CALL OF DUTY FOR ADOLESCENT BOYS: AN ETHNOGRAPHIC
PHENOMENOLOGY OF THE EXPERIENCES WITHIN A GAMING
CULTURE

A Dissertation in
Learning, Design, and Technology

by

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ABSTRACT

While there is plenty of controversy surrounding the assertion that boys struggle in our education systems and are disengaged, (Voyer & Voyer, 2014; Cleveland, 2011) there is sufficient evidence to merit further investigation. The current study builds on an ongoing three-year investigation on boys and commercial-off-the-shelf games that aligned findings to national standards as well as valuable 21st Century skills (Engerman & Carr-Chellman, 2014; Engerman, Mun, Yan, Carr-Chellman, 2015). Considering these positive impacts of gaming, the current study performed an in depth investigation of the interactions between the same boy population and one online game in Call of Duty (CoD). The central question this study sought to answer was: “How do boys perceive their gaming experiences within Call of Duty?” The ethnographic phenomenological design was interpretive and included a Thematic Analysis (Braun & Clarke, 2006). The study accentuated sociocultural and historical engagements of development through CHAT (Engestrom, 1987, 2001) and was narrated through human activity systems. Among other approaches within the analysis, think aloud interviews served to gain insight into private speech and inner thought habits to unpack participant processing and thought. The motive-object of “Owning the Zone” represented the collective motive that drove the CoD Activity Network (CAN). Tensions were examined through the Expansive Learning Matrix (Engestrom, 2001) and revealed that learning outcomes may include communication skills, strategic thinking, identity formation and leadership development through teamwork. The main finding of this study revealed a (what I interpret to be) playcology through the CAN. The playcology may have expressed that play, in its many forms, may be a fundamental component of adolescent boy development as an order-making tool. The current study concludes that playcologies may give insight into unpacking adolescent boy development beyond sociotechnical spaces.
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LIST OF DEFINITIONS

Class: The collection of guns, armor, grenades and equipment that you carry during a life.

CoD: Call of Duty

Flow: Complete immersion in the game experience. Characteristics include: “feeling awesome”, “feeling like the man”, “feeling it”, “being in the zone”, “riding the wave” and “being mellowed out” among others.

Glitch: Game flaws that are common and accessible to all players that know where to find them.

Hack: Special codes used by players to gain an advantage during match play that makes them almost invincible to most CoD players. Hacks go beyond perks that enhance a player’s ability. Instead hacks impact the balance of the entire game.

KDR: Kill to death Ratio. This number represents the ratio of the kills that you earn in comparison to how many times you die.

Leaderboard: Based on KDR, this user interface displays the leaders within a given lobby. It is normally displayed after each match is completed.

Lobby: The group of players that you play with in a given match.

Map: The geographical stage that you play in. It represents the bounded play space in which the match is.

Modes: Gamers played many CoD games across four platforms. The following CoD modes represent the small collection of modes that these gamers preferred collectively as a single unit of analysis. Usually matches had predetermined time limits.

- Deathmatch- Every player for themselves (free-for-all)
- Team Deathmatch- Kill everyone on the opposing team. Winning team reaches point limit first or has highest point total at time limit.
- Domination- The objective is to own all 3 control points on the map.
- Search and Destroy- The objective is for the attacking team to either eliminate the defending team or detonate one of two bomb sites. Players only have one life per match.
- Search and Rescue- Follows Search and Destroy, except when players die they leave tags behind. A player can be revived when teammates grab the dog tag will revive them while if an enemy grabs them, they will be eliminated from the round.

Party: A group of players that you migrate lobbies with.

Package: Usually given to you by achieving particular objectives during match play.

Perk: Various attachable and modifiable gear to enhance a players abilities during match play. These include guns, attachments, health, speed, recovery, clothing, exoskeleton (Exo) attachments among others.
ACKNOWLEDGEMENTS

Humility is defined by a modest view of one’s own significance. Barring excess, being a bold voice for equity among marginalized populations can be viewed as a humbling exercise. What bold activities does one perform and for what purpose? In this process I have discovered an important balance between the two. I am humbled by my family, colleagues, mentors, and youth I wish to reach, but also learned to be a bold advocate for the voiceless, towards producing equitable learning systems.

I dedicate this dissertation to my wife (Sarah) and first-born son (Caleb), for they inspired me to not only finish the journey, but also constitute the fuel to continue the work. With Adonai favor they were with me through it all and clarified my purpose throughout this jaunt. To my parents, Alphonso and Gloria Engerman, who prepared a solid foundation to raise happy, healthy young men. Every day they demonstrated what it meant to give it all and made it easy for me to approach life the same way. To the Buckhorn FAMILY, I’m glad we took this journey together.

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As I embark on this new voyage, I will bring the aforementioned tools along including passion that drives my activities towards pragmatic applications for civic good with humility and boldness. Fredrick Douglas provided much wisdom during a civil rights mass meeting in 1883, when he said, “No man can put a chain about the ankle of his fellow man without at last finding the other end fastened around his own neck.” Likewise, I hope that my activities become chain-breaking contributions for human good.
CHAPTER 1: VIDEO GAMES AND BOYS

This ongoing study sought to investigate the relationship between the experiences of boys and their natural settings within commercial video games. In our previous investigations, my colleagues and I compared our findings to several Common Core as well as International Society for Technology in Education (ISTE) Standards and also uncovered the development of non-cognitive 21st Century skills including, teamwork, grit and high levels of accountability (Engerman, MacAllan, & Carr-Chellman, 2014; Engerman, Mun, Yan, & Carr-Chellman, 2015). Each phase consecutively took on a phenomenological approach, including three semi-structured interviews (Drever, 1995; Seidman, 1998). The first study generally explored commercial-off-the-shelf (COTS) games in their relation to the historical experiences of boys. The second phase addressed a more detailed approach on linking experiences to standards with targeted questions. The second phase intended to unearth the depth to which self-reported experiences mapped to specified standards as well as to developmental markers for 21st Century skills (Engerman, Mun, Yan, & Carr-Chellman, 2015). Our data analysis allowed us to clearly link participants’ descriptions to national educational standards. The third iteration of this study included focus groups to elaborate and reflect on the phenomena of learning in COTS games. During phase three, participants were able to use the support of their fellow peers within the gaming communities to enrich detail and resolve tensions of the phenomenological description, thereby supporting and strengthening existing thematic narratives (Harrell & Bradley, 2009; VanManen, 1990).

Based on the previous studies, our findings revealed that boys learned various cognitive skills through playing COTS games. Learned skills chiefly aligned with the Common Core Literacy Standards in both English Language Arts and Social Studies/History (NGA & CCSSO,
2014). More specifically, these findings included: identifying key concepts, analysis of craft and structures of texts, integrations of knowledge and vocabulary acquisitions and use, among others (Engerman, MacAllan, & Carr-Chellman, 2014; “NGA & CCSSO”, 2014). In addition, these past investigations revealed the development of non-cognitive skills, including the advancement of essential developmental themes such as emotional intelligence, peer bonding and expectations of excellence. The non-cognitive skills that also aligned with 21st Century skills development were particularly interesting. These skills included the development of grit, critical thinking and collaboration, among others (Engerman, Mun, Yan, & Carr-Chellman, 2015). Hence, the current study sought to take another step along the aforementioned research trajectory, towards discovering the experiences of boys in Call of Duty (CoD) through cultural-historical impacts and mediating factors.

