the parameters of the program, I felt more comfortable to go outside of the scripted curriculum and supplement. I strongly believe that students deserve instruction that is developmentally, culturally, and linguistically responsive to their needs (Alvermann & Eakle, 2003). I began each semester with a reading survey because it seemed essential to know my students personally, including their likes and dislikes. I believe an honest relationship is critical in order for students to take risks and interact openly with the teacher. According to Carol Santa (2006), "Students tend to work harder for

teachers they like and put little effort into classes where they feel disconnected…" (p. 472). I

would hone in on their topics of interest and try to incorporate them into my lessons. The

leading topic of interest for most boys was (digital) gaming.

Research Design

The research method I selected for this study is qualitative and consists of interviewing

electronically (e-mail) and in-person (face-to-face). I conducted several interviews with each

participant based on the four research questions. I wanted the interviews to be conversational in

nature. The in-person interviews allowed a conversation that was rich in detail. I wanted the

participants to have the opportunity to explain aspects of their lives that are essential to this

study.

I used the following interview process. First, I conducted one interview. Next, I

transcribed the interview and looked to see what questions I still had based on the topic of the

questions that I asked. Then, I went back the next time and asked the questions that were not

adequately answered or needed more clarification. After those questions were answered or

clarified, I asked the next set of topic questions. I repeated the process from one interview to the

next. It was a succession of conversations each time I interviewed my participants whether it

was by e-mail or in-person.

A well-known ethnographer, Michael Agar (1980), explained my prescribed interview

process in the following quote:

> You learn something ("collect some data"), then you try to make sense out of it
>
> ("analysis"), then you go back and see if the interpretation makes sense in light of new
>
> experience ("collect more data"), then you refine your interpretation ("more analysis"),
>
> and so on. (p.9)

The interviewing process enabled me to shed light on the focal topics for my dissertation: gaming literacy, vernacular technological literacy practices, evolution of gaming practices into adulthood, and school-based literacy learning. With precise questions, I gained a better understanding of the participants' literacy experiences as adolescents and adults. I wanted to know how their vernacular technological literacy practices as adolescents evolved into their adulthoods.

According to Oakley (1981), interviewing is rather like a marriage; everybody knows what it is and yet behind closed doors, there is a world of secrets. I was pleasantly surprised about what I found out about my participants. Such information included their political stances and dating practices.

There are three types of interviews: informal conversational, general interview guide approach, and standardized open-ended interview. An informal conversational interview is the action of spontaneity with questions that flow naturally. Many times the persons that are being talked with are unaware that they are being interviewed.

A general interview guide approach consists of a set of topics that are explored with each participant before the interview begins. This approach serves as a checklist during the interview to ensure that all issues are covered.   The interviewer is free to build a conversation within a particular topic. This induces a conversational style between the interviewer and the interviewee but maintains a focus that was predetermined (Patton, 2002).

A standardized open-ended interview is a set of questions that are worded and asked in the same way for each participant.   Flexibility is limited. This approach is used when the interviewer wants to minimize variation in the questions posed to the participant.

My selected type of interview was the general interview guide approach. I had a list of questions that I wanted my interviewees to answer and I wanted the conversational aspect present in our sessions. The advantage of an interview guide is that it ensures the interviewer uses his/her time wisely in a session (Patton, 2002).

Study Participants

In order to increase the likelihood of variability of response, I used the criteria displayed in Table 1 to select participants for this study.

Table 1

Participant Selection Criteria

Criteria	Definition
Gender	Male
Age	28 to 42 years of age
Gamer	One who currently participates in gaming practices on average for 5 hours weekly and has done so for a minimum of 20 years. (Games are operationally defined as technologically-based problem-solving activities that players voluntarily select for the purpose of experiencing pleasure through efforts to achieve some level of success.)

As stated before, I wanted to study male gamers because of my interests as a former teacher. Typically, when we examine literacy, we observe boys in their adolescence and strive to determine how we should instruct them. One approach that has not been used often, but could be very beneficial is to investigate literate adult males who share some of the same attributes of these boys (i.e. gamers) and examine how their literacies developed over time.

The original age range that I selected was from 30 to 40 years. During the course of collecting data, I wanted to increase my sample size in order to obtain a more diverse set of views. I increased the age range to 28 to 42 years. This age range helped me in examining the gaming because I am within this age spectrum and am familiar with some of the games that they played as adolescents. This knowledge aided in my personal connection to the participants and their gaming experiences.

Selection Process

The process for selecting participants was a critical part in obtaining the appropriate pool from which to gather data. I followed four steps in the selection:

1. Initially, I invited five participants who were personally known to me as gamers.

2. Next, I invited each of these participants to nominate other gamers who might wish to participate.

3. Finally, I contacted each nominee via e-mail to invite their participation and to nominate additional gamers. I continued this process until I identified twelve gamers who expressed willingness to participate in e-mail interviews about gaming.

I invited my participants via written invitation sent electronically. (See Appendix C for the complete written invitation.)

Data Collection

Once I received the participants' written consents (see Appendix A), I conducted the following four rounds of data collection: an initial interview, a follow-up interview, an evolution timeline interview, and a participant profile interview. I examined adult males who began as gamers in their adolescent years and continue to game in their adulthood. I used a variety of

prompts during each round of interviews in efforts to elicit information and perspective relevant to the four research questions.

For the most part, the e-mail section of the data collection was simple and efficient. I recorded the participants' e-mail correspondence on a spreadsheet. Half of my participants needed occasional e-mail reminders sent because I needed their information in a timely-manner. Two of the participants needed multiple e-mail reminders sent because I was not receiving any information from them and I judged the time elapsed to be too great. When I did receive the participants' e-mails, the information was robust and descriptive.

Initial interview

In the initial interview, I e-mailed the participants six questions designed to provide initial information about their gaming and to elicit referrals for possible additional participants. I wrote a brief e-mail correspondence in which I asked each participant to answer the following questions:

1. What got you into gaming?

2. What keeps you into gaming?

3. What games do you enjoy?

4. Would you be willing to participate in a more in-depth interview on the topic of gaming?

5. Who can you recommend as possible additional participants for this research? (Please provide an e-mail address)

6. Why would you recommend these participants as a good candidate for interviewing about gaming?

I read each e-mail and identified three categories of response. Within in each category, there are several sub-categories. The table below reveals the codes that I used for the initial e-mail interview.

Table 2

Codes for Initial E-mail Interviews

Code	Initial E-mail Interviews
Adolescent	1. School
	2. Outside of school
Social	1. Family
	2. Friends
	3. Teamwork/Camaraderie
Pleasure	1. Flow
	2. Fantasy/Imagination
	3. Choice
Problem Solving	1. Strategies
	a. Overcome obstacles
Aesthetic/Artistry	1. Art
	2. Graphics
	3. Music
Recreation/Leisure Time	1. Expense
	a. Cost-effective
	b. Amount of hours
Genre	1. Naming (types)
Adulthood	1. Support for playing
	2. Opportunity to play (unexpectedly)

Follow-up interview

Once I received data from the initial interview, I conducted several follow-up interviews either by e-mail or face-to-face (see Appendix B). In these interviews, I constructed questions that addressed the four research questions as well as questions based on an analysis of the initial e-mail interview responses. These additional questions included:

1. How has your participation in gaming changed since you started gaming?

2. What other current technological practices do you do (such as texting, blogging, IM-ing, online gaming, surfing websites, and social networking)?

3. Besides gaming for pleasure, what other technologies do you use for work or play? Please elaborate on each practice.

4. How does gaming relate to other parts of your life?

5. Given your experiences in gaming, how would you see gaming being helpful in supporting learning in school for today's adolescent males?

Evolution timeline interview

In order to chart the evolution of participants' gaming practices, I analyzed participant responses on the follow-up interview and then conducted another e-mail interview, the evolution timeline interview. In this interview I requested the participants to map out their gaming career from the age of five through their current age (see Table 3). I chose these specific age groups because they approximate phases of psychosocial development (Wikipedia, 2011a).

Table 3 displays the prompt I sent via e-mail to participants during round 3, the evolution timeline interview.

Table 3

Evolution Timeline Prompt

Evolution Timeline Prompt

I am in the process of trying to map out the evolution of your technological practices. Using the following age groups, please fill in what you were doing. You can use words and/or phrases. Examples can be gaming, going to arcades, gaming with friends, texting, blogging, IM-ing, online gaming, surfing websites, and social networking. Please feel free to write a short description if you want.
 	
          5–12 years
          12–18 years
          18–24 years
          24–32 years
          32–40 years

The participant profile interview

In order to gain a vivid picture of each participant, I requested information on each participant's background. I sent an e-mail interview with questions ranging from childhood to their current lifestyle (e.g. occupation and social networking). I wanted my participants to have the opportunity to share a true and honest perspective of themselves.

I used the following prompts in this round of interviews which I refer to as the Participant Profile Information:

1. What is your age?

2. What is your race?

3. Where did you grow up?

4. What was your socioeconomic status as a child? Why? Provide examples

5. Whom did you live with when you were growing up? Father? Mother? Siblings? How many? Older/younger?

6. Did you graduate from high school? College? Masters? Doctorate? From where and in what?

7. What is your current occupation, where, and for how long?

8. What is your economic level of success?

9. Are you economically comfortable? (With your families?)

10. What is your social level of success?

11. Are you an active member of your community? Do you volunteer? If so, where, what do you do and how often?

12. Do you have connections with others in your community?

13. Was there any time when gaming interfered with your life achievements?

14. Was there any time when gaming supported your life achievements?

15. Was there any time when gaming supported the development of new friendships/relationships?

16. Was there any time when gaming interfered with friendships/relationships?

Summary of interviewing process

During the four rounds of data collection, I conducted several interviews with each participant based on the four research questions. I began with an e-mail interview in which I posed six questions. Next, I conducted a series of follow-up interviews personalized for each participant. Next, I conducted an e-mail interview in which I asked each participant to map out his technological practices by age groups. Finally, I conducted participant profile interviews in

which I raised an array of questions about participants' experiences and views. Table 4 provides

a summary of the participant correspondence.

Table 4

Participant Correspondence

Participant	E-mail	Face-to-Face	Total Communication
Lorenzo	7	8	15
Adam	9	8	17
Ian	14	7	21
Ethan	16	7	23
Jay	24	0	24
Chris	26	0	26
Kyle	29	0	29
Henry	33	0	33
Frank	35	0	35
Brian	31	7	38
Greg	41	6	47
Dean	58	0	58

Pilot interview

In an effort to determine whether the technology option was feasible, I conducted a brief

(five questions) interview with a co-worker via e-mail. I selected Paul (a pseudonym) because

he is a Computer Systems Administrator. Paul is a White male, approximately 30 years old, and

is very knowledgeable with computers/technology. I approached Paul in the office kitchen and

asked him if he was willing to answer a few questions about literacy and technology. I avoided

using complicated terminology with Paul because I did not want to make him feel

uncomfortable. I kept our conversation short and light-hearted. I told him that there were no

wrong responses. With a smile, Paul said, "Sure, no problem. Just send me the questions."

Based on the four research questions, literacy definitions, and prompts, I wanted to make

sure the questions reflected these categories. I also wanted to ask about literacy because my

initial thought was to ask my participants what literacy means to them and if they can identify

themselves with one of the dimensions of literacy. I did not give Paul the dimensions of literacy

because I did not want his answer to be influenced by seeing the literacy definitions. Table 5

displays the e-mail.

Table 5
E-mail Sent to Pilot Participant

E-mail Sent to Pilot Participant
Here are the questions. Please feel free to answer at-will and remember………… there are no wrong responses.

1. What does literacy mean to you?
2. What was your school experience as an adolescent?
3. As an adolescent, did you play games (e.g. board games, computer/video games) and what were they?
4. As an adult, what do you do for recreation? How do you spend your leisure time?
5. What views about adolescent boys do you have today in regards to schooling?

Thanks a lot Paul, I really appreciate it!

Paul responded with the e-mail displayed in Table 6.

Table 6

Pilot Participant's E-mail Response

E-mail Received from Pilot Participant

Here are my answers. Were they supposed to be longer?

1. **What does literacy mean to you?** *Beyond reading and writing, it's the ability to comprehend what you've just learned and convey that information to others in a way that is cohesive, coherent and relevant to the person you are communicating with.*

2. **What was your school experience as an adolescent?** *Super boring.*

3. **As an adolescent, did you play games (e.g. board games, computer/video games) and what were they?** *No games, just team sports.*

4. **As an adult, what do you do for recreation? How do you spend your leisure time?** *Backyard BBQ games, sightseeing.*

5. **What views about adolescent boys do you have today in regards to schooling?** *I don't know anything about how adolescent boys are schooled today, but I think they're being hyper-managed to the point where boys will no longer be boys. Also, the trend in today's society to make everyone equal (sports without winners and losers, everyone gets a turn, etc.) is detrimental to the development of boys' personalities, self-esteem and social skills. Life is about persevering in the face of adversity and being gracious in victory.*

I am really glad that I experimented with a trial interview and asking questions. Based on Paul's responses, I determined that I needed to elaborate when asking questions. For numbers 3 and 4, I should have asked to describe the games and his leisure time. I believe Paul's responses for number 1 and 5 were clear and descriptive. If I had a chance to respond to Paul, I would have asked him to elaborate on the responses for number 2 and 4 because they were brief and lacked rich detail.

For example, I would have asked:

- **What was super boring?** The teachers, schoolwork, other kids?

- **Recreation? Leisure Time?** Do you go some place? How much time do you devote to recreation/leisure time? Do you spend your leisure time alone or with a group?

Based on this trial interview, I definitely foresaw having to ask each participant to expand on his responses during a particular session or at the following one. This is why I believed it was crucial to have prompts as a way to encourage my participants to give descriptive responses. I was surprised with Paul's strong-opinionated answer for number 5. From what I gather, he truly believed in healthy competition and allowing boys to experience success as well as failure in order to develop their personalities, self-esteem, and social skills. If I had a chance to go back and interview Paul again, I would ask him if he agreed with this assertion and I would have him explain the competition topic in greater detail.

Data Analysis

Content analysis

I used content analysis as a primary mode of analysis. Drawing from Berelson's (1952) guide to content analysis, I determined a list of the following:

1. Initial interviews:
   a. A common list of responses for each question, including the question about the rationale for nominating other participant**s**
   b. Additional, unique responses
   c. How participants' responses inform the focal research interests
   d. Additional questions that need to be asked in follow-up probes

2. Follow-up interviews:
   a. A common list of responses for each question
   b. Additional, unique responses
   c. How participants' responses inform the focal research interests
   d. Additional questions that need to be asked in follow-up probes

3. Face-to-face interviews (as needed)

The following responses were examples of my content analysis. A common list of responses for the question, "What are the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking?" were gaming, texting, surfing websites and social networking. Unique responses for the question "What is the intersection of gaming practices and other aspects of their lives?" were "From graphics to music, it's almost like you are playing in a movie." And "From interface design to logical thinking...I use this stuff every day."