**Background**

For decades boys have struggled in our education system and academically underperformed their girl counterparts (Diprete & Buchman, 2013; Fortin, Oreopoulos, & Phipps, 2013; Voyer & Voyer, 2014). Boys have higher levels of disengagement than girls and are less likely to be praised for doing the same work (Lopez & Calderon, 2013). Mortenson’s 100 Girls projects showed that, among other factors, boys were much more likely to be:

- Expelled or suspended
- Labeled as emotionally disturbed
- Homeless
- In a correctional facility between the ages of 22 to 24
- Dead between the ages of 15 and 24 (Mortenson, 2011)

Several researchers have taken to using the term “boy crisis,” as boys around the world show similar trends (Epstein et al., 1998; Jha & Kelleher, 2006; Jonsson, 2014; OECD, 2015a, 2014; Sommers, 2013; Tyre, 2009). The Organisation for Economic Co-operation and
Development (OECD) services 35 countries in promoting policies for improving the economic and social wellbeing of individuals around the world (OECD, 2015b). OECD showed that across these countries, underachieving boys are 50% more likely than girls to fall behind in basic standards of reading, mathematics and science. The report clearly showed that by the OECD standardized tests, more boys than girls fail to meet minimum standards of proficiency, as boys represented 6 out of 10 of the underachieving population (OECD, 2015a). To put things in perspective, more boys underperformed in every country tested except for two. However, it is important to note that previous data revealed that boys and girls have equal opportunities to learn when they are motivated and perseverant (OECD, 2014). Lopez & Calderon (2013) reported that boys are significantly less engaged in school than girls and that those weak emotional connections can start as early as fifth grade. As we continue to see poor achievement rates result from low engagement rates for boys, we should wonder, “Why are boys unmotivated to learn in traditional classroom settings?” Researchers refer to a cultural crisis that fails to acknowledge and respect the ways in which boys socialize and make meaning within their own social circles (Carr-Chellman, 2012, 2011; Steinkuehler, 2011; Yan, Mun, Engerman, & Carr-Chellman, 2015; Yan, Mun, Engerman, & Carr-Chellman, in press). Specifically, Steinkuehler considered the displacement hypothesis. Steinkuehler defined the displacement hypothesis as the rejection of boy culture in traditional classrooms, which leads to feelings of alienation (2011). This displacement is further exacerbated as authoritative attitudes suggest that engagement in digital media prevents boys from reading educational printed text.

Some scholars believe that the cultural clash, described above, is in part due to the feminization of schools and that this feminization contributes to the alienation boys may feel in traditional school environments (Sommers, 2013; Tyre, 2009). Feminized school environments
are in conflict with boy culture (Sax, 2007; Sommers, 2013), requiring boys to behave in unnatural ways. For example, researchers refer to compression of the curriculum that leads to sitting for long periods of time, zero-tolerance policies that have been shown to punish more boys than girls and a lack of male teachers that understand boys’ perspectives (Carr-Chellman, 2012; Newkirk, 2002). Ongoing research conducted in Penn State’s Learning, Design and Technology (LDT) program, (by Petner, Carr-Chellman, and Shaw) has further revealed that teacher identity in classrooms plays an important role and has an impact on student performance. In agreement with other work, the LDT investigation further suggested that female tendencies towards cooperative learning and collaborative team building tend to conflict with boys’ competitive predispositions (Carr-Chellman, 2011; Logue & Harvey, 2009). We can best understand these findings in context, as women teachers represented 87% of the primary education workforce between 2009 and 2011 (The World Bank, 2014). Hence, the LDT research mentioned is insightful and supports other investigations that suggest that teachers may have graded based on perceived poor behaviors in class as opposed to academic gain (Cornwell, Mustard, & Parys, 2012; Fleenor, Lamb, Anton, Stinson, & Donen, 2011; Fortin, Oreopoulos, & Phipps, 2013). Scholars such as Cornwell, Mustard, and Parys (2012) have studied kindergarten classrooms that had up to 98% female teacher populations. Cornwell et al. (2012) reported that teachers perceived young girls to have more developed attitudes toward learning, and as a result those attitudes were (consciously or unconsciously) rewarded with higher marks for both girls and boys. Findings like these demonstrate how teacher perceptions can negatively affect boys; specifically as these perceptions more closely align with female-centered views. Environments that do not include a male perspective and reduce the ability for boys to behave in normal and natural ways (Sax, 2007) may result in feelings of alienation, marginalization and ultimately
resistance (Lakes & Burns, 2001). Schools are environments where boy masculinity is defined, asserted and defended. As a result, boys are likely to resist female authority both explicitly and implicitly (Jonsson, 2014; Kindlon & Thompson, 2009; Pascoe, 2007).

Not all researchers agree on the term “boy crisis.” Some scholars believe that, on the whole, boys have had the same achievement levels for the past several decades. Also, scholars believe that the “boy crisis” should be lessened to specify underachieving boy populations (Barnett & Rivers, 2006; Cleveland, 2011; Mead, 2006). OECD even acknowledged that, overall, boys do score better than girls in the area of mathematics. Additionally, the area of science shows gender stability in achievement (OECD, 2015a). Cleveland (2011) reports that groups opposing the “boy crisis” believe that underachievement is caused by multiple factors and denounces the conception of the “boy crisis” at large. Further, many critics of the “boy crisis” (Barnett & Rivers, 2006; Cleveland, 2011; Mead, 2006) certainly disapprove of the notion that underachievement is caused by a feminization of education. However, the opposing “boy crisis” research recognizes that significant levels of underachievement exist for boys, but only among particular subgroups. These groups include African-Americans, Hispanics and the socioeconomically disadvantaged (Barnett & Rivers, 2006; Cleveland, 2011; Mead, 2006). In an effort to meld both sides of the argument, Cleveland (2011) promoted an approach that advocates for a new direction, which included replacing negative attitudes, reconnecting with the school, rebuilding life skills and reducing unproductive behaviors.

At best, balanced approaches like the one Cleveland offered are often derived from the perspectives of current educators and educational professionals (Cleveland, 2011). However, such approaches do not take on the perspectives or voices of the specified groups of boy participants to which they refer. I argue that marginalized boy perspectives should be heard and
included in the discussion. Video games, although not without controversy in terms of social critiques and emergence in deviant behaviors, have captivated the consuming public and made their way into our daily lives. Video games have developed tremendously worldwide in both use and revenue (Bainbridge, 2007; ESA, 2014). Likewise, games have also had major impacts on day-to-day routines. In 2005, boys were 4 times more likely to engage in video game play after school than girls (Lyons, 2005). In fact, statistics like these are still relevant today as researchers converge on the notion that boys are far more likely to engage in video game play after school than girls (Brown & Bobkowski, 2011; OECD, 2015a). Not only do more boys play video games, but video games have also have shown to be a productive engagement tool towards academic achievement (Institute of Play, 2014). The Institute of Play has shown results in their play and gaming initiatives proving impressive statistics as follows:

- 94% attendance
- 90% teacher retention
- Math Olympiad winners 3 years in a row
- 56% better than citywide average on 2013 ELA exams
- 43% better than citywide averages on 2013 science exams (Institute of Play, 2014).

Data such as this demonstrate the effectiveness of having engaged learners but also further arguments for the significance of game-based learning. In addition, researchers have suggested that video games are particularly beneficial towards improving literacy gains in boys. Steinkuehler and her colleagues have extensively focused on boys and gaming literacies (Steinkuehler, 2011; Steinkuehler, Compton-Lilly, & King, 2010; Steinkuehler, Hayes, King, 2009; Steinkuehler & King, 2009; Steinkuehler et al., 2011; Steinkuehler et al., 2009). Gaming has shown to be an important tool to improve the poor performance of boys on literacy tasks. Digital literacy, including reading, meaning making and information literacy, is an integral part of the ecology of video game play. In fact, these forms of literacy become inseparable from
successful participation in most game play (Abrams, 2009; Blair & Sanford, 2004; Engerman, MacAllan, & Carr-Chellman, In Press; Gerber & Abrams, 2014; Prensky, 2006; Sanford & Madill, 2007; Steinkuehler, 2011; Weis & Cerankosky, 2010). Virtual game play even appears to be a beneficial learning tool for the 21st Century workplace. Re-engagement of boys in education requires a healthy respect of their cultural concerns and normal engagement practices, which we know to strongly include video game play (Carr-Chellman, 2012, 2011; Engerman, MacAllan, & Carr-Chellman, 2014; OECD, 2015a; Steinkuehler, 2011). Additionally, video game avenues need to be investigated from the participant point-of-view in order to respect cultural norms and understand potential academic overlap. This approach best aligned with our goals of re-engaging marginalized populations of underachieving boys.

Purpose Statement and Approach

The purpose of this study was to respect the experiences of boy culture and allow the boy participants’ voices to be heard within socially situated gaming experiences. Towards improving the educational “boy crisis,” this study utilized inquiry to explore the perspectives of boy learners. The current study used a hybrid ethnographic/phenomenological approach in an attempt to illuminate the marginalized voices of adolescent boys within traditional school systems. The major objective of this study was to give boys a voice in education. These participants demonstrated and elaborated on learning gains within the social activity of video game play. As the study followed a phenomenological approach, it utilized its historical relationship with the boys and added a participant-observer component. The combination of phenomenological and ethnographical approaches strengthened the overall quality of the study and captured the true agenda of this work. The combined methodology allowed the researcher to extract the essence of the experience of learning through the intersection of mediated artifacts. Boys unraveled the way
they made meaning of COTS gaming experiences both verbally and through mediated actions. Throughout this meaning-making process, the boy participants created fuller descriptions of socialized gaming experiences within *Call of Duty (CoD)*. The current study applied Vygotsky’s Social Development theory (1978) and relied on Cultural Historical Activity Theory (CHAT) as an analytic frame (Engestrom, 1987). With its explanatory powers, CHAT allowed for the analysis of interactions through mediating factors within the boy activity systems and provided the ability to help clarify learned outcomes through contradictions, conditions and motivations as well as influential social, cultural and historical factors (Engestrom, 1987).

**Research Questions**

Given the agenda of this investigation, the following research questions drove the current study:

Research Question 1: “How do boys perceive their gaming experiences within the online game space of *Call of Duty*?”

Research Question 2: “What are the meanings and values of participation for boy gamers within *Call of Duty*?”

Research Question 3: “How are social and material practices developed by playing *Call of Duty*?”

**Significance of the Study**

The significance of this study can be viewed as twofold. Primarily, this study allowed boys to speak to their experiences within socially acceptable and culturally situated activities. Much of the literature on the boy achievement gap relies on the voices of educational experts and other professionals (Barnett & Rivers, 2006; Cleveland, 2011; Mead, 2006). Many of these more positivist approaches rely on current academic standards and objective measures to determine achievement standings and make suggestions for improvements (Barnett & Rivers, 2006; Mead, 2006). In addition, they report little to no input from the learners or their interests. On the other
hand, an interpretive phenomenological approach enables the learners’ subjective views to determine the meaning making of the gaming experience (Crick, 2010; Taylor, 2009). The participants were treated as experts on their own meaning-making processes within their sociocultural habitats. Therefore, an ethnographic perspective allowed both cultural and mediated factors to be examined more explicitly (Rossman & Rallis, 2011), and the blended methodological approach allowed the voices of the boy participants to be heard through rich descriptive details.

Secondly, the current study has added to the games-based learning literature along the lines of investigating a nuanced activity of game play. Through social, cultural and historical functions of gaming activity, the study spoke to the players’ “designed experiences” (Squire, 2006). Although the literature provides a great learning pedagogy, much of the commercial games-based learning literature speaks to game play as a succinct whole (Francis, 2006; Van Eck, 2009). A holistic approach in this manner could easily misrepresent the uniqueness of each game and the culture of its participants (Becker, 2008). Instead, video games represent a complex host of subsets, as each game contains its own genre, set of intentions and community members. Games-based research often fails to recognize and address the unique affordances, limitations and individual participant factors of the games under study (Paraskeva, Mysirlaki, & Papagianni, 2010). This investigation intentionally looked at a distinct genre of Online Action Games, in the form of CoD, to investigate the more defined experience that helps illuminate the uniqueness of the game and its native inhabitants.
Summary

Researchers have acknowledged that boys show significant educational underachievement across all benchmarks and in all demographics across the US (Mortenson, 2011; Sommers, 2013). Researchers exist on both sides of the fence of the “boy crisis.” Some scholars suggest that the innate differences of boys need to be met in instructional strategies as a whole (Carr-Chellman, 2011; Sommers, 2013; Tyre, 2009), while others suggest that these underachievement episodes are specified to particular subgroups of boys and do not accurately depict the breadth of the boy population (Cleveland, 2011). Despite these differences in perspective, the problem of underachieving boys is authentic and requires approaches that will re-engage boy populations with unique methods. In particular, males and females engage with technology differently, especially as boys tend to engage in video game play far more often than girls (Cassel & Jenkins 1998; OECD, 2015a; Ragusa, 2014).

Scholars have suggested that we account for the interest-driven and culturally acceptable activities that boys engage in towards developing improved instructional environments (Carr-Chellman, 2011; Engerman, MacAllan, & Carr-Chellman, 2014, Engerman, Mun Yan, & Carr-Chellman, 2015; Steinkuehler, 2011, 2009, 2007). Interest driven and culturally acceptable approaches require taking into account the voices of the participants within these cultural environments. Therefore, the objective of this investigation sought to understand how boys view their own engagement in video gaming activities and how these perspectives are mediated through social, cultural and historical influences.
CHAPTER 2: THEORETICAL FRAME AND LITERATURE REVIEW

The current chapter highlights the theoretical frame and literature used to support this study. This chapter reports the historical roots of that theory and illustrates the sociocultural perspective as this study was grounded in Vygotsky’s (1978) Social Development Theory. Theoretical frameworks serve as the conceptual basis for understanding, analyzing and designing ways to investigate the relationships within the developed study (Mckenny & Reeves, 2012). As such, these frameworks seek to guide research studies towards informing and evaluating solutions to research problems by helping to interpret meaning of new learning through historical referencing (Sutton & Staw, 1995; Torraco, 1997). My theoretical framework for this study encompassed Social Development Theory in concert with the analytic frame known as Cultural Historical Activity Theory (CHAT). In this chapter, I will begin by unpacking Social Development Theory as the foundational conceptual centerpiece of this study. Next I will speak to the analytic frame of CHAT and describe its significance as a guiding framework for helping to explain games-based learning.

Following the conceptual frame, I will begin my literature review. The present study looks to unearth the phenomena of the experience of game play in Call of Duty. In alignment with the purpose of this study, the literature review highlights the pertinent historical roots of play, boy culture and gaming literature that influence the phenomena under investigation. Particularly, the literature review speaks to play as a function of culture, unravels the boy culture and finally reveals the research on learning in video games—especially as it relates to boys. In addition to unpacking the literature, the review also aligns relevant components of CHAT to bring harmony among the framing elements and literature within the current study.
Theoretical Frame: Vygotsky’s Sociocultural Theory and CHAT

Lev Semenovich Vygotsky’s view of human cognitive development took a sociocultural perspective with his Social Development Theory (1962). Social Development Theory holds that mental structures and processes (meaning making) can be traced to cultural interactions with others (Vygotsky, 1978). In other words, knowledge is both socially and culturally situated and arises from a social need (Cole, 1996; Vygotsky, 1978). Tied within these social communities, we see that learning is more than a process of grasping facts; it also entails participating in meaningful social practices (Lave & Wenger, 1991). Vygotsky’s theory was fundamentally affected by the Marxist theory of society in historical materialism (Marx, 2009; Vygotsky, 1978). Vygotsky believed that the internalization of culturally produced semiotic systems brought about behavioral transformations and was responsible for creating the bridge between early and later stages of individual development. According to Vygotsky (1978), it was Marx (2009) who influenced his argument as he explored the notion that societal and individual development cannot be separated from society and culture.