Data transformation

Based on explanations for data analysis provided by Wolcott (1994), I incorporated the following three approaches for transforming the data:

- Follow an analytical framework (Description),

- Highlight your findings (Analysis) and

- When you come to the end, stop! (Interpretation).

The *follow an analytical framework* approach imposes structure on the descriptive account. By having the framework, I was a well-prepared chef. When the various descriptive ingredients of the study are called for in an ensuing analysis, they will be at hand (Wolcott, 1994). The prompts helped me focus on what I was asking and I gained as much information as possible from the interviews. I used the multiple dimensions of literacy described in chapter 2 as my analytical framework for this study. Table 7 provides a summary of these literacy definitions.

Table 7

Literacy Definitions

Literacy Term	Definition
Traditional/School	1. Structured processes of schooling whereby students are taught to read and comprehend texts as well as produce their own written works. 2. The teaching of reading and writing.
New	1. Those strategies in the teaching of reading and writing which attempt to shift the control of literacy from the teacher to the student. 2. Skills, strategies, and insights necessary to successfully exploit the rapidly changing information and communication technologies that continuously emerge in our world.
Multimedia	1. Assembling knowledge from multimedia resources, strategically navigating through hyperlinks, critically comprehending various forms of information, engaging in electronic forms of communication, expressing ideas in multimedia formats and socially mediating problem solving through online and real-time collaborations. 2. Literacy is multimodal, and rather than receive information from static texts, they actively create meaning dynamically across diverse media.
Functional	1. People are able to process print in their environment, whether it be, for example, newspapers, train schedules, or official government documents. 2. Refers to how well a person can read materials associated with 'survival activities'.
Social (Practice)	1. Primarily something people do; it is an activity, located in the space between thought and text…. Like all human activity, literacy is essentially social, and it is located in the interaction between people. 2. Something that happens out in the world of social, cultural, and institutional activities. Literacy is at home in the world of talk, action, interaction, and values, not only in people's heads.
Critical	1. Teaching and learning how texts work, understanding and re-mediating what texts attempt to do in the world and to people…… 2. Is a means to understand one's relationship to the means of production, and to realize control over one's work, knowledge, political rights and freedom.

As an example, Henry said "it is very important for me to be technologically competent at work because I have a lot of work that I do on the computer." This statement could fit into the categories of new literacies or functional literacies as explained in chapter 2. Ethan stated,

"Gaming is critical for newly enlisted soldiers because it helps out with their training by providing life-like simulations." This is an example of functional literacy. For some of the participants, social (practice) literacy is an activity that they simply do by gaming. According to Frank, "it is the most consistent activity that I do."

The analysis approach, *highlight your findings,* helped me focus on some items and not everything. This approach allowed me to return to highlight certain information already presented or use a sharper focus to present new material or a finer level of detail (Wolcott, 1994). For example, I continued to return to the four research questions because I wanted to make certain that I had sufficient information from my participants in order to successfully answer the questions. My interviewing process in conjunction with this approach was beneficial in helping me gain insight into the participants' underlying literacy experiences as adolescents and adults. When analyzing the interviews, I recalled the prompts and knew where to place the information that pertained to those particular focal items. For example, when I received information about their childhood gaming experiences, I placed the information with other data that involved the evolution foci question.

I coded my data in terms of the research questions, literacy definitions and prompts. Also, I added other codes when the data suggested them. For example, my participants shared what gaming systems they used (see Appendix D); therefore, I added the data to the framework. I created a table representing the games and gaming systems they used, so I had a reference point when I was writing-up the data. There were data that I did not anticipate, so I made the necessary adjustments and/or added new categories. For example, I received information about different age spans of when they gamed, so I created an evolution timeline representative of this additional information. Social class was mentioned and compared by all the participants when

they recalled their childhood, i.e., owning gaming systems, playing at a friend's house or at an arcade. I thought this was pertinent to the participants' character development, so I included it in the participant profile section.

From the categories, I generated assertions about what they were illustrating. I returned to the data in order to test each assertion. For example, Dean considered himself a "geek" when he was young but he said that he had a happy childhood because he gamed. An assertion was: gaming helped all of the men develop confidence when they were adolescents. In analysis, I took this assertion and addressed it in future interviews with my participants to see if it was tenable. Another assertion was: Technology was an attractive feature with gaming and that is what lured them in when they were adolescents. When I returned to the following interview, I asked the participants to further explain what about technology that was attractive and to provide examples to support this assertion. For those assertions that the data supported, I considered their implications for literacy development, etc.

When you come to the end, stop! This interpretative approach encouraged me to take the data as far as I could with confidence and then stop. It is critical to avoid forcing data into an interpretive framework. You do not want to detract from what you have accomplished by adding on a weak interpretation (Wolcott, 1994). I believe I placed the interview data into the appropriate categories and did not force it to fit somewhere else. If the information was not pertinent to the focal items or to an understanding of literacy development, I did not use it. For example, Frank mentioned (on more than one occasion) that he did not call to cancel dates. I did not feel that this was relevant to the research questions or to the understanding of his literacy development.

Writing-Up the Data

I am extremely pleased that I was able to gather a substantial amount of data from the e-mail and face-to-face interviews. These interviews provided me with adequate information to write up the data analysis. Writing was an on-going process of writing and re-writing because I wanted to ensure that the findings were clearly stated and well explained. When I was writing up the findings, if there was missing information, I returned to the participants and asked more questions to fill in the gaps. In order to prepare myself for writing up the findings, I created several tables to organize and reference the data during the pre-writing phase (Table 2 and 3). I recorded examples of what participants commented on, such as patterns of participants' views on gaming and social networking. As I wrote and revised, I added the recorded examples of the participants' comments where they seemed appropriate. During the writing of the narrative, if I found further omissions or data that I did not quite understand, I returned to the participant responses for clarification.

Summary

I designed this research to examine how adult males' literacy developed over time since they began gaming as adolescents. This study may provide critical information useful to other educators who may be interested in learning more about this type of technological literacy practice, as well as to those interested in the development of males as literate beings.

In this chapter, I identified and explained the methods that I used to collect, organize, analyze, and synthesize the data. I also described the process of writing up the data. I discussed and explained my participant selection process. I attempted to share the processes I used during the course of this research in enough detail for readers to understand those processes and to evaluate them as a basis for judging the trustworthiness of my interpretations and conclusions.

CHAPTER 4

INTERPRETATIONS

In this interpretive chapter, I present profiles of each of the 12 participants. In these profiles, I provide information about their upbringing, socioeconomic status during childhood, present education level, current economic success, current social success and current profession. In the second section, I present findings pertinent to my research questions:

1. What are the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking?;

2. What is the evolution of their gaming practices into adulthood?;

3. What is the intersection of gaming practices and other aspects of their lives?; and

4. What are their views about supporting school-based literacy learning for current adolescent males?

Overview of the Participant Group

I begin with a description of the participants based on the perspectives each expressed during round four, the Participant Profile Interview. I invited 16 males ranging from 28-42 years old to participate in the study and 12 agreed. I was already acquainted with eight of them and I met the other four participants through those eight. The 12 participants ranged in age from 28 to 42, with an average age of 35 (sd = 3.8). Two self-identified as Black and 10 as White, including three Hispanic and one Korean. Their socioeconomic backgrounds range from lower-middle to middle class (as adolescents) and middle to upper-middle class (as adults) (see Appendix E).

Social class is defined as "A status hierarchy in which individuals and groups are classified on the basis of esteem and prestige acquired mainly through economic success and accumulation of wealth" (Business Dictionary, 2011). Individuals who are in the lower class are paid an hourly wage. This particular class is also referred to as the working class (Business Dictionary, 2011). Middle class is comprised of people whose occupations can be non-manual workers, lower-level managers, and/or small business owners. Their income is higher than the lower class person but lower than the upper class. Individuals who are a part of the upper class are commonly identified by their power and wealth. Such upper class individuals are Chief Executive Officers, or CEOs, of large corporations, business moguls (e.g., Bill Gates and Donald Trump) and heirs to wealth (e.g., Kennedys and Rockefellers).

The occupations of the participants range from heavy equipment operator to financial controller. The participants' education levels range from high school to masters. All of the participants live on the East Coast of the United States (U.S.). Four of the participants are married, two of the four married participants have children, one is engaged, and seven are single.

Individual Profiles

In developing each profile, I relied primarily on the information reported to me by the participant. This is reflective of interpretivist research. Interpretive methods of research start from the position that our knowledge of reality, including the domain of human action, is a social construction by human actors" (Walsham, 1993). In keeping with this view, each individual profile is based on information each one provided.

I used pseudonyms for each participant and I named each according to the order in which I received consent forms. For example, the first participant's name is Adam because I received his consent form first and A is the first letter of the alphabet. This was an easy way for me to

keep my participants organized throughout the study. In each profile, I include direct quotes taken from interview material collected during the four rounds of data collection.

Adam

Adam is a 32-year-old White male. Due to his father's career as a regional security officer (responsible for the safety of all civilians living on and off the embassy grounds) in the U.S. Department of State, Adam grew up in many places until he was a teenager. He lived in California, England, Syria, Malaysia, Chicago, Virginia, Africa, and returned to the East Coast as a teenager.

Adam grew up with his father, mother, and younger sister. Adam's mom was a nurse. Adam's dad retired from the state department after 25 years and went to work at a distinguished four-year university in the southeastern part of the U.S. as the Security Director for the main campus and the law school campus. Adam and his sister could attend the undergraduate school at no charge. Adam was accepted but chose not to go because he did not like the atmosphere. "I am not a city guy and I didn't like the snotty girl that was giving the tour."

Adam considers his socioeconomic status as a child to be middle-class because of where they lived (an affluent area in the Southeast), who family friends were, (the neighborhood consisted of people who had careers as military officers, drug and enforcement agents, Federal Bureau of Investigation agents, and Central Intelligence Agency agents), and the cars his parents drove (Toyota Camry and Dodge caravan). Further, his parents frequently used the phrase "middle class." For example, "We pay middle class taxes." Adam's parents are retired now and live in southeastern U.S., where Adam and his sister visit occasionally throughout the year. His younger sister graduated from a distinguished four-year university and a law school.

Adam holds a bachelor's degree in psychology from a major research university in southeastern U.S. He enjoyed his college experience. Adam took courses such as psychology, child psychology, sociology, and statistics. Adam believes that a person does not need four years of college. "Find your major, take your classes, and you are done." He believed his time was not well spent when he had to take classes unrelated to his major, such as Spanish. "Why do I need to know Spanish? It's not like I am going to open up a clinic in Mexico."

Adam appreciated the learning experience of living on his own during his college years. He said that it took him some time to figure out things, such as how much food and drink to buy. "Didn't know what to buy or cook. I would buy 18 bags of chips. NO concept of planning meals. A bunch of guys not knowing what to do." He said that during this time of learning how to live on his own, he started to learn how to cook, which is a hobby that he still enjoys today.

Adam's first semester was challenging for him. He received a 1.9 grade point average (GPA). His lifestyle at home was very constricting and he did not have a lot of freedom when living with his parents. According to Adam, "I went from my parents being so god damn controlling to complete freedom. I went to school and blew all the money the first semester on beer, pot, food, and groceries." After his first semester, he was able to refocus his priorities on academics. "My GPA was a 3 point something and I graduated with a 3.4 in my major and my overall was a 3.1."

In his job, Adam is very passionate about his work. He is currently a bartender at a local neighborhood franchise restaurant. Adam is extremely methodical in his work style and environment. Everything is stocked properly. For example, the condiments and the napkin holders are always filled. He refills a drink effortlessly and always when the patron has just taken his/her last sip. Adam is friendly and pays close attention to all of the patrons. Adam has

his regular customers who only frequent the bar on the days that he is working. In Adam's words, he has been working as a bartender for "Fuckin too long. Twelve years of fun." Adam tried to wait tables for one year but did not like it because there was no buffer between him and the customers. "When you bartend, there is a buffer and you can get away with murder, no leeway with waiting tables, more power behind the bar. There is a lot more leeway with talking to people. The conversation is more informal in a bar setting compared to the restaurant area."

Money is a primary motivator in his job choice. He is a bartender "Strictly because of the money. I am not a 9-5 person sitting behind a desk. I would go freaking nuts. With making money, it goes owners, managers, bartenders, and then wait staff."

Adam has ambitions for future success. He wants to have a managerial role but "only on my terms, I want a percentage of profits at the end of the month, to instill work ethic, your performance reflects your paycheck. To be able to hire and fire and have health benefits. I sit here and train my general managers because they don't know what they are doing." Currently, he is training the very manager that he strives to replace.

Adam judges his economic level of success to be adequate based on his job, car, a motorcycle that he is about to buy, and the money that he has in the bank. "Bartending, it's funny, people say I feel sorry for him because of the little money he makes. But, I don't get taxed on the money I make." When it comes to paying taxes, Adam takes a critical perspective. For example, he says:

> I made $50,000 in one year at least. At the end of the year, I have to pay a little tax but it's not like a normal person who makes $80,000 and walks home with $50,000. I make about the same. I fucking refuse to pay taxes… Until the government actually shows me an actual pricing of what they spend my money on, they are not getting a cent from me."

When viewing the local news that was featuring the White House Easter egg hunt, he said disparagingly, "They probably spent $50,000 on that event.

Adam has a strong anti-consumer attitude toward life. According to Adam, he is economically comfortable:

I don't need a lot of money to be happy. Honestly, if you get caught up in 'consumer America,' you are going to cry a river. In actuality, you don't need the biggest and best thing. I could care less about my car. Your health is the most important. Money doesn't buy happiness. I know people that are wealthy that are miserable. As long as I have money to buy a beer, and take my girl out for a nice dinner, I am happy. To be comfortable is what is important. It doesn't take a lot for me to be comfortable."

Adam describes his social level of success in terms of friends. He says:

I have a ton of friends. I have really good friends, friends that would jump in front of traffic [for me]... I have always been able to make good friends. I have had to get rid of friends in the past but for the most part, I keep my friends.

In the business of bartending, Adam says that he has become weary as he has aged in this profession. "I keep my distance until I get to know people. I watch people interact with others. I have a very dry sense of humor. If you can't take a joke, we probably wouldn't be friends. I make jokes, and I want people to make jokes with me."

Adam does not think that gaming interfered with his life achievements though his Mom would disagree:

According to my mom, even though I was getting straight A's, I would sit in front of my *Nintendo* for 6 hours. My mom would restrict my game playing. She would also use it as punishment if I did something bad (dumb stupid boy behavior like getting into minor

fights with neighborhood boys, wearing dirty clothes, and having a dirty room) which was all the time.

Adam believes that his mom was very controlling. She knew that gaming was important to him and she would use that against him. "She used that to crush me!"

When Adam was young, gaming supported the development of new friendships. He says:

> When I was younger, we all hung out and played videogames together between grades 3-7 (and then girls became more important to me). When we moved to Africa during the transition from 6th to 7th grade, my *Nintendo* wouldn't work because of the converter. For the first one to two years, I couldn't play. I didn't really miss it to be honest.