Vygotsky’s theory was founded on German Philosophic Traditions (Breckman, 2001; Vygotsky, 1978). Although other researchers have reported on these traditional views over the years, it is Vygotsky who is credited with being the first to relate the notions that historical changes in society and material life produce changes in human consciousness and behavior into concrete psychological inquiries (1978). Following Vygotsky’s theoretical pursuits, the current approach clearly views learning as inseparable from social contexts along the historical roots previously mentioned. Culture, in fact, has more recently showed to impact development at the neurobiological level (Park & Huang, 2010) and most certainly impacts rational decision-making. One of Vygotsky’s primary assumptions was that cultural development first occurred as
social interactions between people (1981, 1978). For example, young Zinacaneco Indian girls of southern Mexico learn complicated ways of weaving cloth through informal instruction by adults in their communities (Woolfolk, 2010). Cultures such as these prize cooperation and sharing and teach these abilities early, whereas cultures that encourage competition nurture competitive skills (Woolfolk, 2010). A second assumption of Vygotsky’s was that these constructs were internalized individually or, as he mentions, intrapsychologically (Vygotsky, 1978). In short, Social Development Theory proposes that cultural tools and speech are essential to cognitive development.

**The Role of Language**

As human activities are embedded within cultural environments, learning cannot be understood apart from these social settings, including language, which serves as a powerful tool of intellectual adaptation towards cognitive development (Vygotsky, 1962). Vygotsky referred to private speech as a person’s internal use of language as it is directed to the self for making meaning and is considered a self-regulating function (Vygotsky, 1978). Private speech is a tool that can assist in cognitive processes such as overcoming difficult tasks, developing imagination and thinking, among others. Importantly, private speech can also be responsible for creating new forms of mental functioning (Fernyhough & Fradley, 2005; Vygotsky, 1978). Irrespective of cultural background, children most often use private speech during tasks of middle-range difficulty, as they describe or guide their own actions in order to self-regulate through verbal plans and organizing thoughts (Berk, 1986; Winsler, Abar, Feder, Schunn, & Rubio, 2007). While a product of a social environment, private speech is directed to the self, serves an intellectual function and diminishes in audibility. As private speech diminishes over time, it transforms into silent inner speech or what’s known as verbal thought (Frauenglass & Diaz,
1985; Vygotsky, 1978), which can give insights into metacognitive processing. Inner speech, then, can be considered as thought connected through words and what Vygotsky (1962) considered “thinking in pure meanings” (p. 149). This study used think-aloud protocols to gain insight into private speech and inner thought habits during participants’ processing, which helped uncover the essence of participant thought patterns during game play activities.

Vygotsky’s work also had implications for the activities of play, since he understood play as an important part of children’s development. Symbolic activity, according to Vygotsky, is defined as a specific organizing function that impacts how the use of tools produces fundamentally new forms of behaviors. Although controversy arises on the use of symbolism in play, Vygotsky made an argument that symbolic play is the leading activity in the preschool years because it is a major component of cognitive development (Cupchick & Laszlo, 1992; Piaget, 1962; Vygotsky, 1978). As we grow and mature throughout the developmental stages, our activities of play satisfy innate needs and incentives along the way. However, in order to understand these actions fully we must understand both the type of activity and the intrinsic motives behind the activities (Vygotsky, 1966). Vygotsky’s (1966) view on play was limited and short-sighted, as he claimed, “Experiments show that the development of play is arrested both in intellectually under developed children and in those with an immature affective sphere” (p. 7). Vygotsky’s examination was culturally situated but severely limited in scope, being confined to an activity that only the immature engage in. Play should instead be seen as an activity that takes its role as a human function. The experience of play is not a phenomenon that is confined to immature development but applies to all of human development. Even further, play can be seen as the driving force for sculpting the brain as we continue to grow and develop.
The previously mentioned view of play will be explicated further in the literature review of play theory.

**Cultural Historical Activity Theory (CHAT) as an Analytic Frame**

Cultural Historical Activity Theory (CHAT) evolved through Vygotsky’s sociocultural stance and provides an explanation of learning accounts. CHAT was birthed through the early work of Vygotsky (1978) and is used as a lens through which to guide the scope of this study. In other words, CHAT offers the ability to guide pertinent data selection and data interpretation, as well as assess contradictions (Allen, Karanasios, Yorkshire, & Slavova, 2011; Engestrom, 2001, 1987). Additionally, CHAT is flexible such that the data analysis generates propositions in a way that reciprocal relationships emerge between data and theory. In alignment with an interpretive lens on phenomenology, I understand and therefore view these generative propositions interpretively, as did Roth, Lee, and Peebles (Hegel & Baillie, 1910; Roth, Lee & Peebles, 2004). Therefore, as data generates propositions interpretively, basic frameworks such as CHAT can be simultaneously implemented while not restricting the use of other suitable theoretical frames as the analysis evolves (Creswell, 2012; Lather, 1986; Roth & Lee, 2007; Roth, Lee, & Peebles, 2004). In this way, we see that CHAT also has analytical powers, which lie in its ability to provide a framework for detecting, describing, anticipating and interpreting the ramifications of patterns of observable practices that are difficult to develop (Daniels, 2004; DeVane & Squire, 2012; Engestrom, 2000).

**The Three Generations of CHAT**

One of the pioneers of modern CHAT, Engeström (2001), summarized the three generations of activity theory as three different generations of research. Vygotsky’s definition is considered the first generation of activity theory, and it places an emphasis on how semiotic and
cultural systems mediate human actions (Engestrom, 1999; DeVane & Squire, 2012). The second generation, mainly attributed to Vygotsky’s mentee Leontiev (also expressed as Leont’ev) and coupled with Engestrom’s own contribution (1999, 1987), included the iconic action triangle. Second-generation Activity Theory also placed an emphasis on the collective nature of human activity with the activity systems model (Roth & Lee, 2007). Lastly, this generation extended the unit of analysis to include motivated activity that was collective and directed towards an objective. As a result, second-generation Activity Theory allowed for a clearer understanding of the ways in which objects and language were bound to broader collective actions. According to Leontiev (1978), thought and cognition would best be understood as an inseparable component of social life or as a part of systems of social relationships, including the intentions of individuals under specified social conditions. Roth and Lee (2007) observed that, “It is interesting to note that scholars basing their work in Vygotskian philosophy generally term their approach ‘sociocultural,’ where as those walking in the footsteps of Leontiev prefer their research to be known as ‘cultural-historical’” (p. 190). This observation by Roth and Lee more clearly illustrates the link between Vygotsky’s legacy and the current evolution of CHAT.

Figure 2.1. Third Generation activity system (Engestrom, 2001, p. 136)
Activity systems do not operate in isolation; instead they can be viewed as an interconnected system of systems that begin to form networks of activity systems (See Figure 2.1). Third-generation Activity Theory emphasizes the notion that all activity systems are embedded within a network of systems that comprise human society through dialogues, multiple perspectives and networks of interacting activity systems (Engestrom, 1999; Roth & Lee, 2007). The deeper focus on social and cultural forces is given credit for the coining of the term CHAT in the third generation of Activity Theory (Cole, 1996; Engestrom, 2007; DeVane & Squire, 2012; Engestrom, 2001, 1987; Kaptelinin, 1996; Kuutti, 1996).

Deeper ethical and cultural implications are desired during the current analysis. For this reason, I prefer to capture the voices of the participants within this cultural group. The use of the current generation of CHAT is helpful, as it focuses on developing conceptual tools to unpack dialogue, multiple perspectives and networks of interactional activity systems (Brown & Cole, 2002; Engestrom, 2001; Engestrom & Middleton, 1998). In its third generation, CHAT applies system structures such that the investigator participates and intervenes in the participant activity. The system structures within CHAT then allow the researcher to gain deeper levels of insight into the complex transformations of participant activities where tensions arise (Engestrom, 2001). System structures bring forth the collective as the unit of analysis and also bring forth multivoicedness, historicity and an allowance for contradictions (Engestrom, 2001, 1999). Contradictions, which are responsible for system transformation and evolution over time, represent a second distinct feature of third-generation CHAT (DeVane & Squire, 2012; Engestrom, 2001, 1999, 1993; Roth & Lee, 2007).
Unpacking CHAT Components

As a theoretical lens, CHAT is neither prescriptive nor predictive (Mckenny & Reeves, 2013) but is acknowledged as a practical theory (Foot, 2001). That is to say, understanding the “how” and “why” of a particular problem well can provide insight into ways of navigating a similar situation with greater acuity. CHAT was generated through Vygotskian social theory and makes claims about learning. It follows the belief that the most powerful ways of learning occur when people engage in increasingly complex, joint activities with peers (Allen, Karanasios, Yorkshire, & Slavova, 2011; DeVane & Squire, 2012) and that there is no learning devoid of social context. CHAT therefore does have explanatory powers, as it is characterized by being extremely descriptive with a focus on identity development through social human activity (Bedny & Karwowski, 2004; Hakkarainen et al., 2004; Roth & Lee, 2007). Even further, this analytic frame is promoted as a developmental theory, in that it seeks to influence qualitative changes in human praxis (Engestrom, 1999). Human praxis refers to accepted practices or customs that are enacted through theory. Specifically, as seen by Marx, praxis is the process by which a theory, lesson or skill is exercised or realized (Roth & Lee, 2007; “Praxis (process)”, n.d.). The particular human praxis under study is situated within games-based learning.

CHAT is an influential lens for understanding video game play (DeFreitas & Oliver, 2006; Jorgensen, 2008; Siyahhan, Barab & Downton, 2010; Squire, 2002). Because learning is viewed in this framework as inseparable from context, knowing is doing (Wertsch, 1998). Therefore, this lens gives researchers the ability to understand both “how” and “why” learning occurs through human activities that are mediated by tools and cultural environments such as video games (Engeström, 1993, 1987; Leont’ev, 1992; Squire, 2002). CHAT is an optimal lens to understand what occurs in video game spaces because it provides a structure for investigating
the role games play within social systems (Jorgensen, 2008; Mysirlaki & Paraskevea, 2012; Siyahhan, Barab, & Downton, 2010; Squire, 2002). CHAT seeks to produce an account of how human cognition operates through the use of tools, involvement in culture, individual and collective intentions and social structures. Elements such as these are considered inseparable from human activities that require thought (DeVane & Squire, 2012). Given these tools and resources, CHAT researchers seek the minimal meaningful unit of analysis in order to examine individuals engaging in some activity within a particular social context (DeVane & Squire, 2012). The major unit of analysis, according to CHAT researchers, is the activity system itself.

Within the activity systems the following components help the researcher describe knowledge construction and production: subject, community, motive-object (as well as outcomes), mediating instruments, rules and divisions of labor (Campbell, 2014). Each component represents a node of the human activity system and should not be viewed as containers. Instead these components are complex, fluid and interrelated through the process of the activity (Engestrom, 1987; Foot, 2014). Individually, these are defined as:

Subject: The individual or group that is central to the research, engages in the activity under study and from whose perspective the motive-object is sought

Community of practice: the faction that the subject operates within and in which the rules are applied

Motive-Object: the reason why activity occurs and results in possible intended or unintended outcomes; satisfies the goal or purpose that is desired from the subject

Mediating instruments: the tools, symbols or signs that are used by the subject and also transform the outcome

Rules: communicated (spoken or unspoken) expectations that govern the activity
Divisions of labor: the various individuals or groups that carry out the rules and interact with the subject to affect the motive-object of the activity set. (Campbell, 2014)

Figure 2.2 The structure of a human activity system (Engestrom, 1987, p. 78)

*Figure 2.2* demonstrates how an activity system can explain how various influences can transform knowledge construction. The diagram shows how each of the nodes are dependent upon one another and also highlights their interrelated associations in relation to the system. Even more than this, Engestrom (1999) argues that the artifacts are not only integral but also fundamentally inseparable from the study of human function. Although an activity system is the basic unit for understanding human action (Engestrom, 2000; Foot, 2014), the community of practice and divisions of labor knowledge can be seen as being distributed across cultural artifacts and dialogue between individual participants (Hutchins, 1995; Pea, 1993). According to CHAT theorists, this distribution of knowledge can lead to tensions, which help constitute a better understanding of learning. Learning occurs when a novel practice, artifact, tool or division of labor is constructed such that new possibilities emerge for others within an activity system. This is especially the case when unearthing how tension drives change within the social system (Roth & Lee, 2007). Engestrom (2001) notes that as tensions lead to contradictions, it is the
resolution of contradictions that is responsible for new forms of learning. Particularly, CHAT researchers claim that tensions lead to increased possibilities for generalized action and, consequently, collective learning (Putney, Green, Dixon, Durin, & Yeager, 2000; Roth, 2003). Collective learning is seen in terms of organization and socio-cultural initiatives in which learning only occurs through doing; therefore, instructional designers or games-based learning designers are encouraged to scaffold and design learning technologies through the activities or experiences of game play (DeVane & Squire, 2012; Kuutti & Arvonen, 1992).

It should be noted that it is well documented that there are common misconceptions and challenges in the comprehension of the relationship between CHAT components. Confusion can be attributed to stark differences in lexicons, translations and cultural concepts from the original Russian text to English (Bakhurst, 2009; Foot, 2014). In solidarity, all three generations of Cultural-Historical Activity Theory place an emphasis on three fundamental units of study: activity, object and subject (Cole, 1996; Engestrom, 2007; DeVane & Squire, 2012; Engestrom, 2001, 1987; Kaptelinin, 1996; Kuutti, 1996). Therefore, the following sections summarize each core concept in turn as it relates to a games based learning approach within this Western and English-speaking study. Afterwards, we return to the discussion of contradictions and unpack their impact on learning outcomes.

Activity. CHAT activities represent several concepts at once, centering on human collectives, and are deployed by a community of people with distributed roles towards some production (Bakhurst, 2009; Engestrom, 1987; Foot, 2014; Leontiev 1981). Kuuti (1996) defines activity as a form of “doing” that is directed and distinguished by some object. Objects are pursued end goals, which represent not only the reason (motive) of the activity but also the goal or product that results from the activity (objects will be covered further in the following section).
For Kuuti (1996), all learning is inescapably linked to the constitutive parts of activity: “doing” the end or object of the activity, the tools used in the activity, and the social system or setting in which the activity occurs. Activities can only be comprehended as they materialize in the form of actions within particular social activities. According to Kuuti (1996), actions contain internal goal states determined by individual actors or subjects. Cultural Historical Activity Theory views actions and goals as the dominant features of human consciousness, as they take shape in and are shaped by activities (Engestrom, 1987; Leontiev, 1978; Nardi, 1996). Within this framework, goal-based actions constitute motive-based activities. At the same time, the motivations of activities shape specific action series. Identical actions can take on distinctly different “senses” (Engestrom, 1987; McNeill, 1985) depending on the context of the activity. For instance, when a child swings a plastic bat in the front yard during an imaginary sword fight, it means something very different than swinging the plastic bat at an oncoming ball. In this example we see that the results of actions not only shape our understanding of the activity but also of subsequent actions (Roth & Lee, 2007). These two actions are identical to the observer; however, it is not enough to simply observe without meaning. Understanding action requires unpacking meaning, as the mere observations of the actions do not give sufficient information to the meanings underlying them. Therefore, we understand activities more clearly through both actions and tasks within socially constructed activities.