When Adam was an adolescent, gaming interfered with his relationship with his parents. "Only with my parents, I never really paid much attention in school and it was the constant issue of my mom nagging and saying you need to pay more attention in school." Adam believes he was bored in school and that is why he did not care about schoolwork. He wasn't challenged academically and that is why he sought the entertainment and challenge of video games.

Adam considers himself a gamer. He explained:

> I truly enjoy certain video games. I will have myself on a reserve list for when a game comes out, like any *Call of Duty* (simulates warfare from different eras, i.e., World War I and World War II) or *Madden Football* (American football game series) game. With both of those video games, I have seen myself grow and the gaming industry grow. Looking back and seeing how far it has come. I can't wait to see what it will be like in 10 years.

Brian

Brian is a 35-year-old Black male. He grew up in many places: California, Arkansas, Texas, and Virginia. Brian grew up in a lower class, single parent household with his mother and older brother. He considered it lower class because "Growing up, I was on the free school lunch program. Some kids, even the ones in the same neighborhood paid for their lunch at school but mine was free. I remember bringing in that form almost every year until around the 7th grade and I hated it." He did not have a relationship with his father nor did he want one. His family moved because his mom "wasn't stable enough to live with family members because she wasn't secure in her career." According to Brian, "I remember we were always moving in with family or my mom dropping me off for years so she 'could get things together." Brian's mom worked as a secretary for real estate offices and at a Pepsi bottling company.

Brian graduated high school in the southeastern part of the U.S. He is currently going to an accredited university where he is pursuing a bachelor's degree in computer information systems. His favorite courses are anything that involves programming and math. Brian plans to graduate with his bachelor's in 2012. He intends to continue to go to school as long as his company will pay for it.

Brian has worked for an advanced technology company for 13 years and is now a Senior Software Developer. When he is not working, he enjoys being a deejay. He plays at local restaurants, birthday parties and weddings. Brian likes all kinds of music except the "hardcore metal stuff."

Brian believes he is economically successful because his salary is "excellent with room for growth because of the upcoming bachelor's degree." He is economically comfortable

because "compared to 10 years ago, I am 20 years ahead. A nice 401K, all my bills are paid off, credit cards, car, and I am in the process of buying a home."

His social level of success continues to grow mostly because of Facebook and he still has contact with a lot of non-Facebook friends, from elementary school to the present. Brian is not an active member of his community because he does not have any time to volunteer due to work and school.

Brian believes that gaming interferes with his life achievements and relationships. It interrupts his chances of going to the gym, and distracts him from studying and relationships, especially with his girlfriend. "Yes, now, Moni (a pseudonym) will want to do something and I would rather play my game. Or we will have to be somewhere and I will be in the middle of a game, and I don't want to leave until I finished what I started." On a positive stance, gaming supports Brian's life achievements because "I get a nice amount of exercise from my *Wii*, that's about it. That's the only thing I can think of."

Gaming supports the development of new friendships for Brian because he trades games with people and meets people who play the same games. For example, he says:

> *Syphon Filter*, (a stealth, third-person shooter game involving characters trying to protect the world from terrorists), is my favorite because I love 3-person shooters because I think it is the dimensions of the game, instead of looking at the screen as a flat one dimension, you can see all around you, left and right and up and down. *Resident Evil* (an action-adventure game based on horror fiction) is the same as *Syphon Filter*. I like finding clues and zombies. When finding clues, you have to pay attention and go back to get clues that you missed. Zombies, the graphics, and the sounds are like going to a scary movie.
> Brian considers himself a gamer. He explained:

I own lots of game systems and games. I am looking into buying a PC just for PC games. And when I graduate from college, my actual gift to myself is an actual sit-down flight simulator and they run about $15,000. I have always wanted to learn how to fly. And it is cheaper to do it through gaming instead of buying a Cessna plane.

Chris

Chris, one of the two participants unwilling to share extensive personal data, is a 28-year-old Cuban/White male. He grew up in the southeastern part of the U.S. Chris' socioeconomic status as a child was middle class. Chris graduated from college and received his bachelors. He currently works as a graphics designer for a small private company that creates research-based instructional products in the southeastern part of the U.S.

Chris considers himself a gamer because he loves the artistry of gaming, the cost efficiency of gaming as a hobby, and the acquisition of objective problem-solving skills that he applies at work and at home.

Dean

Dean is a 34-year-old White male. He grew up in the southeastern part of the U.S. with his father, mother, and twin younger brothers. Dean describes growing up in a middle class household because:

Money was tight... I got very lucky and have pretty amazing parents. I always felt comfortable as a kid growing up, even if we weren't. I wouldn't have known it if my family was having money troubles.

Dean's parents have been "happily married" for 37 years. Even though Dean was teased as a kid for being a geek, he still thinks of his childhood as happy. He holds a bachelor's degree in government and politics from a major university.

Dean identifies his economic level of success based on his salary. He currently works as a Finance Controller for a leading company in consulting, technology, and outsourcing. He makes $119,000 per year including a bonus that's usually between 30-40% of that base. Dean receives full benefits, 401k match, and profit sharing equal to 5% of his salary each year. Dean shares, "At 34, I am happy with what I make."

Dean believes that his family is economically comfortable. He has been married for 11 years and has three children ages 6 years, 3 ½ years, and 8 months:

> I definitely am now able to enjoy extras these days...for example, I currently own seven guitars and collect guitar amplifiers. I was recently able to buy a set of electronic drums that I've wanted for probably 10 years. I definitely am able to surround myself with extras, although I hate to travel so we don't do that, but we probably could.

Dean feels he is fortunate to have a very good support network of friends that he has accumulated over the years. "I have friends that I've known from elementary school all the way to just a few years ago that are all very tight." Dean tries to volunteer in his community but "with three kids and a job that routinely requires 50-60 hour work weeks, I barely have time..."

He considers himself a gamer because "I can't imagine my life without gaming. It is my whole identity." Gaming is a part of his self-concept. It is also used to fill in spaces of time when he is idle.

Ethan

Ethan is a 37-year-old White male. He describes himself as a "White American" because he was born and raised in the mid-Atlantic part of the U.S. with his father, mother and younger brother. He and his brother are 11 months apart. They were very competitive as kids. Ethan describes his family's household as working class because his father was a carpenter/contractor

and his mother stayed at home. His father worked for his father's company named after Ethan's

grandmother's name and his grandfather's name. He took some college courses from a college

of technology, which was affiliated with a nearby major university but he did not complete a

bachelor's degree.

Ethan entered the military at 19 and enlisted with the Army. He went to basic training on

May, 10, 1993 at a fort in the southern part of the U.S. According to Ethan, "In the summer time

it is hell. It was the hottest 13 weeks of my life. I want to know how many gallons of sweat

poured out of me while I was there. I know you can't measure that." He was enlisted in the

Infantry and he was a "grunt," which is a nickname for "the guys that get it done." Ethan

graduated from basic training, returned home for a week and then went to a fort in the western

part of the U.S. When he signed up, he knew that he was going to this location with the rest of

his company. They were all shipped together because in May of 1994 their company was

scheduled to go to Eastern Europe for border patrol duty. The Army wanted the company to be a

cohesive unit so they were kept together since 1993.

During his stay in the western part of the U.S., he was seriously injured. In late 1993, he

fell off a fourth floor building during a training exercise. He spent the next six months at a

medical center in the southeastern part of the U.S. He was released on a PCS (Permanent

Change of Station). During his recovery period, Ethan went to work for his grandfather, building

houses. He was released from the Army in May 1995.

In September of 1995, he went to work for a professional inspection and testing services

company. The company was based out of the mid-eastern part of the U.S. but had several

satellite offices in the southeastern part of the U.S. He moved to the southeastern part of the U.S.

in October 1995. He began working as a materials inspector for concrete and soils. His job

duties included testing concrete to make sure it was up to code (design strength) and testing soils for compaction (in ditches, trenches, or roadways/sidewalks).

In June of 1996, Ethan was offered a job with a construction company to be an assistant pipe layer. Some projects that he worked on included: installing the storm drainage system at a major football stadium in the southeastern part of the U.S.; expanding a 54-acre waste water treatment plant in the southeastern part of the U.S.; laying ductile iron pipe from 4 inch to 48 inch; and repairing pipe work in the underground basement baggage facility at a national airport in the southeastern part of the U.S. Ethan was employed with this construction company until February 2002.

Ethan was out of work for approximately one year due to transportation issues because he did not have a driver's license. In January 2004, he went to work for a paving and concrete company as a heavy equipment operator. Some of the equipment that he operated were excavators, track loaders, rubber tire loaders, mini-excavators and Bobcat tractors. In February 2005, he went to work for a general and mechanical contracting company, where he is currently employed. He continues to operate heavy equipment. Some projects that he worked on were mounting an A-12 OXCART spy plane on the property of a highly-secure government building in the southeastern part of the U.S. (The plane hangs about 15-20 feet in the air on 3 stainless steel pylons.); and a perimeter fence motion-detection system at an undisclosed military defense installation in the southeastern part of the U.S.

Ethan believes that his economic level of success would be higher if he did not spend so much money and time at the bar. According to Ethan, "things would be a lot better if I didn't spend it at the bar." He feels that he is economically comfortable because "a $1,200 check

comes each month from the VA (Veterans Association). It pays my rent and my bills. Whatever

I make a week, is mine, in my pocket. Call it a security blanket."

Ethan's feels that he is socially successful because:

I don't have a problem making friends. I am very easy to make friends with. If I am in a

pinch or in deep shit, I normally have someone to call to help me out. I have a friend

from first grade that I still talk to. I can go to any local bar and know at least one

person."

Ethan is not an active member of his community. "No, I don't really do anything for my

community." Nor does he have connections with others in his community. "I don't really talk to

anyone in my neighborhood. *Foxhound* (a pseudonym*)*, where I used to live, I still talk with a

few people that live there."

Gaming has interfered with Ethan's life achievements. "Saving money, can't save money

when you gamble, whether it is Vegas or scratch-off lottery tickets.   I consider this gaming

because I am doing it for fun and trying to make a profit."

Gaming has not supported Ethan's life achievements nor supported the development of

new friendships/relationships. For Ethan, gaming did interfere with one relationship. "Yes it

did. My ex-fiancée would get pissed off at me when I would spend money on gaming, like

playing the lottery."

Ethan considers himself a gamer because "it replaces boredom, it's a filler." Even though

I am not a diehard gamer, I still like to do it."

Frank

Frank, a second participant reluctant to share personal information, is a 36-year-old

Korean/White male. He grew up in the southeastern part of the U.S. Frank's socioeconomic

status as a child was lower-middle class. He holds a bachelor's degree in finance from a four

year university. Frank currently works as a database programmer and analyst in the information

technology (IT) field for a leadership association in the southeastern part of the U.S.

Frank's social level of success is not important to him. He prefers not to engage in social

activity. "I don't do MySpace or Facebook. I generally don't like people, but since college, I've

probably made a handful of new ones [friends]."

Frank considers himself an active member of his community because he is volunteering

for this study. He also helps at his local boxing gym with the trainers. Frank assists the trainers

with preparing the fighters for competition.

Gaming has not interfered with or supported Frank's life achievements. According to

Frank, "I don't really have any ambition." From this statement, I believe this is also why gaming

has not influenced his life achievements or supported the development of new

friendships/relationships.

For Frank, gaming has not interfered with any current relationships because he is not in

one. Frank said, "What girl do you know that likes when their b/f (boyfriend) plays video

games?" He believes that a girlfriend would not be happy if her boyfriend was always gaming.

Frank considers himself a gamer because "gaming is easy. When you have been gaming

for 20+ years, it gets easy."

Greg

Greg is a 39-year-old White male. He grew up in the southeastern part of the U.S. with

his father, mother, and younger sister. When Greg was a child, his father was a health/physical

education teacher and varsity baseball, basketball, wrestling and gymnastics coach at the local

high school. As a child, Greg considered his socioeconomic status to be lower-middle class:

We were poor. I never had a brand new pair of tennis shoes until I was 12. I only wore cowboy boots. My dad would bring home sneakers that he found in the locker room at the high school that he taught at. I couldn't go on school field trips. We always had food and a home but no room for extra luxuries.

For Greg's high school career, the family moved to a neighboring town so he would not have to attend the public high school of where he had lived. His parents were concerned about the violence and theft at that high school.

Greg earned a bachelor's degree in psychology at a major university in the southeastern part of the U.S. Greg is currently the Director of Social Responsibility for a leadership association in the southeastern part of the U.S. His job responsibilities include fund-raising, event planning, marketing, communications and public speaking.

Greg identifies his economic level of success based on his salary. He makes $100,000 per year including benefits. He believes that his social level of success is more than adequate. Greg described it as "I have a great friend network, including friends for more than 10 and 20 years." Greg's job allows him to be an active member in the community by working on project's that raise his organization's visibility and in turn, he feels he is giving back to the communities by participating in community meetings and events. Such events include Annual Backpack & Supply Drive, *MetroTeen Aids* Denim Days, *Lee* National Denim Days, Thanksgiving Food Baskets, Library Books for Children Drive, and Adopt-a-School Clean Up. This August, Greg is supervising *Stray Rescue* at his organization's annual business meeting. Conference attendees will be able to interact with rescued dogs, such as baking dog treats and splashing and playing in a "doggie spa" environment.

Greg cannot recall a time when gaming interfered with his life achievements. Recently, he witnessed gaming intersecting and supporting his life achievements. He attended a professional conference in the northwestern part of the U.S. in January where it was organized by applying gaming theory and real life situations. Greg states, "It was awesome and very interesting!" The event utilized principles from the online gaming world – specifically role-playing, leadership, narration, feedback, and ranking – to encourage attendees to actively engage and learn about industry developments and strategies in a hands-on manner. The attendees were split into teams. Each team was given a customized *iPad* complete with game instructions, social media functionality and point tracking capabilities. In addition, attendees were able to monitor team progress, access the conference program and connect with their peers using the interactive *Sustainable Meetings Conference* mobile application on their smart phones.

In the past several years, gaming has supported the development of new friendships for Greg. By playing games such as *Words with Friends* (a multiplayer word puzzle game)*, FarmVille* (a multiplayer real-time farm simulation game), and *Mafia Wars* (a multiplayer social network game), he has developed many new Internet friendships.

New mobile literary technological devices, such as the *Kindle*, have enabled Greg to actively pursue his love for reading. On average, he reads 2-3 books a week. He recently started to read books on his *Kindle* that he got for Christmas. He is constantly asking me if I want to borrow a book that he just finished.   Greg enjoys sharing details about the book, such as style of writing, plot, characters, character development, and the history timeframe.

Greg identifies himself as a gamer because "I play games. I am not a diehard gamer, but I play odds and ends like *Angry Birds* (a puzzle video game) and *Words with Friends* (a multiplayer word puzzle game)."

Henry

Henry is a 42-year-old Black male. He grew up in the southeastern part of the U.S.

Henry grew up in a single parent household with his mother and younger sister. Henry's

socioeconomic status as a child was middle class because "we weren't living at poverty levels

and definitely not in upper class." The cars they owned were a Toyota Corolla, Honda Accord,

and Buick Regal. From the age of 12 until Henry went to college, his family lived in a five-

bedroom home in the southeastern part of the U.S. Henry and his sister attended Catholic

parochial school from kindergarten through high school.

Fond memories that Henry has of his childhood include playing games with his mom and

sister. His mom believed it was important for them to be constantly engaged whether it was

mentally or physically. They played board games, extra-curricular activities (outside & inside),

after school sports, electronic games and frequented the local recreation center after school.

According to Henry, "My sister and I were extremely competitive against each other and anyone

we played against."

Henry's mom was a production environment graphics technical engineer. He believed

that his mom "gave us the best we could get with her income and with help from my

grandmother." With her earnings, Henry and his sister were able to have school uniforms,

computers, and gaming systems. The children were rewarded with extra items (i.e., gaming

systems) based on their school achievement.

Henry graduated high school in the southeastern part of the U.S. He has taken some

college courses for computer and information systems. Thus far, Henry has acquired numerous

technical certifications: Microsoft Certified Information Technology Professional; Microsoft

Certified Technology Specialist: Microsoft Windows Server Technologies, Microsoft Active

Directory for Server 2003, Microsoft Windows Vista Deployment, and Implementing &

Maintaining; Microsoft Windows XP Desktop Support, Configuration & Troubleshooting;

Microsoft Exchange 2007, Microsoft System Center Configuration Manager 2007, and Cisco -

Interconnecting Cisco Networking Devices.   Henry has also received on-the-job training from

supervisors, peers, training classes and seminars from his company's technology vendors and

partners.

Henry is recently divorced and has five children ages 19, 17, 15, 13, and 7. He dedicates

a tremendous amount of time to them. Henry works for a leadership association in the

southeastern part of the U.S. as a manager of Information Technology.

Henry judges his economic level of success on the middle class definition. According to

Henry, he is in the "managerial, middle class, quickly moving to upper-middle or better." In the

past 10 years, he has driven such cars as a Chrysler Sebring, Nissan Armada, and Chevrolet

Malibu. "I have lots of electronics in my home including gaming systems, computer setups,

home-networking hardware and software equipment."

Due to Henry's recent change in marital status, he lives in a three-bedroom, single-family

townhouse. Henry's children live with him part time during weekends and summers. His oldest

son is in college and lives with him during the summer. As a family, they enjoy doing activities

together that are cost efficient for the group such as fishing, skating, bowling, seeing movies, and

going to amusement parks. When he was married, they went on many vacations, such as visiting

colonial historical sites and camping in the southeastern part of the U.S.

Henry considers himself socially successful and an entrepreneur. The number of friends

in his social network is approximately 1,000. He is an administrator of a local night club group

with a membership of approximately 3,000, largely in the southeastern part of the U.S. Henry

has also worked as a night club and late night scene promoter/manager for more than 15 years. He has acquired many friends during this career time.

When time permits, Henry enjoys volunteering at work, as well as in his community. On average, he volunteers at four to six events and spends three to six hours at each event. Henry volunteers through the community outreach program at work in conjunction with a local *Cares* organization. He has also taken part in community-involved activities for local city public schools and other organizations. "I have helped with local soup kitchens, teen mentoring with African American boys (*100 Black Men*) and also helped with organizing fund raising efforts for the *Susan G. Komen* foundation and the *Lupus Foundation of America*."

According to Henry, gaming has neither interfered nor supported his life achievements in any dramatic way. Even so, he admits "I probably have gotten ideas from gaming that may have helped me create designs for websites or other digital venture for clients." Through online gaming, Henry has acquired a few new friendships. Thus far, gaming has not interfered with any friendships/relationships.

Henry considers himself a gamer because even though he cannot game as much as he used to or wants to, he is "always ready to take on any challenge." As an adolescent, he played constantly and always learned new strategy tips, cheat codes, and better tactics of playing, scoring and winning. When he gamed at arcades, the goal lay in "Beating the high score and having your name in lights. To have the 5 minutes of being the best was crucial to us back then." Currently, he considers himself a "light" gamer "but as soon as we (kids, family, friends) pick up a *Wii* controller or mention a challenge on *Xbox*, the fire in my eyes flares up again, and it's on."

Ian

Ian is a 36-year-old Hispanic/White male. According to Ian, "My skin is White that is why I call myself a White Puerto Rican. I am the Whitest Puerto Rican." Due to his father's career in the Army military intelligence, Ian grew up in numerous places: Pennsylvania, South Carolina, North Carolina, Texas, Arizona, California, Virginia, Germany, Spain, Puerto Rico, Florida, New York and then back to the southeastern part of the U.S. at age 17. He graduated from a southeastern U.S. high school in 1993.

Ian's parents separated when he was eight years old when they were in the mid-western part of the U.S. After the separation, his mother (German/Finnish) met a man where they were living and that is why Ian moved. He lived in California for a short time during the summer with his uncles because his mom was going to nursing school. Ian has one sister and one half-sister from his father's side. Ian's socioeconomic status as a child was middle-class:

> My father was an officer in the military. Officers were usually paid more than NCO's [Non-Commissioned Officers] so we could afford going out on the weekends and owning personal items, such as a gaming system; and *Star Wars* figurines/toys. I had thousands of dollars worth of stuff back then.

Ian currently works for a Japanese car company as a Service Writer. His job responsibilities include collecting information on vehicles, writing up vehicles for state inspections, and setting-up vehicles for detailing. Due to economic difficulties, he had to change jobs about a year ago. Ian was a car salesman but there was not enough business for him to make money so he switched jobs. Ian's economic level of success is too complicated for him to describe:

> That is a flipped question because while I had the good job, salesman, things were good.
> I had a nicer car, Jeep Grand Cherokee Limited, and more money. Now that my job has
> changed, service writer, I have a run-down, used 1994 Acura Legend. But all through
> this, I still have a home and food to eat.

He feels that he is not economically comfortable because of the change in his occupation.

Ian compares his social level of success to a graduated scale. "I would say that if there is
a range of low, medium and high, I would say medium because I don't need to make anymore
friends but I don't want to lose the friends I have now."

Ian is not an active member of his community but he does have connections with others
in his community:

> Yeah, I see my neighbors and give them cordial 'Hi's.' I sit outside on occasion and talk
> with them. We talk about other neighbors, current events sometimes, and what's new
> with one another. Pretty broad conversations. Several times a month.

Gaming has never affected Ian's life goals. He states, "I did what I needed to do that was
important to me or my family, like making sure that I am at work on time." For Ian, gaming has
not supported his life achievements, unfortunately. "No, never has. But, I would like it to if I
could get paid to game."

Gaming has supported Ian's development of new friendships. According to Ian, "Yeah,
mostly friendships when I game online or at tables, for poker. We used to play free poker at
different local restaurants/bars." Thus far, gaming has not interfered with friendships. "No,
because most of my friends do the same thing, gaming, so we share the same interest in activity."

Ian considers himself a gamer because "I almost prefer to do that than work. If I could
get paid to game, I would."

Jay

Jay is a 34-year-old White male. He grew up in the southeastern part of the U.S. with his father, mother, older brother, and older sister. The town that he lived in was very small, less than 200 people. It is located in the southeastern mountain region of the U.S. and it is considered "coal country." There are a couple of stores, a Little League baseball field, and a train that came through day and night. "Nothing to do and you had to drive 30 minutes or more to the next town with a shopping center." His father was the Director of Financial Aid for the local community college and his mother stayed at home. Jay considers his socioeconomic status as a child as middle class because:

> We always had a nice home (three bedroom, one bath, a basement, and a garden in back) and cars (Chevrolets), had good clothes on our back, and always the newest shoes. Not always name brand but not second hand either.

Jay and his brother played sports such as basketball and baseball.

Jay graduated from high school and completed one year of college at the local community college. For the past nine years, Jay has worked as a Wastewater Systems Operator in the southern part of the U.S. He has been married for10 years. His wife is a preschool teacher. Jay's parents live nearby where his Dad is a preacher at a local church. Besides gaming, he enjoys playing golf with friends.

Jay believes he is economically comfortable:

> We live in a nice home, have two newer cars (a sport utility vehicle (SUV) and a pick-up truck) and can pay our payments on time and still be able to do things that we like, such as going out to dinner.

According to Jay, he and his wife are not excessive spenders, therefore; they don't have to always stay at home.

Jay feels that he is socially successful because he has longtime friends from high school that he is still in contact with. Also, he enjoys meeting new people. Jay is not an active member of his community. The only connections that he has with others in his community are with people at work.

Gaming occasionally interfered with his life achievements. When Jay was in college, he skipped classes to go bowling at the local bowling alley. According to Jay, gaming has not directly supported his life achievements. Gaming "has always just been for fun." Gaming has supported the development of new friendships:

> One of my closest friends now is a gamer and we have built that friendship from our love of gaming. Whether it is online, sitting at the house when he visits, or going out on the golf course, gaming is always around us.

Thus far, gaming has not interfered with any relationships in Jay's life, "though my wife would love for me to do more things with her."

Jay considers himself a gamer because he spends quite a few hours playing during the week:

> Not excessive but enough that it doesn't take more than a couple of days to beat a game. I look for the newest games but love to play any type of sports. I wouldn't consider myself a big gamer but enough to satisfy my hobby.

Kyle

Kyle is a 36-year-old White male. He grew up in the mid-Atlantic part of the U.S. Kyle's father was a high school teacher and his mother worked in the purchasing office at the

local university. Kyle's parents are both retired and have been married for almost 50 years. He grew up in the same house, from the time he was born until he went to college. Kyle is the youngest of three siblings. He believes he grew up in a middle class household because "we always had ample food, clothing, and housing. We also afforded small luxuries at times (i.e., family vacations, new TV, new furniture, etc.)." Kyle lived in a four bedroom home in the suburbs outside of town. "We always had nice cars (Buicks usually). We had gaming systems and computers, generally not too long after they were released."

Kyle holds a master's degree from a major university in the southeastern part of the U.S. He has been married for 10 years to a college classmate. His wife is a high school English teacher at a local public school system. Kyle currently works as an Information Technology Program Manager for an independent information technology company in the southeastern part of the U.S.

Kyle bases his economic level of success on his possessions. He lives in a 4 bedroom, 4.5 bath home in an affluent area in the southeastern part of the U.S. Kyle and his wife drive luxury cars, each has an Infiniti. "We go on nice vacations every year and some weekend getaways mixed in." He considers himself to be upper-middle class and economically comfortable.

Kyle's social level of success is based on his friends and the close friendships that he has with them. "I am very happy to be surrounded by great friends. I would say I am very social." He has several different groups of friends. "One set of friends was established after college and we get together several times a month to hang out, go to dinner, etc. However, one tradition the group has is every month one person in the group hosts everyone else over for dinner - "Supper Club."

Kyle does not consider himself an active member of his community. "Between work and home/social life, community affairs generally lose out." He maintains connections with others in his community by making "small chat" when he occasionally sees them when he is getting his mail or mowing the lawn.

Kyle cannot recall a time in his life when gaming interfered or supported his life achievements. Nor has gaming supported the development of new friendships. At this point in Kyle's life, gaming is a leisure activity and does not interfere with any friendships/relationships.

Kyle truly does not consider himself a "gamer" per se. He says, "I play games, but not necessarily a "gamer" - in the teenager sense of the word anyway."

Lorenzo

Lorenzo is a 30-year-old Hispanic male. He was born in the southern hemisphere of the world. He grew up in the southeastern part of the U.S. with his father, mother, younger sister and younger brother. Both of his parents were born in the same location. His father is a master goldsmith and his mother stayed at home. He attended Catholic parochial school from kindergarten through twelfth grade. Lorenzo graduated from high school in the southeastern part of the U.S.

Lorenzo describes his socioeconomic status as a child as middle class because "we had a home, clothes, two cars (Honda and Jeep), and went to private school. We were not poor and we were not rich. We were somewhere in between." He earned a bachelor's degree in business administration from a major university in the southeastern part of the U.S.

Lorenzo currently works as a Business Manager for a wholesale jewelry company in the southeastern part of the U.S. It is a family-owned business; his father and uncle co-own the company. Lorenzo's sister and cousin also work for the company.

Lorenzo describes his economic level of success by his career, car, motorcycle, and condominium. He owns a BMW M6 convertible and a Harley Davidson Night Rod Special, and bought a newly built condominium in an affluent area in the southeastern part of the U.S. in 2005 when he was 24 years old. Lorenzo has always had a passion for "things that go fast," i.e., sports cars and motorcycles. He says, "It is a love for horsepower."

Lorenzo thinks he is socially successful because he has a very tight group of friends, some that he has been friends with for a very long time: childhood, high school, college and post-college. Lorenzo is not an active member of his community and he has no connections with others in his community. He does not participate in any volunteer work.

Gaming has not interfered or supported his life achievements nor supported the development of new friendships/relationships. Currently, gaming is interfering with his relationship with his girlfriend. According to Lorenzo:

> It interferes with people that don't game. Bottom line. If that person is not into gaming, they are not going to be pleased or happy. When you are in a serious relationship older than 25, it is frowned upon to game. I have to game when she is not around. For example at Christmas, I got the new *Gran Turismo* (a racing simulated game) game and it is still in plastic. She does not like when I game.

Lorenzo's girlfriend moved in with him eight months ago. He used to game every night before she moved in but now he plays maybe once a month or once every couple of months. She does not like him gaming and wants him to spend more time with her. Lorenzo wishes that he could spend more time gaming (and gaming with his friends).

Lorenzo considers himself a gamer. He explained:

Once you are a gamer, you are always a gamer. You can pick up a controller for a game and just get it because you were so used to playing it when you were younger. You can always pick up and play.

Current Vernacular Technological Literacy Practices

The participants engage in six current vernacular technological literacy practices. In the following section I discuss: gaming, texting, blogging, IM-ing, surfing the Internet, and social networking. (See Appendix F for a listing of specific participant quotes for each practice.)

Gaming

Gaming is a technological literacy practice in which all participants continue to engage. Though their gaming practices vary, most of the participants typically spend their time with gaming on mobile devices, e.g., *iPhones*. They play such games as *Angry Birds* and *Words with Friends*. *Angry Birds* is a puzzle video game. The "birds" are angry with the "pigs" because they stole the birds' eggs. According to Wikipedia (2011b), in *Angry Birds*:

Players use a slingshot to launch birds at pigs stationed on or within various structures, with the intent of destroying all the pigs on the playfield. As players advance through the game, new birds appear, some with special abilities that can be activated by the player.

According to Ian, he is the *Angry Bird* master. He is obsessed with this game. Every time I see him, he is updating me about his progress in *Angry Birds*. "Hey Amy, I just got another golden egg. I am now on level four." When I think or see *Angry Birds* it reminds me of Ian.