Yet activities are not simply tasks that are completed through procedural sequences. Instead, we must consider the collective societal motives behind the operations and actions within activities (Roth & Lee, 2007).CHAT has historically sought to understand human cognition as an experience that is practiced and takes place in the real world (DeVane & Squire, 2012; Roth & Lee, 2007). Examples of these activities are characterized by collective motives
and operations (Leont'ev, 1981) and are visible in the educational literature involving CHAT. CHAT has been used in several fields and applied under various agendas. Jonassen and Rohrer (1999) used CHAT to discuss Designing Instruction. In addition, CHAT has also been seen in Planning for Teacher Learning (Ball, 2000; Edwards & Protheroe, 2004; Grossman, Smagorinsky, & Valencia, 1999; Kiiirikkiinen, 1999); Providing Learning for Physical Disabilities (Bakhurst & Padden, 2001; Daniels & Cole, 2002; Kosonen & Hakkarainen, 2006); and Managing Schools (Gronn, 2000; Spillane, Halverson, & Diamond, 2004). The adoption of CHAT through these various disciplines demonstrates the importance of understanding the role of tools in learning development. In addition, the previous disciplines also illustrate the diverse ways in which activity systems function as tools during the learning process.

The study of activities leads to an understanding of learning as a phenomenon that always carries significant cultural history (Engestrom, 2001, 1987). Learning is entrenched within larger social constructs and requires the acknowledgement of individuals with differing motives and goals. It could be said that the initial motives of an activity normally do not include explicit learning but “doing,” and as a consequence of “doing,” people learn. In this sense, CHAT then embraces the complex nature of learning through detailed description and theoretically robust analysis of activity systems (DeVane & Squire, 2012; Engestrom, 2000). In this process, we are then able to understand the depths and influential factors that can connect to what we would consider learning. For the purposes of this study, my major activity was considered the game play of Call of Duty.

Object. A key addition to Vygotsky’s model of learning is how it transforms the notion of an object. Activity theory understands “objects” as constituted by three elements: an object needs to be acted upon, has an objectified motive and has a desired outcome (Foot, 2014). In this
study, the *Call of Duty* video game was the centralized object of activity upon which the subjects engaged. Campbell considers “motive-objects” for objectified motives and mentions that they arise out of the subjects’ desires, through their various activities within the activity system (2014). Likewise, Kutti claims that the driving force of activity is the transformation of motive-objects (Kuuti, 1996). Being that motive-objects represent the driving force behind activity, we can now conceptualize the evolution of motive-objects for this study, which arose out of the boys’ desires to engage in the gaming community (Campbell, 2014; Foot, 2014).

In alignment with Campbell’s (2014) work, I recognized that my participants’ motive-objects were not static but instead were evolving constructs that may or may not have arisen during this investigation. Furthermore, because subjects view objectives as desired outcomes (Foot, 2014; Jonassen & Murphy, 1999), activity theory encourages researchers to seek objects towards unpacking subject intentions within the activity system. Conceptually, game play should be viewed as a complex mediating artifact that both contains and produces sub artifacts as shaped by its community of subjects (Campbell, 2014). Therefore, a CHAT analysis of game play affords a means for a more comprehensive view of knowledge construction through intentionality within the *CoD* experience.

In looking at these constructs of an object more closely, we are able to notice the object’s alignment with the philosophical discipline of a phenomenological approach. According to Stanford’s Encyclopedia of Philosophy (SEP, 2015), phenomenology is defined by the study of structures of consciousness of an experience:

The central structure of an experience is its intentionality, its being directed toward something, as it is an experience of or about some object. An experience is directed toward an object by virtue of its content or meaning (which represents the object) together with appropriate enabling conditions. (SEP, 2015)
Much as CHAT seeks the object embedded within a defined activity, including its motivations and desired outcomes, phenomenology seeks the virtue of the object, including its content meaning and intentionality. If objects drive activity (Campbell, 2014; Engestrom, 1996; Escalante & Foot, 2014), then taken as a whole we see that the search for the object includes a philosophical phenomenological process and therefore situates itself at the center of a CHAT agenda. Gamers certainly have desirable intentionality, which may be represented by the various desired successes in the game. Therefore, grasping motive-objects requires the ability to identify and unpack the activity network, including its various activity systems within game play.

The motive-objects in this study were historically and culturally situated within the game environment. Primarily, this study was interested in the human experience, including goal-directed actions, by acknowledging cultural and historical interactions. Sociocultural and historical concepts are critical for understanding goal-directed actions within game play (Squire, 2002), and my assessment included the tools that gamers use, the larger social context with which they engaged and contradictions that emerged. As objects give an activity a direction (Engestrom, 1999; Foot, 2014), with the help of the gaming participants I was able to follow this object path to unpack goals and motives in an effort to illuminate their views and meaning-making processes within the activity (Squire, 2004). In doing so, I aligned with emerging game studies theories suggesting that because gamers approach games in unique ways, researchers should look beyond assumptions about game play to examine player goals and intentions (Bartle, 2003; Jorgensen, 2008; Squire, 2006, 2004).

The Subject

The subject is defined as the entity that carries out the activity (Allen, Karanasios, Yorkshire, & Slavova, 2011; Cole, 1996; Engestrom, 2001, 1987). Subjects operate towards
objects, which constitute motivating factors. For example, the subjects in this study were the members of my participating boy population. Activity theory asks two central questions about the subject: What relationship does the subject have with the object? and What role does the subject play in the activity? The subject contains individual motive-objects as he participates within the activity system. Secondly, this subject carries emotional responses towards and within the activity under investigation (Roth & Lee, 2007).

Motivation at any level of activity requires some degree of agency and power over the object (Lompscher, 1999). Unfortunately, educators often limit their conception of motivation to that which they explicitly tell their students to accomplish. Subsequently, motivation becomes an internalization of an educator’s external locus of control (Roth & Lee, 2007). This limited definition of motivation discounts the richness and complexity of learning activity and refuses students’ agency in their own learning development. Instead, agency becomes a misplaced effort to maintain control over the subject and learning activity is subordinated. Unfortunately, this simplistic interpretation of motivation views learning activity as maximizing positive and minimizing negative emotions (Leont'ev, 1978; Roth & Lee, 2007). A more robust understanding of agency in learning development can provide more benefits for learners.

Agency offers subjects positive emotional valence, which allows for a realization that continued actions have the ability to expand what they do (Roth & Lee, 2007). In other words, agency and emotional valence yield internal motivation for subjects who realize that a new skill or tool helps them to participate toward a common good and in continued action in the activity. A rich concept of agency accounts for positive valence within and among learners; therefore, a better definition of agency also comprehends the importance of emotion to learning development. Emotions highlight relationships between subject actions in response to motives
(Leont’ev, 1978), thus becoming an essential element in the function of the activity system. As a result, understanding societal motives (reported by individual subjects within social activities) is significant, as this report mediates between cognitive and emotional processes (Roth, 2007). In contrast to other educational research tools, CHAT acknowledges the central role that emotion plays in cognitive concerns of learning. Emotion is indeed central, as it resides at the core of activity and is reinforced throughout the activity towards meaning-making (Roth, 2007; Roth & Lee, 2007).

Within communities of practice, the role of identity impacts the outcomes of the activity system (Lave & Wenger, 1991; Mysirlaki & Paraskevea, 2012; Squire, 2002). Through sociocultural negotiations of identities, Wenger (1998) believed that identity could behave as a living bridge between the subject and the object. Even more, these divergent perspectives are reconciled through their interactions, as the interactions between subject and object then continue to evolve, meaning that learning then involves new relations of identification. More specifically, we can acknowledge that the population of Call of Duty players consists of a gathering of individuals who have merged as a group for the specific activity of game play (Allen, Karanasios, Yorkshire, & Slavova, 2011). When the subjects pursue the motive-object, they not only produce external products but also produce and reproduce new forms of themselves (Roth & Lee, 2007; Wenger, 1998). Seated in agency, this process can be both socially and individually reflective, informing the subject about him/herself in relation to the social system (Roth & Lee, 2007).