Words with Friends is an electronic version of the game *Scrabble,* a crossword board game. It is a multiplayer game that uses the player's smart phone as a network. A player asks a friend to play by sending them an invitation via e-mail, Facebook or Twitter. My introduction to

Words with Friends was from a friend of mine, Harley (a pseudonym). One day, several of us were at a local neighborhood franchise restaurant and a friend asked if we had played this game. We all responded "No." He explained the game and how you play it. We immediately said, "How do we start? Show us, please!" Harley gave us instructions and we started playing the game on our *iPhones*. After we began gaming, it suddenly became quiet at the restaurant because we were entranced by this new game and stopped talking to one another. Currently, all of us are still playing *Words with Friends*.

Others enjoy gaming with console gaming systems, such as *Wii, Playstation 3* and *Xbox 360*. With the console gaming systems, many of them play first-person shooter (such as *Call of Duty: Black Ops* and *Assassin's Creed Brotherhood).* A first-person shooter game is centered on a player having a first-person view through the eyes of the character. The primary design of the game is combat, usually involving weaponry.

Some of the participants play sports games. Sports games are described as simulations of playing traditional sports, such as football and soccer. Most of the sports games require the player to actually play the sport, such as *Madden 11* and *Tiger Woods PGA Tour.* Other sports games highlight strategy and organization, such as *FIFA 11.*   A player is a part of a soccer team, human players or computer-generated players. The player has to strategize how his/her team is going to score and more importantly beat the opponent.

Seven of the 12 participants engage in online gaming. Online games are played on the Internet via computers or smart phones. Some online games that they participate in include: *Texas Hold'em, FuMafia, and Zynga Poker*. *Texas Hold'Em* is an electronic version of the traditional seven card stud game Poker. A player can play alone, with others, or against the computer. *FuMafia* is a "neo-mafia" war game where the player creates and builds his/her own

character. The purpose is to create the most powerful mob, destroy the enemies, and protect

yourself, your assets and your mob's assets. The character has to commit crimes, fight other

mobs, and launder money. *Zynga Poker* is an online free poker game that allows individuals to

play with others at a poker table that is displayed on the screen. The majority of the participants

play online games with friends. A few of them prefer to game alone when they are online. Ian

likes to play online games, in particular poker because he can play "anywhere and at any time."

All of the participants currently practice gaming because it adds pleasure to other parts of

their lives. For some, it is a stress reliever from their everyday jobs. According to Chris, Greg,

Kyle, Ian, and Lorenzo, "gaming is a great way to de-stress." For Ethan and Ian, it is a

combination of taking away stress and boredom. According to Ian, "I would play games for a

living if I got paid. Hell ya! (I did for a short amount of time, I worked at an arcade when I was

17.)" Henry games for the sheer entertainment and fun time with his children, family and

friends.

Some of the participants enjoy the social aspect that gaming brings to their lives. Adam

states that "gaming has/is becoming a popular method of social entertainment." Gaming helps

Brian spend time with his girlfriend. He says, "We actually spend more time together by

playing." Kyle believes that when he games, "it allows for different types of connections and

topics to discuss" with his friends."

For many of the participants, gaming is a time to spend recreational/leisure time. Adam

and Brian feel that it is an alternative approach for having a healthier lifestyle. Adam says,

"Gaming is more interactive and possibly healthy as well." Brian says that it encourages him to

get up and move around. "Games help me to get off the couch and exercise more." Many of the

current games require players to actively move their bodies in order to play. For others, gaming is a way of passing time.

Participants also varied in the satisfactions they drew from gaming. Chris is a gamer because, "from graphics to music, it's almost like you are playing in a movie." Dean is a gamer because he "can't imagine his life without gaming. It's just a part of my life." Ethan enjoys gaming because it "helps keep the brain active by thinking." Frank likes to game because it is the "most consistent activity." Greg is a gamer because it is a "good way to reduce stress and keep his mind active." When Jay games, he says "the games are almost life-like and it makes you feel like you are in the game." Kyle enjoys gaming because he says, "It is a great way to relax and free your mind of the everyday stresses."

Texting

Texting is another vernacular technological literacy practice used by all of the participants. These participants use texting to communicate with family and friends. Adam refers to himself as an habitual texter. Adam and Frank see texting as a more efficient form of communication rather than conversations using telephones. According to Frank, "I prefer it over lengthy discussions about a simple question I have." Texting is the mobile form of IM-ing. (IM-ing is instant messaging with others via computer. People can "talk" with others using IM-ing in real time.)

Blogging

In addition to gaming and texting, blogging is a vernacular technological literacy practice pursued by six participants though they blog for different purpose and in different ways. The participants like to blog or visit blogs. Brian likes to debate with people on blog websites such as WTOP.com.

I mostly blog about illegal immigration. Also, people who complain about the economy and it being our current president's fault… I have a girlfriend who is an immigrant on a student now temp work visa. I have witnessed firsthand how much stuff people have to go through to get here, much alone stay here legally. I blog on illegals that seem to not even "try" to come here legally but demand some type of amnesty. It appears that almost everybody is focusing on illegal immigration but not legal immigration. So, I'm just blogging to keep people reminded that they should pay attention to legal immigrants as well.

Greg is fond of viewing blogs. He does not "blog" per se. Greg reads cooking and food blogs to learn about new foods, recipes, and the history and origins of foods. Some cooking that he enjoys reading about it are Southern, New Southern, Thai, Italian, French, and pressure cooking.

Kyle enjoys reading blogs about technology, entertainment and the worlds of beer, scotch, and whiskey. Such blogs include Sony Insider, Yahoo tech, DIRECTV technical forum, Blog About Beer, and Scotch Whiskey Glass.com. When I visited Blog About Beer, I found an article about homebrewed inspired energy bars called *BRUBAR*. It is a naturally-made energy bar made with barley malt.

Dean administers a blog on Loudounpride.com for a clothing line that sells clothes for local natives from that area. He does not write on it because, in his words, "I don't have the time to commit to creating content that people would care about on a consistent basis."

One participant among those who do not blog explained his choice in terms of trustworthiness of information distributed through blogs. Adam does not actively read or contribute to blogs because he feels that most blogs are fueled by opinion rather than actual facts.

Adam "thinks that people should be very careful about the information obtained from the Internet. It usually lacks validity."

Instant Messaging (IM-ing)

A popular vernacular technological literacy practice is Instant Messaging (IM-ing). Seven of the participants practice IM-ing with their friends and co-workers. Most of them use the Gmail version of IM-ing, called "G-Chat." If you are online in your Gmail, you can see who is online at the same time. If they are online, there is a green dot next to their name. If you want to "chat" with them, you click on their name and a box appears in the lower right-hand corner of the screen. Whatever you want to say, you type it in the box and press return. Once they have typed you something, their text appears below yours. A textual conversation continues back and forth between you and the person with whom you are "talking." Such conversations address dinner plans with friends or family, what time a work meeting starts, or where to eat lunch with a co-worker.

Surfing the Internet

All the participants engage in the vernacular technological literacy practice called surfing the web; however, the purpose for their use varies. Adam uses the Internet to "find/buy/sell anything if you know what you are doing." He is currently surfing the web to buy a motorcycle on websites such as Craigslist, a classified ads website featuring sections such as job opportunities, housing, for sale, and personals. Brian surfs the web because he is "constantly looking at the design of the sites and coding practices" for his job.

Dean uses the Internet for banking purposes, to shop on Amazon and to view FARK which posts satirical views about interesting stories, such as politics, sports, and music, contributed by community news fans. When I viewed FARK.com at http://www.fark.com/, I

found commentary about Osama Bin Laden's death, Elton John tearing up at the Royal Wedding, and a man accused of stealing from cancer patients.

Ethan does not have specific websites that he goes to on a daily basis. His interests change day to day. Ethan states, "I see and hear things throughout the day that interest me so it varies." Frank visits websites that involve boxing, music, gaming strategies, auction sites (e.g., Craigslist and eBay) and shopping (e.g., Amazon). Greg surfs the web mainly for cooking ideas and food recipes (i.e., Food Network, Paula Deen, and MyRecipes.com). Jay surfs the web for auction sites (e.g., eBay and Craigslist) and coin sites. Lorenzo uses the Internet for motorcycles sites, Facebook, ESPN, Big Lead, Amazon, and Ask.Men.

Social networking

Ten of the 12 participants engage in the vernacular technological literacy practice called social networking. Social networking is described as the grouping of individuals into specific groups, such as neighborhoods and communities. The most popular vehicle of social networking is online. Social networking online has become widely accepted because there are millions of individuals who want to meet others with similar interests, such as golfing, cooking, and music. Some well-known social network websites are Facebook and Linkedin. According to its website, www.facebook.com, Facebook (2011) "gives people the power to share and make the world more open and connected." According to its website, www.linkedin.com, Linkedin (2011) is a professional "networking tool to find connections to recommended job candidates, industry experts and business partners" A user can find past and present colleagues, discover new job opportunities, and seek advice from business experts.

Participants use social networking for professional and personal reasons. Greg, Dean, Jay and Kyle exemplify engagement with social networking. Greg participates with Facebook

and LinkedIn. He keeps in constant communication with his colleagues, as well as, new clients that he meets in the work community, such as conferences and forums. For example, Greg attended a professional conference in January of 2011 and from this event, he "linked-in" with newly acquainted colleagues. Dean, Jay, and Kyle use Facebook to socialize with family, friends, and colleagues.

Two participants who do not use social networking express a need for privacy. Adam does not like people knowing about his personal life. He states, "I do not use Facebook… because I do not enjoy having my personal info out for everyone to see." Similarly Frank explains, "I stay away from anything social, at least in the social networking sense."

Other technological literacy practices

Besides the technological literacy practices described so far, additional technological literacy practices were reported by two participants. Greg and Dean read books and play games in electronic forms via mobile devices, i.e., the *Kindle* or *iPad*. Greg is an avid reader of hardbacks and paperbacks. Recently, he began reading books on the *Kindle* that he received as a Christmas gift. Dean uses the *iPad* for educational enrichment. He reads books and plays color and number games with his three children. Such books and games include *Where's Waldo?*, *The Monster at the End of This Book, ABC Phonics Animals, ABC Phonics Sight Words, ABC Tracer,* and *Ace Kids Math Games.*

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Evolution of Gaming Practices

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All the participants have been gaming consistently since they were children. The intensity of their gaming has fluctuated as their lives have evolved. (See Appendix G for a summary of the participants' evolution timeline of gaming.) For example, Adam did not game as much when he was in college. For Dean and Henry now, they do not game as much as when

they were younger because their responsibilities as fathers limit them. As their gaming career evolved so did the accessibility of games. When the participants were adolescents, they were limited to playing games in one location with a gaming console system or at an arcade. As technology evolved, the participants were able to play games more frequently and in more than one location. For example, when Greg leaves work and gets on the metro, he will start a game on his *Android*, play during his subway ride, on the metro bus, and stop the game right before his bus stop.

All of the participants have said that the technological development behind the games has also kept their interest in and commitment to gaming. They are impressed with the design of games including their complexity, graphics, color, and sound. Adam continues to game today because of the technology and the creativity of the gaming companies. He believes that "everything gets better, faster, and more complex."

The format of games available to them has progressed from single player to multiplayer. With new accessories for the gaming consoles, the participants are able to play multiplayer games with motion sensors. The motion sensor technology allows players to play a console game without holding a controller and/or it being attached to the console. For example, the *Xbox 360 Kinect* allows people to move around and play a game without using any handheld controllers or attached handheld controllers. Thus, their bodies are more completely engaged in the focal act of the game, such as bowling, fishing, and skiing.

The interviews with the 12 participants revealed an evolution in gaming across the years. The following sections provide a brief profile of the participants' gaming practices during five age brackets: 5 to 12 years, 12 to 18 years, 18 to 24 years, 24 to 32 years, and 32 to 42 years.

Ages 5-12

All of the participants started gaming as children (5-12 years old) in a familiar environment, such as at home, at a friend's house, or at an arcade. The console gaming systems that the participants used were *Atari 2600* and *Commodore 64*. These particular gaming systems were created in the late 1970's and early 1980's. The *Atari 2600* was a video game console that included two joysticks (handheld controllers), a pair of paddle controllers (a wheel controls movement of the player), and a cartridge (a game). Some *Atari 2600* games that the participants played were *Pac-Man, Pitfall!,* and *Missile Command. Commodore 64* was an 8-bit personal computer that featured games such as *Cliffhanger, Pac-Land,* and *Pole Position.*

Competition was an incentive for Brian's participation in gaming. He enjoyed the excitement of beating his big brother when he gamed. Brian compared gaming to a "mini Las Vegas." He states:

> When you are a kid, reality is what is front of you even if it was a game. Like playing cars or marbles; that was your focus and almost made you forget about other things in your life. When adults are in casinos there are no windows or clocks, I'm guessing they want you to forget about the reality out in the world and just focus on the present time, in the casino.

For Ethan, the winter months created a vacuum that he filled by gaming. He grew up in the mid-Atlantic part of the U.S. When the weather was too cold to go outside and play, he and his brother would game a lot in their home.

Ages 12-18

During the ages of 12-18, all of the participants gamed at home or at a friend's house, using console gaming systems such as *Nintendo, Super Nintendo, Nintendo 64,* and *Sega*

Genesis. Nintendo (Nintendo Entertainment System, NES) was a video game console system created in the early 1980's. The system included a console, an oblong brick-like controller that had four buttons: two for maneuvering up and down, and left and right, a "start" button, and a "select" button. *NES* also had additional controllers for specific games. Such controllers included the *NES* Zapper (a light gun), the Power Glove, and the LaserScope. Potential players had to purchase cartridges, i.e., games that were placed into the console. *Super Nintendo* and *Nintendo 64* were advanced technological models (i.e., more bits, 3D graphics, and the multiplayer option) of the original NES. The participants played such games as *Super Mario Brothers, Duck Hunt,* and *Excitebike. Sega Genesis* was created in the late 1980's and it was the fourth generation of *Sega*. Unlike the 16-bits used when the participants were younger, the *Sega Genesis* used 32 bits. The video game console system contained 2 round-shaped controllers, each with three buttons and a "start" button. Some games that the participants played were *Sonic the Hedgehog* and *Super Street Fighter II*.

Two of the younger participants discovered the Internet and IM-ing during this time in their lives. Lorenzo had access to the Internet through his high school's library in order to conduct research for school assignments. Chris discovered the Internet and IM-ing during his high school and (early) college career.

One of the participant's gaming career was interrupted because of his father's relocation for work. Adam and his family lived in Africa during his early teenage years. Due to technological constraints, Adam did not have a working console gaming system for the first two years that he was living there.

During this period, Henry began to develop games of his own. He learned about computer systems and inputting code. He read several magazines such as *Commodore 64* that

discussed programming and coding. Henry created several of his own games such as simple *Commodore Basic* code games. According to Henry:

> One was a rocket game, *Rocket Seeker*, which you had to keep in play by not touching the ground as it increased in speed. This was a game which had its code published in a monthly magazine subscription I had. There was a game-a-month we could input and/or modify the code to personal liking. Another was a pong-like game. I also created survey-like games that asked questions and displayed them. I made a game, *Number Generator*, to calculate random numbers for playing the lottery.

During this time, the intensity of gaming increased for four of the participants. For example, Henry played a lot of games on Prodigy and AOL as well as *Atari* games with his sister. Lorenzo and his friends set-up gaming tournaments (using such games as *Madden Football*) that would last entire weekends. There would be approximately fifteen participants. They would have player drafts on boards and pick teams of their choice. Players would be woken up during the night for their turn during a game.

Ages 18-24

From the ages of 18-24, the participants were gaming with consoles (i.e., *Nintendo/Super Nintendo,* and *Sega Genesis/Sega Dreamcast)*, IM-ing, online gaming with friends, surfing the Internet/websites, using MySpace (precursor to Facebook), and Facebook. Lorenzo continued the gaming tournaments with his friends during this time in his life. Henry enjoyed playing games that he built on Windows systems. He also gamed on the consoles *Atari, Sega Genesis,* and *Sega Dreamcast (the next generation of Sega Genesis).* According to Frank, this time period of "surfing the Internet, e-mailing, and high computer usage is what jump started my career

today." His current profession as a database programmer and analyst requires a lot of knowledge in technology.

Chat rooms became important for one of the participants. During this time in Greg's life, he discovered the Internet chat relay, which allowed people to talk to one another at any time of the day and from anywhere. Chat relay took place in "chat rooms" where groups of people could conference with each other simultaneously.

Ages 24-32

During the ages of 24-32, the participants were console gaming (i.e., *Nintendo 64*, *Playstation,* and *Xbox*), mobile gaming (i.e., *iPhone*), texting, IM-ing, online gaming, surfing websites, and social networking. Original console gaming systems such as *Atari 2600* released new systems with the old arcade games, such as *Pac-Man* and *Pitfall!*. Kyle enjoyed playing his childhood games again. Henry "loved when the game systems came out with digital remake versions of old classic arcade games such as *Space Invaders, Galaga,* and *Pac-Man*." He enjoyed buying the game packs and playing them at home with his children.

Ages 32-42

For the ages of 32-42, ten of the participants are console gaming (i.e., *Playstation 2, Playstation 3, Xbox 360 (Kinect), Wii*, mobile gaming (i.e., *iPhone* and *Android)*, texting, blogging, IM-ing, online gaming, surfing websites, and social networking. The *Wii* and *Xbox 360 Kinect* are console gaming systems that use a motion sensor for games. Players stand in front of the television and by moving their bodies, they control the actions of their counterpart on the screen. Adam states, "Virtual reality and motion sensing devices are allowing gamers to actually move around to control their characters. It makes gaming more interactive…" Brian and his girlfriend play sports games on the *Xbox 360 Kinect*. He enjoys this particular gaming

system because he feels that he is getting exercise and he is also "spending time with his girlfriend."

Intersections with Other Aspects of Life

Gaming intersects with various parts of the participants' lives. For some, it even influenced their career choices. Every one of the participants wish they could practice gaming more frequently, but they cannot due to constraints such as job, family, and financial responsibilities. The following sections describe the influence of gaming on professional lives, the influence of fatherhood on gaming, and perceptions about the artistry of gaming. Additionally, see Appendix H for a list of other intersections of gaming and various aspects of each participant's life.

Profession

For five of the participants, gaming led them to their life's work. Chris and Henry are notable examples of this pattern. For Chris, gaming has lured him into his current occupation. He is a graphics designer/programmer and he uses his gaming skills while he works:

I attribute a lot of my objective problem solving to playing video games. From interface design to logical thinking...I use this stuff every day. I feel like it's taught me to be more cautious with my decision making. Anything that requires strategy I can relate to a game. This is awesome because sometimes this association helps me to understand some really complex ideas (at work)."

Henry uses mobile technology for work:

My job role allows me the luxury of purchasing the latest and greatest mobile devices, gadgets, operating systems, tablets, slates, netbooks and so on. I am constantly using many technological devices in the work environment… to see how they function, test

their usability and durability, as well as see if they are or are not a good fit for the way

our users get their work done. I also get to research, setup and troubleshoot many types

of A/V (Audio/Video) equipment hardware and A/V editing software. This is also a work

function as I test different solutions for conferencing equipment as well as A/V software

& hardware options for our teleworkers, designing A/V layouts, setting up complex A/V

home theater systems... By definition, my job role also includes deploying, configuring,

researching, reporting and troubleshooting of PC (personal computer) & MAC

(Macintosh Apple computer) computer systems. This is something I do for work as well

as my own personal home business.”

Henry’s full or part time employment opportunities provided him with the avenue to try

new gaming systems without actually having to buy them. He says:

I was a Supervisor at Best Buy (Geek Squad: provides 24/7 technological customer

support) for a time where I was able to browse, setup, try out, sample and play games as

much as I wanted. I reviewed new gaming systems and consoles as they were announced

and recommended which to buy when asked by colleagues, family and friends.

Fatherhood

Two of the participants have limited gaming time due to their roles as fathers. Henry

does not game as much now as he would like due to his responsibilities as a father. But, when he

does have the opportunity, he games with his children. They play two-player fighter games such

as *Mortal Kombat*, *Street Fighter, and Marvel vs. Capcom*; racing games such as *Mario Kart*,

Midnight Club, and *Crazy Taxi*; first-person shooter games such as *Resident Evil* and *Halo*;

dancing games such as *Dance Dance Revolution* and *Wii Cheer*; *Wii* sports games such as

baseball and tennis; classic arcade games such as *Galaga, Pac-Man*, and *Ms. Pac-Man*; and on

the *Sega Dreamcast*, *Sonic Shuffle* (which is similar to *Sonic the Hedgehog*). Henry and his

family also like playing games that are created from movies such as *Matrix* and *Lord of the*

Rings.

Dean's gaming has lessened a bit due to his current role as a father. He still encourages

his children to play because he believes it helps develop eye/hand coordination, quick decision-

making skills, and presents unique learning opportunities. Dean feels in contrast to what people

thought when he was young, video games "didn't rot his brain." Dean's whole family uses the

iPad, especially the children (6 years, 3 ½ years, and 8 months) to help teach them letters,

numbers, colors, etc. His baby seems to really respond to bright colors and movement in some

of the really basic games, and Dean thinks that it's helping her brain make connections faster.

Artistry

Many of the participants are intrigued with the artistry of gaming. This particular aspect

of gaming is very important to Chris. "From graphics to music, it's almost like you are playing

in a movie." When he games, he is in a state of flow (Farmer, 1999). He loses track of time and

forgets that he is playing a game. "Sometimes, I will just stand and look around and take in all

of the artwork." With the advancement of technology, the "look and feel" of video games has

changed drastically. Ethan and Jay state, "The technology used in the new game systems is so

life-like and looks so real." Many of the participants agree that this technology is what keeps

them attracted to gaming. Adam believes that people do not truly appreciate the time and energy

that is put into the development of games. "Plot, visual effects, multiple characters, dialogue,

and multiple scenarios take a lot of time. It takes a lot of imagination to think of all these things

and then transform it into an interactive game. Virtual reality and motion sensing devices are

allowing gamers to actually move around to control their characters."

Supporting School-Based Literacy

The focus of this study was to shed light on the merits of gaming and other new literacies and how they affected the literacy development of people (in particular adult males) who have been gamers. I was curious what suggestions my participants would have for reaching school-aged adolescent males and how the educational system could better support school-based literacy for these particular students. (See Appendix I for a list of the participants' suggestions for supporting school-based literacy for adolescent males.)

More technology

Three participants suggested increasing the amount and variability of technology used in the classroom. Jay, Henry, and Lorenzo explained that increased technology when incorporated into school classrooms would help prepare adolescent males for the world. Jay states, "More computer technology should be applied in our school systems to better prepare our young males to adapt to the need of world technology."

Along these lines, Henry argued:

Technology gives people tools to be more efficient and work and/or play more effectively. These tools also help us to communicate better. Kids can learn about world events in real time. People can do research faster and better with the Web and electronic devices. Employers can reach out to a vast majority of folks and hire the most qualified applicants for a position.

While an advocate of increased technology, Henry also expressed a critical perspective on its use:

But at the same time, technology can also hinder us as we find many negative ways of doing things as well. Hackers and code crackers can find ways of stealing private

information within banking, personal and government systems. Gamers can find cheat

codes. Criminals can find easier ways of getting access to peoples' homes and children.

The sex industry can run rampant on the Internet.

In addition to increasing the amount of available technology, Lorenzo suggested that

technology programs be developed further to support school curriculum. He explained

connections to the math curriculum:

> Flash cards, there is another system that you could use now that would involve
>
> technology, times tables, memorization, help kids do this kind of stuff. There has to be
>
> some kind of game that you could develop that would be helpful. I wish I had access to
>
> something like the *iPad* when I was in school. When I was 12 or 13, the Internet was a
>
> big deal, you had to dial up to get access. We did this in the library at school.

Alternative learning approach

When looking at the instructional make-up of today's curriculum for adolescent males,

five of the participants favored an alternative approach to teaching, mainly instilling technology

and gaming. They argued that this alternative form would help engage and encourage adolescent

males to participate more willingly in the classroom. They suggested that gaming can be a great

way to reach school-aged males.

Five of the participants favored using an alternative learning style for current adolescent

males. Adam states, "People learn in a variety of different ways." Kyle feels that gaming is a

great way to reach today's adolescent males. "I believe using gaming as an avenue to reach

school-aged males would be very successful." Greg believes that games "help with analyzing

and problem solving, word games would help build vocabulary."

Chris suggested an alternative approach to teaching a novel. He explained:

When I was in high school we would always have to read "required books." If I read *Lord of the Flies* by myself...I'll be honest... any symbolism/commentary about the mindset of the author would have been lost. But because we have to dissect the characters and the scene and the plot with a teacher, all of that made the learning experience rich. So let's forget about educational-based games for a second...If I was a teacher and I assigned the class (*Final Fantasy X:* role-playing video game) BUT to examine the characters and the story and this time the strategy involved, *Final Fantasy X* could be just as useful if not more useful than some straight forward education based game.

Ethan argued that gaming is an efficient, alternative way to teach newly enlisted soldiers how to train. "I think the first-person shooter games help with recognizing the enemy and reaction time." Being an Army veteran, he suggested that first-hand experience is very critical to a soldier's training.

Traditional classroom approach

Two of the participants prefer the traditional classroom approach for supporting school-based literacy learning. They argue that schoolwork is a top priority and gaming should occur outside of the classroom. There must be a balance between schoolwork and recreational time, i.e., gaming. Brian stated, "School work should be the highest priority in their lives." Brian suggests that kids should have a schedule for school and out of school time. Dean plans on limiting his children's game time until after they have finished schoolwork. "I intend to limit the amount of gaming they can do until they are done with homework, etc., and then encourage them to play."

Support as essential

Two participants personally expressed the essentialness for supporting school-based literacy for current adolescent males. Henry argued that it is critical for young adolescent males to receive support with school-based learning:

I know I have seen firsthand, within my own African American race, the struggles that they experience from 3rd - 10th grades. I have assisted with some schools and community organizations and support those initiatives as best as I can when I have time.

In regards to supporting school-based literacy, Ian suggested that when thinking about teaching adolescent males, we need to focus on a goal. Ian's goal is, "We as people need to relearn how to control what we see, do, and want. We must work smarter on teaching kids to hit the books first!!!"

While most of the participants strongly favored supporting school-based literacy, Frank was an exception. He did not have any suggestions for supporting school-based literacy learning for adolescent males. According to Frank, he is, "not sure I learned all that much in school anyway."

CHAPTER 5

DISCUSSION

The purpose of this chapter is to further discuss the interpretations and their implications for research and practice. This qualitative study produced a massive amount of material that I collected and analyzed. The interview material presented in chapter 4 provides a rich source of important ideas that I believe should be used to inform school-based literacy practice.

In this chapter, I present ideas emerging from the participants' adolescent and adult literacies. I also discuss gaming as a safety net for strengthening adolescent confidence and a springboard and catalyst for future career opportunities. In this discussion, I focus on the study's four research questions:

1. What are the vernacular technological literacy practices these research participants use including gaming, texting, blogging, IM-ing, online gaming, surfing websites, and social networking?

2. What is the evolution of their gaming practices into adulthood?

3. What is the intersection of gaming practices and other aspects of their lives?

4. What are their views about supporting school-based literacy learning for current adolescent males?

The research questions lend themselves to be addressed from two perspectives: the adolescent era and the adult era. In the adolescent era, I discuss the participants' literacies and confidence born from gaming. In the adult era, I converse about the participants' literacies and current occupations that stem from the participants' interests in gaming. I also share how we, as educators, can better support school-based literacy learning for adolescent males. I conclude with implications arising from this study.

When examining the idea of whether or not gaming is a threat to the pedagogical ways of teaching students as debated by Breneman and Smith (Carlson, 2003), one can conclude that it need not be a threat as long as there is a balance of instruction and recreation time. All of the participants in this study where exposed to gaming at a very young age and all of them achieved a respectable level of academic success. All of the participants graduated from high school, seven from college, and one received his master's degree. These levels of academic accomplishment conflict with Breneman and Smith's (Carlson, 2003) assertion that gaming skills hinder the process of learning proper literacy skills.

Many participants measured their economic level of success based on their salaries. Most of them consider themselves economically comfortable. All of the participants are currently employed. At least half of the participants equate economic comfort with their possessions, i.e., owning cars, homes, and extras (e.g., electronics, motorcycles, and going on vacations). This finding suggests that gaming is associated not only with academic success but with financial success. Indeed the criterion of financial success is often touted as a goal of schooling in the U.S. (Szulik, 2007).

Adolescent Era

Gaming as a safety net

Gaming was a social safety net for the participants when they were young. It was a way for them to feel confident and protected with gaming and in the gaming environment. Whether the participants were successful in school or not, they were able to directly receive the necessary confidence that one needs at that particular age of adolescence. According to research (Fromme, 2003; Orleans & Laney, 1998), the confidence that comes from gaming aids many adolescents in their attempts to socialize with others. For some, they were called "geeks" because they made

good grades in school and were more technologically savvy then their peers. They did not care

because they sought refuge in gaming. For others, they were very quiet in school and not

outgoing. They did not have camaraderie with other students at that time. The missing void

was filled by gaming. All in all, gaming was a positive part of the participants' lives when they

were adolescents.

This pattern is consistent with my experiences as a middle school literacy teacher. I

observed the confidence in my students when they completed a certain level of a game or when

they would share their success with their peers. The "high fives" were testament alone. I

enjoyed watching them read video magazines that featured the latest games and cheat codes.

They would say to each other, "Hey, hey, check out this new game. Those graphics like so cool.