Contradictions (Tensions)

Engestrom (2001) defines contradictions as, “historically accumulating structural tensions within and between activity systems” (Engestrom, 2001, p. 137). Although leading to
tensions within systems, contradictions are also responsible for advancement in and transformation of systems (Engestrom, 2001, 1987). Seen as a tension-driven theory of change (DeVane & Squire, 2012), contradictions present possibilities for necessary and useful change within the system (Engestrom, 2001). Therefore, contradictions can be viewed as responsible for new patterns of behavior because they are accumulating structural tensions (Engestrom, 2001; DeVane & Squire, 2012). The preceding definitions encouraged me to draw on tensions to articulate the malleable and transformative nature of the activity systems. From an individual perspective, we can conclude that tensions are noticeably different than problems or dilemmas. Learned objects and available tools can fuel tensions within activity systems (Engestrom, 2001). Activity systems are also interrelated with other activity systems, forming networks of activity. Due to the networks of activity systems, however various exchanges occur between the system and its connections to larger societal constructs (Engestrom, 1999). Through the resolution of tensions, new learning occurs. The concepts of tensions therefore, lay the foundation for what is known as Expansive Learning Theory and constitute development through resolutions or expansion (Engestrom, 2001, 1987). Expansive learning is defined as learning activity, which has its own set of typical actions and tools. Moreover, these learning activities manifest themselves culturally new patterns of activity. In fact such constructs may provide opportunities for improvements of the system (Roth & Lee, 2007) as through the resolution of tensions, new learning occurs. When individuals contribute to activity systems they sustain the system’s product as well as its reproduction. DeVane and Squire (2012) argue that a central component of CHAT is its ability to trace contradictions, allowing researchers to be led through identifying the historical evolution of activity systems to possibly predict how they are evolving into existence.

Within this tension-driven theory of systemic change, CHAT literature has attempted to
specify types or degrees of contradictions (Engestrom, 2001; Roth & Lee, 2007). An explanation of the four types of contradictions shows that primary contradictions occur between the components within the activity systems (Joo, 2013). An example of this is demonstrated when students learn for the sake of performance on achievement tests and then view school-based learning as distinct from meaningful learning (Roth & Lee, 2007). Secondary contradictions occur between constituents within an activity system (Engestrom, 1987). Roth and Lee (2007) gave an example of secondary contradictions: “when the demand for quality work in complex environmental problems (object) negates the school-based rule of completing curriculum in a fixed amount of time” (p. 203). This is to say that tensions emerge when education systems require large amounts of complex and intuitively difficult work to be completed within insufficient timelines. A tertiary type of contradiction can occur between a dominant motive-object and the object of the culturally advanced form of the activity (Joo, 2013; Roth & Lee, 2007). An example may be when an educator attempts to implement a project-based assignment in class that conflicts with the norms of the classroom culture and demands on completion. These tensions may arise due to various school and societal pressures. Lastly, a contradiction can occur between the larger central activity and one of its neighboring or sub activity systems (Engestrom, 1987; Joo, 2013; Roth & Lee, 2007). An example of a quaternary contradiction could be when graduates of a teacher preparation program are required to instruct a mandatory course or lesson that they have never taught before (Roth & Lee, 2007). The current contradiction demonstrates the creation of tension between the structure of the teacher preparation system and an individual graduate teacher. When realized, contradictions can evoke the need to evolve the ways that systems are formed or particular components within systems or networks. In others words, the contradictions between the central activity system and neighboring systems are sources for
expansive learning (Engestrom, 1987). (See Figure 2.3)

*Figure 2.3. Four levels of tensions within the human activity systems (Engeström, 1987, p. 103)*

The following literature review will create a link between the cultural significance of video game play and the psychological development of boys. Furthermore, it will review the empirical evidence concerning games for boys, which includes the controversy of violent video games and the benefits of gameplay. Ultimately, this literature review will serve the CHAT lens as it analyzes subjects, their motives and activity towards motive-objects through both a sociocultural and historical frame of reference.

**Literature Review**

**Play as a Culturally Functioning Experience**

Play theories have been circulating since the early 1900’s. Waelder (1933) described play as a child’s attempt to elaborate on experiences towards assimilation. He added that play is an
attempt by the child to liberate himself from the real world as well as from the super-ego—the ability to be reflexive of one’s own inner thoughts and desires in order to provide moral bearing (Waelder, 1933). Perhaps more notable in the area of play is Piaget, as he began to describe play as an equilibrium a child endures between assimilation and accommodation. While the child engages in activity, objectives that are autotelic—intrinsic to the ability to use the same schemas—allow him to exercise his powers and be aware of himself as the cause of the activity (Button-Smith, 1966; Piaget, 2013; Piaget & Play, 1962). Heterotelic, as opposed to autotelic, refers to engagement in activities in which the direction of the behaviors is outwards such that the schema of reality is subordinated (Piaget, 1952).

Piaget’s definition provides us with a context that suggests that children interact with their environments through play in order to create their own knowledge about the world in which they live (1962). Play provides a rich context for children to develop their own meaning making processes of the world (Piaget, 1962). Researchers have declared that play continues to be pivotal to each stage of development in its varying forms, styles and meanings (Erikson, 1950, 1994; Piaget, 1962; Vygotsky, 1978). Play was seen as an imperative component in the fulfillment of a child’s need, as impulsive and as resulting from an emotional aspiration (Vygotsky, 1966). Even more, building on Vygotsky’s work, Cupchick and Laszlo (1992) declared that play leads to new mental formations in the preschool years. In fact, they believed play to be the leading activity that determines mental development (Vygotsky, 1966). In this way, play becomes a child’s method of modifying new information to make sense of his or her world and creates the primary context for cognitive development as well as self-regulation (Vygotsky, 1978). These cognitive approaches, however, relegate play to a position of exclusivity in the development of children. These definitions fall short, as they do not explain
play through the eyes of the player. In addition, much of the research on play revolves around the notion that it is confined to a child’s developmental experience (Bateman & Nacke, 2010; Piaget 2013, 1962; Vygotsky, 1966). Unfortunately, this distinction has led many to internalize play as useless, meaningless and reserved only for children. Without acknowledging the essence of the event or meanings of the event through the actor, play becomes an externalized ideal of observable behaviors. However, the investigation of intentionality is imperative for accurate investigation; otherwise, researchers invite misconceptions based on assumptions in their empirical examination.

**Play as a cultural function.** Huizinga’s approach to game play is unique, in that it holds a broader view on the phenomenon of play, focusing on the cultural impact and significance of play (1949). Taking on a cultural implication allows Huizinga’s theory to be applied beyond children’s activities. In his most notable work, *Homo Lumens*, Huizinga described play as an activity that existed before culture itself existed (Huizinga, 1949). Huizinga specifically described this phenomenon of play as an ever-present and “significant form” of activity, being a social function. However, he also defined play as a significant functional performance of a cultural phenomenon that should be approached historically (Huizinga, 1949). As a social function, play is rooted in the engagements of a special form of activity, and these activities are deeply rooted engagements within play states. As one engages in the action of play, he or she is unable to conceptually distinguish “playing” from “being.” That is, as players step into their play spheres, their play states merge with life. Accordingly, the player is not simply pretending to be another being but *is* another being (Huizinga, 1949). Further, Huizinga noted that it is useless to look for the natural impulses and habits conditioning play. Instead, one should consider play in all its various forms as social constructions (1949). Huizinga proposed that in order to
understand play, we must observe the actions of play alongside the understanding that play is a cultural factor in life. We should view play as being of primary significance within designated cultural settings. Integrating the definition of play to its social manifestation can then reveal more specific and higher forms of play (Huizinga, 1949). The specified context through which we can view play now allows for deeper understanding of implications and intentions within socially and culturally bounded play states.