I can't wait to play it!"

Revolving literacies

Growing up surrounded by gaming, the participants experienced literacy in many forms.

To recap, these forms of literacy include:

- *new literacy,* defined as "assembling knowledge from multimedia resources,

  strategically navigating through hyperlinks, critically comprehending various forms

  of information, engaging in electronic forms of communication, expressing ideas in

  multimedia formats and socially mediating problem solving through online and real-

  time collaborations" (Karchmer & Mallette, 2005, p. 167);

- *social literacy,* defined as "primarily something people do; it is an activity, located in

  the space between thought and text…. Like all human activity, literacy is essentially

  social, and it is located in the interaction between people" (Larson & Marsh, 2005, p.

  10); and

- *critical literacy*, defined as "to understand one's relationship to the means of production, and to realize control over one's work, knowledge, political rights and freedom" (Edwards & Corson, 1997, p. 147).

Some of the participants experienced gaming in school, but for the majority of them, they experienced gaming outside of school, whether it was in their homes, a friend's home or an arcade. All of the mentioned literacies were like a revolving door. They came in and out of the participants lives, depending upon what they were playing, whom they were playing with, and why they were playing. For example, the participants experienced new literacies when they transitioned from the original console game system to a newer, more technologically-enhanced console game system, such as the *Nintendo* to the *Super Nintendo.*

Social literacy occurred when they were with their friends and when they went to arcades. It was an activity for them where they interacted with one another. When they were gaming with their friends, they were connected through their thoughts and actions. As Selfe and Hawisher (2007) suggest, literacy occurs in the world of talk, action, and interaction… not only in someone's head.

While the participants were gaming, they had control over the game and the characters. Critical literacy was present at this time. They used their knowledge of the game and problem-solving skills to reach the next level. They knew what they had to do in order to progress in the game.

Adult Era

Participants' current literacies

The participants' new literacy is constantly adapting to the technological advancements that gaming companies are creating. They strategically maneuver through games by

comprehending types of information in various multimedia formats. For example, the dimensions of games have grown from a "flat" one-sided dimension to a third dimension (3D), where characters and graphics appear life-like. An example of a 3D game is a third-person shooter game, such as *Assassin's Creed* by *Playstation 3,* where the player can see the character on the screen in a third-person view. All of the participants are still gaming today because of how much the games have evolved with the additions of enhanced platforms, graphics, and sound. They all said, "Games are so much better now!"

Social literacy is very prevalent in the lives of the ten participants. If they are not gaming, they are practicing social literacy through texting, blogging, IM-ing, surfing the Internet and social networking. It is a human activity that they do; they are interacting with others through thought and text. As Dewey (1966) stated, the path of individual development is inseparable from the processes of societal growth and change. The participants are in the realm of constant social interactivity with others.

All of the participants practice critical literacy daily. By gaming, they are attempting to release control over the everyday pressures of life, e.g., job and family responsibilities. Most of the participants game daily in order to de-stress, pass idle time, or keep their minds active. According to many, it is a great way to relax and free your mind of the everyday stressers.

Gaming as a springboard

For some of the participants, gaming was the springboard for their future careers as adults. The passion for gaming is what drew them to their current professions. Their habitual gaming practice helped them become proficient in programming, coding, and graphic designing. They wanted to be a part of the technological world and gaming enabled them to seek out these professions of choice. According to the participants in a study by Hinchman and Lalik

(Alvermann, 2005), it is important for people seeking jobs today to be able to use computers. "You're going to have a lot of competition for your job because people need to know how to use technology" (p. 94).

As a middle school literacy teacher, I would encourage my students to take their interests (e.g., gaming), learn as much as they could about them, and investigate career opportunities that incorporated these interests. The majority of my students were not on the "college train" so I knew I had to help prepare them for the working world by encouraging them to find a job that they would like and then hope their interests could guide them in the right direction.

Insights

The extensive interviews I conducted provided rich material for reflection. In the paragraphs that follow, I highlight five insights I developed from this research.

Insight one: Technologically literate

Gaming has led all the participants to be highly technologically literate. Through their early game play until now, they have had to navigate from simple, one-dimensional games to complex, multidimensional games, where critical thinking and problem-solving skills are in high demand. The participants are eager to advance themselves in games because they have seen their own gaming success evolve from the basic, one person game to the intricate, multi-person game. This pattern suggests that as teachers we should find opportunities and access to explore technology in the classroom. According to Eck (2007), games based on sound learning principles can foster a learning environment in which students can feel appropriately challenged.

Insight two: Academic culture versus popular culture

Upon reflecting on my teaching with adolescents and my participants' responses about teaching today's adolescents, one does not need to separate academic culture from popular (pop)

culture. Educators do not have to fear pop culture. Working with and using pop culture may allow students who find safety nets in aspects of pop culture to be more comfortable in school.

As a middle school teacher, I believe aspects like gaming could provide them the opportunity to shine in front of peers and give them that necessary confidence to get through the trivial times of adolescence.   According to Gee (2005), "young people today are often exposed to more creative and challenging experiences in popular culture than they are in school" (p.3). Based on this study, teachers may want to add popular culture to their curriculum in an effort to engage their students' interests.

Insight three: Passionate versus freelance

After interviewing the participants and analyzing their responses, I have concluded that there are two types of gamers: passionate and freelance. Passionate gamers have it in their blood. Their desire and quest to game since they were adolescents is what keeps them gaming today.   As one participant stated, "Once a gamer, always a gamer." Freelance gamers enjoy the non-committal aspect of gaming. They like to game when it is convenient for them and it gives them the opportunity to be social with others. When they are bored or have free time, they like to fill that space with gaming. According to several participants, it helps pass idle time. Whether passionate or freelance, games held the interests of the participants well into adulthood. This finding is consistent with Korzeniowski's (2007) assertion: "Games hold the interest of today's technically savvy students, who are immersed in constantly changing, highly stimulating, instant gratification environments" (Korzeniowski, 2007).

Insight four: Utilitarianism

Whether the participants are labeled passionate or freelance, their utility has brought them happiness and/or pleasure since their adolescent gaming career began. According to

Wikipedia (2011c), utilitarianism is the idea that the moral worth of an action is determined solely by its usefulness in maximizing utility as summed among all sentient beings. The participants are in a state of happiness or pleasure when they are gaming, thus they sustain their engagement. This condition of utilitarianism has carried them through their evolution of literacy development by engaging in the technological literacy practice of gaming. This study supports Gee's (2007) argument that teachers can incorporate basic principles of learning, such as motivation for extended engagement, into the curriculum through the judicious use of gaming.

Insight five: Friendship

Social support born from friendship provided the participants with confidence and encouragement throughout their lives. Gaming can bring people together, such as in school and in the community. According to Oblinger (2006), "a critical element of games is the community that develops around them" (p. 2). Communities of users share ideas, problem solve and socialize a great deal. For these participants, friendship mirrored brotherhood. Gaming was an act that created trust, bonding, and camaraderie. This pattern suggests that as teachers we should provide learning opportunities where students can experience social interactivity through gaming.

<div align="center">**Implications for Further Research**</div>

Given how helpful these participants were in providing personal experiences and recommendations to support school-based literacy for current adolescent males, it was suggested to me that we pay very little attention to learners of any age. For example, we do not pay enough attention to these very adolescents for whom the participants are providing suggestions.

For future research, it would be useful to conduct a pilot study with a group of adolescent males who are identified as not being interested in schoolwork because they are unmotivated by

the curriculum. Educators could co-construct a curriculum with adolescent males, supplemented by gaming that contains learning principles. A small group of adolescent males who are not interested in school could co-research with a group of educators, test the generated curriculum on other adolescent males, and then improve the curriculum based on what they learned from the other adolescent males. The selected group of adolescent males must be *full* participants in the curriculum construction. The educators must take the young participants seriously and not tantalize them. The educators could learn together with the adolescent males. Through this research and curriculum development, a more appropriate curriculum could be born.

Another suggestion for further research is for middle school teachers to examine their own literacies that they practice in various aspects of their lives and to consider if and when such literacies exist in their curriculum. Such research should help teachers to develop a more robust understanding of literacy and a greater awareness of their curricula.

While this study looked at boys, it would also be important to examine girls. If we look at college/university computer science programs now, the majority of the students are males (S. Magliaro, personal communication, August 3, 2011). If we wish to create a society in which girls have access to well-paying technological jobs, it might be wise to examine ways that games can be designed so that they are compelling for girls.

Summary

The evidence from this research suggests that gaming as a literacy practice has positively impacted this group of males starting when they were adolescents.   Their growing confidence as gamers allowed them to forge their ways through adolescence and into adulthood. For several, gaming was the catalyst for encouraging them to choose their current profession.   From adolescence until adulthood, their gaming practices suggest that several types of literacies were

strongly engaged. Depending upon their life situations, the literacies served important purposes for each participant.

The findings of this study suggest that gaming has a number of benefits for adolescents. Educators would be wise to move away from devaluing gaming.   Instead, they should explore ways to enhance curriculum and school learning with gaming. Teachers should be open to learning from adolescents about new technologies and the way adolescents use these new technologies, which will continually change.

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APPENDICES

A.   IRB Form for E-mail Participants

B.   IRB Form for Face-to-Face Participants

C.   Letter of Invitation

D.   Gaming Systems

E.   Participants' Profiles

F.   Current Vernacular Technological Literacy Practices

G.   Evolution Timeline of Participants' Gaming

H.   Intersections with Other Aspects of Life

I.   Views on Supporting School-Based Literacy Learning for Adolescent Males

Appendix A. IRB Form for E-mail Participants

Informed Consent for Participants in Research Project Involving Human Subjects

Title of Project: Gaming as Literacy Practice

I. Purpose of this Research/Project: The purpose of this study is to shed light on gaming as a literacy practice and the literacy development of males who have been gamers as adolescents. The anticipated contribution will be the understanding of how gaming literacies can be used to support school-based literacy learning.

II. Procedures: This study will be conducted over many months. Several interviews will be conducted with each participant. The interviews will take place via email. I will send the participants the prompts electronically and they will reply to the prompts and return the responses electronically. Data for my study will include transcriptions of all emails.

III. Risks: The risks of this project will be minimal. Identity of the participants will be protected by assigning a code number to any notes or transcripts of email interviews. The list of names and code numbers will be stored separately from the transcriptions and tapes in separate locked filed cabinets.

IV. Benefits: As a result of this study, I will contribute professional knowledge to the field that result from my dissertation research. The benefits of the study will clearly outweigh the potential for minimal risks. There is no promise or guarantee of benefits for individuals participating in this study.

V. Extent of Anonymity and Confidentiality: Access to the identity of the participants will be limited to me. Other than a randomly assigned code number for each participant, no other identifiers will be used that could lead to their identification. I will be the sole transcriber of any transcriptions to assist in the accuracy of my analysis of the interviews for my dissertation. Once the study is completed, all transcriptions will be destroyed. Pseudonyms will be used in written materials and in any presentations that may occur as a result of this research.

VI. Compensation: There will be no compensation for participation in the study.

VII. Freedom to Withdraw: You have the freedom to withdraw from this study at any time without penalty. You have the freedom to decline to answer any question(s) in an interview and any element(s) of your experience.

VIII. Subject's Responsibilities: I voluntarily agree to participation in this study. I have the responsibility of working with Mrs. Amy Hall. As I engage in the email interviews, I understand that Mrs. Amy Hall will transcribe the interviews.

Virginia Tech Institutional Review Board: Project No. 10-653
Approved December 30, 2010 to December 29, 2011

IX. Subject's Permission:

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

_____ _____

Subject Signature Date

Should I have pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Amy Hall_____ 703-930-9695 aaconlin@gmail.com
Investigator(s) Telephone/email

Rosary Lalik_____ 703-538-8481 rlalik@vt.edu
Faculty Advisor Telephone/email

Appendix B. IRB Form for Face-to-Face Participants

Title of Project: Gaming as Literacy Practice

I. Purpose of this Research/Project: The purpose of this study is to shed light on gaming as a literacy practice and the literacy development of males who have been gamers as adolescents. The anticipated contribution will be the understanding of how gaming literacies can be used to support school-based literacy learning.

II. Procedures: This study will be conducted over many months. Several face-to-face interviews will be conducted with each participant. The interviews will take place in a community setting. Data for my study will transcriptions of approximately forty to fifty face-to-face interviews.

III. Risks: The risks of this project will be minimal. Identity of the participants will be protected by assigning a code number to any notes or transcripts of email interviews or taped interviews. The list of names and code numbers will be stored separately from the transcriptions in separate locked filed cabinets.

IV. Benefits: As a result of this study, I will contribute professional knowledge to the field that result from my dissertation research. The benefits of the study will clearly outweigh the potential for minimal risks. There is no promise or guarantee of benefits for individuals participating in this study.

V. Extent of Anonymity and Confidentiality: Access to the identity of the participants will be limited to me. Other than a randomly assigned code number for each participant, no other identifiers will be used that could lead to their identification. I will be the sole transcriber of any interview, and will use the transcriptions to assist in the accuracy of my analysis of the interviews for my dissertation. Once the study is completed, all transcriptions will be destroyed. Pseudonyms will be used in written materials and in any presentations that may occur as a result of this research.

VI. Compensation: There will be no compensation for participation in the study.

VII. Freedom to Withdraw: You have the freedom to withdraw from this study at any time without penalty. You have the freedom to decline to answer any question(s) in an interview and any element(s) of your experience.

VIII. Subject's Responsibilities: I voluntarily agree to participation in this study. I have the responsibility of working with Mrs. Amy Hall. As I engage in the interview, I understand that Mrs. Amy Hall will record/transcribe the interview. The recordings may be in the form of transcriptions or audiotapes.

Virginia Tech Institutional Review Board: Project No. 10-653

IX. Subject's Permission:

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

_____ _____

Subject Signature Date

Should I have pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Amy Hall_____ 703-930-9695 aaconlin@gmail.com
Investigator(s) Telephone/email

Rosary Lalik_____ 703-538-8481 rlalik@vt.edu
Faculty Advisor Telephone/email

Appendix C. Letter of Invitation

January 7, 2011

Dear Participants,

My name is Amy Hall and I am conducting a study on gaming and male literacy development. I am looking for males who fit the following description:

- Age range- 30-40 years old

- Operational definition of a gamer: One who currently participates in gaming practices on average for 5 hours weekly and has done so for a minimum of 20 years. (Purpose of this study- Games are technologically-based problem-solving activities that players voluntarily select for the purpose of experiencing pleasure through efforts to achieve some level of success.)

I will be interviewing participants via email followed by face-to-face interviews with a small set of participants. There will be several email correspondences, approximately six per participants.

I would like for you to participate in my study. Please email me if you are willing to participate and attach a completed consent form or you can mail the completed consent form to me.

Amy C. Hall

5500 Holmes Run Pkwy

Unit #903

Alexandria, VA 22304

Sincerely,
Amy C. Hall
aaconlin@gmail.com
703-930-9695

Appendix D. Gaming Systems

Gaming System	Adam	Brian	Chris	Dean	Ethan	Frank	Greg	Henry	Ian	Jay	Kyle	Lorenzo
Atari 2600	X	X		X		X	X	X	X		X	
ColecoVision		X										
Commodore 64						X	X	X			X	
Nintendo	X	X	X	X	X	X	X			X	X	X
Nintendo 64												X
Super Nintendo					X						X	X
Nintendo Wii	X	X		X				X		X	X	
Playstation	X		X		X			X		X		X
Playstation 2			X		X				X	X		X
Playstation 3	X		X	X	X						X	X
Sega		X				X						
Sega Dreamcast								X				
Sega Genesis								X		X		X
Xbox				X				X		X		X
Xbox 360				X		X				X		X
Xbox 360 Kinect		X										
Total Gaming Systems Used	5	6	4	6	5	5	3	7	2	7	6	9

Appendix E. Participants' Profiles

Participant	Age	Race	Early Social Class	Current Social Class	Education Level
Adam	32	White	Middle	Middle	Bachelors
Brian	35	Black	Low	Middle	High School
Chris	28	Cuban/White	Middle	Middle	Bachelors
Dean	34	White	Middle	Middle	Bachelors
Ethan	37	White	Working	Middle	High School
Frank	36	Korean/White	Lower-Middle	Middle	Bachelors
Greg	39	White	Lower-Middle	Middle	Bachelors
Henry	42	Black	Middle	Middle	High School
Ian	36	Hispanic/White	Middle	Middle	High School
Jay	34	White	Middle	Middle	High School
Kyle	36	White	Middle	Upper-Middle	Masters
Lorenzo	30	Hispanic	Middle	Middle	Bachelors

Appendix F. Current Vernacular Technological Literacy Practices

Name	Category & Representative Comment
	Gaming
Adam	X
Brian	X
Chris	"From graphics to music, it's almost like you are playing in a movie."
Dean	"Can't imagine my life without gaming."
Ethan	"I think it helps keep the brain active by thinking."
Frank	"Most consistent activity"
Greg	"Good way to reduce stress, pass idle time, and keep my mind active."
Henry	X
Ian	X
Jay	"They are almost life-like and it makes you feel like you are in the game."
Kyle	"It is a great way to relax and free your mind of the everyday stressors."
Lorenzo	"Once a gamer, always a gamer."
	Texting
Adam	"Habitual texter"
Brian	X
Chris	X
Dean	Family and friends
Ethan	Friends
Frank	Friends
Greg	Friends
Henry	X
Ian	Family, friends, and colleagues
Jay	Wife, family members, and friends
Kyle	Family, friends, and co-workers
Lorenzo	Friends and clients
	Blogging
Adam	"…people should be very careful about the information obtained from the Internet. It usually lacks validity."
Brian	"I like to debate w/ people."
Dean	"I don't have the time to commit to creating content that people would care about on a consistent basis."
Greg	"Don't really blog per se but I like to view them."
Henry	X
Kyle	X
	Im-ing
Brian	X
Chris	X

Dean	Family, friends, and work
Greg	Friends
Henry	X
Kyle	Friends and co-workers
Lorenzo	Gmail chat
Online Gaming	
Adam	X
Chris	X
Dean	Friends
Ethan	X
Ian	"I play online poker now, only because I can do it at anywhere and any time."
Jay	X
Kyle	X
Surfing Websites	
Adam	X
Brian	"Constantly looking at the design of the sites and coding practices."
Chris	X
Dean	Banking, Amazon, Fark, Facebook
Ethan	"I see and hear things throughout the day that interests me so it varies."
Frank	Boxing, music, eBay, Amazon, Craigslist, gaming (look for tutorials)
Greg	Facebook, Foodnetwork, Paula Deen, Cooking blogs, myrecipes.com
Henry	Tigerdirect.com, CDW.com, amazon.com, microsoft.com, google.com
Ian	Passport Nissan, Bing.com (like Google), Facebook, ESPN, Pandora, Netflix, tv.com
Jay	Ebay, Craigslist, coin sites
Kyle	Google, cnet, banking/paying bills, Amazon, some blogs
Lorenzo	Motorcycles sites, Facebook, ESPN, Big Lead, Amazon, Ask.Men
Social Networking	
Adam	"I do not use Facebook or MySpace because I do not enjoy having my personal info out for everyone to see."
Brian	X
Chris	X
Dean	Family, friends, and colleagues
Ethan	Friends
Frank	"I stay away from anything social, at least in the social networking sense."
Greg	Facebook (with friends) and LinkedIn (colleagues in my professional network)
Henry	X
Ian	Facebook
Jay	Facebook (friends, family and colleagues)
Kyle	Colleagues
Lorenzo	Facebook

X = Yes response from participant

Appendix G. Evolution Timeline of Participants' Gaming

Name	Ages and Practices
	Ages 5-12
Adam	Gaming with friends and arcades
Brian	Watching TV, cable & VCR, arcades, gaming with brother and friends at friends' homes
Chris	Arcades, gaming, & Internet
Dean	Gaming with friends and family
Ethan	*Atari* & arcades
Frank	Basic video gaming, limited computer lab time (school), computer time (home),
Greg	Gaming systems *(Atari)*
Henry	Going to arcades & playing games before school and after
Ian	Gaming systems (*Atari*)
Jay	Playing games at home with my brother (*Atari*)
Kyle	Playing *Atari* games/*Commodore 64* games & going to arcades
Lorenzo	Playing *Atari* games and going to arcades Gaming alone and with friends
	Ages 12-18
Adam	Gaming
Brian	Computer (programming), & gaming with friends (*Nintendo/Sega*)
Chris	Gaming, Internet, & IM-ing
Dean	Going to arcades, gaming with friends and family
Ethan	Arcades & *Nintendo*
Frank	Video gaming(*Nintendo/Sega*), gaming with friends,
Greg	Gaming systems (*Nintendo*)
Henry	Learning new computer systems and inputing code for games as well as creating games, playing arcade games, playing games on Prodigy and AOL, downloading games from AOL, playing *Atari* games with my sister
Ian	Arcades
Jay	Playing at home and arcades (*Nintendo, Sega Genesis, Playstation*)
Kyle	Playing *Nintendo* & going to arcades
Lorenzo	Playing *Nintendo, Super Nintendo, Nintendo 64, Sega Genesis* Gaming alone and with friends Set-up gaming tournaments (i.e. *Madden Football*) that would last the entire weekends, about 15 participants, drafts on boards, pick teams, players would be woken up in the night for their turn during the game
	Ages 18-24
Adam	Internet and little gaming
Brian	Surfing the Internet & IM-ing
Chris	Internet, MySpace, Facebook, gaming, coding, & texting
Dean	Going to arcades, gaming with friends and family, IM-ing, online gaming, surfing websites
Ethan	*Nintendo* & *Super Nintendo*
Frank	Internet, e-mailing, & high computer usage (which jump started my career today)

Greg	Internet relay chat, surfing the net, online video games
Henry	Playing built games on Windows systems and online, playing game systems like *Atari, Sega Genesis,* and *Sega Dreamcast*
Ian	Computers & on-line games (*Ultimate Online, Counter Strike,* and *Star Craft*)
Jay	Gaming with friends & arcades (*Playstation*)
Kyle	Playing *Super Nintendo*, computer games, online gaming, gaming with friends, surfing websites, & IM-ing
Lorenzo	Playing *Playstation, Playstation 2*, surfing websites, IM-ing with friends Gaming alone and with friends Set-up gaming tournaments (i.e. *Madden Football*) that would last the entire weekends, about 15 participants, drafts on boards, pick teams, players would be woken up in the night for their turn during the game
	Ages 24-32
Adam	Internet (social & business) and gaming
Brian	Gaming, texting, social networking, & blogging
Chris	Internet, Facebook, gaming, coding, & texting
Dean	Going to arcades, gaming with friends and family, IM-ing, online gaming, surfing websites, social networking
Ethan	*Super Nintendo*, *Playstation*, online gaming, and surfing websites
Frank	Computers all the time, laptops, cell phones, and gaming with friends
Greg	Online chat, online video games
Henry	Loving when the game systems came out with digital remake versions of old classic arcade games such as *Space Invaders, Galaga,* and *Pac-Man*. I enjoyed buying those game packs and playing them at home.
Ian	On-line games (*Ultimate Online, Counter Strike,* and *Star Craft*)
Jay	Gaming with friends & gaming at home (*Playstation 2* and *Xbox*)
Kyle	Playing *Super Nintendo, Atari* (a new version with old games on it), computer games, games on *iPhone*, surfing websites, IM-ing, & texting
Lorenzo	Playing *Playstation 3, Xbox, Xbox 360*, surfing websites, IM-ing with friends, texting, social networking Gaming with friends (i.e. *FIFA 2011* & *Madden 2011*)
	Ages 32-42
Adam	N/A
Brian	Computers (all the time), laptop, gaming, texting, social networking, & blogging
Chris	N/A
Dean	Going to arcades, gaming with friends and family, IM-ing, online gaming, surfing websites, social networking
Ethan	*Playstation 2, Playstation 3*, online gaming, surfing websites
Frank	Gaming
Greg	Texting, Facebook, Twitter, online games, online chat
Henry	Playing *Windows* based game CDs as I had newer and better computer systems. I also have continued playing gaming consoles like *XBOX, Playstation*, etc. as well as online games.
Ian	*iPhone* games (*Angry Birds, Poker, Words with Friends, Fruit Ninja*) & on-line games (*Zynga Poker*)
Jay	Gaming online, gaming with friends, social networking, texting & IM-ing (*Playstation 2, XBox 360, Nintendo Wii*)
Kyle	Playing *Playstation 3*, games on phone, gaming with friends, surfing websites, IM-ing, & texting
Lorenzo	N/A

Appendix H. Intersections with Other Aspects of Life

Name	Category & Representative Comment
Adolescent	
Adam	"The interaction between my brain and the controller to the television. At the time, it was top of the line technology."
Brian	"Amazement probably had something to do with me beating my big brother."
Chris	"School is what got me into gaming."
Dean	"Developed a love for games, computers and technology."
Ethan	"Played games for fun when the weather was bad."
Greg	"Peer influence" "The old games remind me of fun times and the free spiritedness of being a kid."
Henry	"I have been into gaming every since I used to create my own games on my *Commodore 64* system back in the mid-1980's."
Ian	"Was hooked"
Kyle	"I enjoyed the idea of being able to control what was happening on the screen and the sense of working to complete or win a game."
Aesthetic/Artistry	
Adam	"Plot, visual effects, multiple characters, dialogue, and multiple scenarios take a lot of time. It takes a lot of imagination to think of all these things and then transform it into an interactive game."
Brian	"A mini Las Vegas"
Chris	"From graphics to music, it's almost like you are playing in a movie." "Stands and looks around and takes in all of the artwork."
Jay	"I love all the graphics in games."
Lorenzo	"Better graphics, better game play, better sound"
Pleasure	
Adam	"Enables me to step out of my body for a while."
Brian	"Remove myself from reality."
Chris	"It is a great way to distress at the end of the day."
Dean	"Can't imagine my life without gaming, it is my whole identity."
Ethan	"Gaming keeps the brain active by thinking."
Greg	"It's a good way to reduces stress, pass idle time, and keep my mind active."
Henry	"I find it extremely challenging to find ways of learning to beat them (children) when we play."
Ian	"I just enjoy a new challenge for time to time."
Jay	"It gives me time to relax and unwind after a day of work."
Kyle	"It is a great way to relax and free your mind of the everyday stressors." "The feeling of working towards a goal and accomplishing it."
Lorenzo	"Stress reliever"
Problem Solving	

Chris	"I attribute a lot of my objective problem solving to playing video games." "To be more cautious with decision making."
Dean	"It helps develop eye/hand coordination, quick decision-making skills, and presents unique learning opportunities."
Ethan	"I think the first-person shooter games help with recognizing the enemy and reaction time."
Greg	"Help with analyzing and problem-solving, word games would help build vocab."
Ian	"I have to go step by step with the paperwork. Take care of the vehicles and then hand in the paperwork to my supervisors."
Recreation/Leisure Time	
Adam	"It makes gaming more interactive and possibly healthy as well."
Brian	"Use games to help me get off the couch and exercise more."
Chris	"Gaming is a cheaper alternative to going out and shopping or going to bars."
Dean	"Whenever I am idle" "Fill in spaces of time"
Ethan	"It replaces boredom, it's a filler."
Frank	"A good way to pass time."
Greg	"It's what I do when I get the chance to take a break from life/work."
Henry	Plays with family and friends
Ian	"Help past time and avoid some people I don't want to talk with."
Jay	"Gives me something to do in the evenings."
Lorenzo	Limited time now due to girlfriend living with him.
Social	
Adam	"Gaming has/is becoming a popular method of social entertainment."
Brian	"Play games with my girlfriend and it actually seems like we are spending time together by playing."
Greg	"If *Farmville, Mafia Wars* and all the Facebook apps count, then yes. I have developed many new internet friendships through other players."
Henry	Plays with family and friends
Ian	"You can play with anyone and any time."
Kyle	"Gaming with friends allows for different type of connection and for a different topic to discuss when socializing."
Lorenzo	He and his friends play games where multiple players are required (i.e. *FIFA 2011* and *Madden 2011*).

Appendix I. Views on Supporting School-Based Literacy Learning for Adolescent Males

Name	Category & Representative Comment
	More Technology
Henry	"Technology gives people tools to be more efficient and work and/or play more effectively. These tools also help us to communicate better. Kids can learn about world events in real time."
Jay	"More computer technology should be applied in our school systems to better prepare our young males to adapt to the need of world technology."
Lorenzo	"Flash cards, there is another system that you could use now that would involve technology, times tables, memorization, help kids do this kind of stuff. There has to be some kind of game that you could develop that would be helpful. I wish I had access to something like the *iPad*."
	Alternative
Adam	"People learn in a variety of different ways."
Chris	"If I was a teacher and I assigned the class (*Final Fantasy X*) BUT to exam the characters and the story and this time the strategy involved, *Final Fantasy* could be just as useful if not more useful than some straight forward education based game."
Ethan	"I think the first person shooter games help with recognizing the enemy and reaction time."
Greg	"They do help with analyzing and problem solving, word games would help build vocabulary."
Kyle	"I believe using gaming as an avenue to reach school-aged males would be very successful."
	Traditional Classroom
Brian	"School work should be the highest priority in their lives." "Play their games at a very limited schedule."
Dean	"I intend to limit the amount of gaming he can do until he's done with homework, etc and then encourage him to play."
	Support as Essential
Henry	"I know I have seen firsthand, within my own African American race, the struggles that they experience from 3rd - 10th grades. I have assisted with some schools and community organizations and support those initiatives as best as I can when I have time."
Ian	"We as people need to relearn how to control what we see, do, and want. We must work smarter on teaching kids to hit the books first!!!"