In Huizinga’s definition, he outlined the characteristics of play. First and foremost, he said that play must be voluntary (not forced or demanded into existence), superfluous (done during free time), characterized by freedom, and fictitious or characterized by fantasy (not “ordinary or real”) (Huizinga, 1949). Play being “not ordinary or real” leads to the principle of fantasy. Play is described further by “a stepping out of ‘real’ life into a temporary sphere of activity with a disposition of its own” (Huizinga, 1949, p. 8). Huizinga is well known for this concept and called this conceptual sphere the “magic circle.” The magic circle is referred to in several current works to convey the idea of the boundary between real life and the play spaces that are bound up within cultural and social activities (Barab, Warren, & Ingram-Goble, 2008; Lastowka, 2009; Salen & Zimmerman, 2004). Seclusion within play spaces affords a condition of limitedness; activity is then confined within certain limits of time and place. Play is considered order, as it seeks out order supremely. Lastly, play is considered an activity not connected with material interest or profit; therefore, play is free activity that takes place outside of ordinary life. Because play creates order, it can be considered order in and of itself—order is required such that there is meaning to its activity. The relationship between play and order can help explain why play is normally found in the field of aesthetics, as it has a tendency to be beautiful, especially to its player (Huizinga, 1949). This point is argued not only with the words
we use to determine the elements of play, but also in how play’s engagement “enchants” and “captivates” mankind. In summary, play is freedom, absorbs the player intensely in fantasy and has boundaries of time and space aligned with fixed rules and order while simultaneously promoting the formation of social groupings. These social groups tend to define themselves by unique features to be distinguished from others (Huizinga, 1949).

Succeeding researchers and writers of play have both validated and countered the cultural approach to play (Caillois, 1958; Suits, 1978; Sutton-Smith, 1997, 1966). Some have criticized Huizinga’s work as lacking in its ability to accurately characterize games of chance. Huizinga described the player’s actions as stripped of all material interest (1949). Games are defined when play becomes structured and goal-oriented with pre-determined rules (Brown & Vaughan, 2009; Sutton-Smith, 1997). As a result, Huizinga’s definition of play excludes bets and games of chance, which include gambling in casinos or at racetracks as well as lotteries, all of which activities are socially and culturally accepted as forms of play (Caillois, 1958). In addition, one could claim that these activities inhabit an important part of our social economy and, for particular subcultures, their daily lives (Salen & Zimmerman, 2006). Games have various forms and styles in contemporary culture; however, these forms of play-for-profit would seem to have no place in Huizinga’s theory (Salen & Zimmerman, 2006). In addition, Huizinga’s work has been challenged for incorporating sweeping assumptions on the “sacred ritual” of play. Raglan was one of Huizinga’s reviewers and challenged the deeper spiritual connotations in Huizinga’s work. Raglan called his conception featuring play as a sacred ritual, “mere ebullitions of superfluous energy” (Lastowka, 2009, p. 5; Raglan, 1949, p. 58-59). Caillois, who took to mimicking Huizinga’s claims, leveled further critiques of Huizinga’s theory of play, with particular cynicism.
Caillois’s (1958) work boldly mocked Huizinga’s *Homo Lumens*, with comments such as: “Huizinga, who studied adult games, pays no attention to them. He no doubt holds them in disdain, because it seems impossible to attribute a cultural or educational value to games of vertigo” (p. 169). Vertigo refers to “games of passion” (e.g. spinning a top, running until out of breath). The critique here is that not all games such as games of vertigo have cultural value; therefore, the connotation of all play having cultural functions becomes nullified. Critiques such as the one Caillois gave initiate the question, “What other types of play do not pass the cultural value test?” Before classifying games, Caillois derived his own definition of play as an activity that possess the following characteristics: it is not obligatory; it is separately circumscribed within limits of space and time; it is uncertain in course, productive of neither goods, wealth nor new elements; it is governed by rule; and it is make-believe (1958). This definition is distinct from Huizinga’s in two notable ways. The first is that no material interest is exchanged. The second is that there is an extraction of the ability of play to promote the formation of social groups and have an impact on culture. This is not surprising, as Caillois (1958,) characterized play as predominantly an activity of “pure waste: waste of time, energy, ingenuity, skill and often money” (p. 5). Despite these assertions, he acknowledged not only that play is essential to human social and spiritual development, but also that the spirit of play is essential to culture (Caillois, 1958). Although we concur on the importance of play to culture, this discrepancy regarding the value of play warrants further investigation into the definition of play as it relates to the current study.

**Play as an experience.** Following Huizinga’s work, Schwartzman (1980) unraveled the essence of play in *Play and Culture*, unpacking the dichotomous relationship between work and play. *Play and Culture* demonstrated that cultural norms and values dictate the style, texture,
components, engagement and very nature of play itself. In terms of play, Schwartzman argued that researchers of his day were mixing logical-type levels and confusing the act of play with the experience of that act (1980). He proposed that work be seen not as mere action but as an experiential phenomenon, noting that an activity itself is not enough to define a state of mind or a state of being, as the engagement in sports can be regarded as both work and play. This is seen more clearly in the case of professional athletes who, arguably, do not engage in true play at all (Sack, 1977).

Using the work of Csikszentmihalyi (1976, 1974), we can examine the phenomenon of play in a new way. He refers to the engagement of play as a “play experience.” “Play experience” is used synonymously with the concept of “Flow” (Stevens, 1980), however for this study I will articulate the term “play experience” as a wholistic term and distinguish it from “Flow”. The concept of “Flow” is achieved when a person attains optimal interaction with their environment (Csikszentmihalyi, 1974). Flow occurs for a player “when his (sic) manipulative skills and the environment have reached a balance such that neither is in command of the other, they are in harmony and the player’s responses become reflexive; he has achieved a paradigmic shift to the flow paradigm…” (Csikszentmihalyi, 1974; Stevens, 1980, p. 322). The degree to which a player is engaged in his state of being can only be determined by the descriptions the player is able to articulate as to where he’s been (Csikszentmihalyi, 1976; Stevens, 1980). This is an important component of the current study, as unpacking the essence of the activity is the agenda of my phenomenological design. Understanding experiences requires a deep look at the voices and actions of the participants before, during and after they engage in their play states within video games.

Despite critiques of Huizinga’s cultural functionality of play, I view cultural functionality
as a critical component of determining motive-objects that drive the activities in *Call of Duty* game play, and the influence of culture and its relation to motivation is of direct interest to my study (Salen & Zimmerman, 2004; Huizinga, 1949). According to Lastowka (2009, p. 7), “Play is the antithesis of the productive, sensible, and useful. Yet for all this, play is pervasive and popular and engaged in with passion.” Lastowka admitted that even if some consider play a waste of time and energy, they would also have to acknowledge its significance in society. With its rapid growth and worldwide revenue of $92 billion in 2013 (Gartner, 2015), the popularity of video games demonstrates incredible financial significance in this regard (Lastowska, 2009).

Huizinga defined play spaces as occurring in isolated fields and as cultural and social constructs that players voluntarily participate in. As a result, we notice that participants will choose particular spheres more often than others. We will also note that these decisions will be based on values, beliefs and traditions (i.e., culture). In addition, we see play as an experience in which the user encounters and can only be determined by his or her account of play as opposed to an observable series of actions (Csikszentmihalyi, 1976; Schwartzman, 1980; Stevens, 1980). To this end, Huizinga’s definition of play seems useful in describing the considerable contradictions in our attitudes toward play (Lastowska, 2009).

**Playographies in virtual spaces.** Observing play patterns can help capture developmental trends. Mitgutsch denotes a “play biography” to indicate biographical sketches of virtual game play habits (2011). Rice (2014) later gives the title of playography to describe the play biography. According to Mitgutsch (2011) players experience deep and meaningful playful learning. When allowed to reflect on gaming experiences, players recount fruitful and important connections to historical moments in their lives. With deep cognitive and emotional relevance players reported accounts had great value (Mitgutsch, 2011). Every play biography is different
and playographies are highly dependent upon specific context. No play experience is identical. Instead they mark unique preferences and learning patterns based on player characteristics.

Players develop different meaningful learning patterns in relation to context (Mitgutsch, 2011; Rice, 2014). Acknowledging unique playographies impacts how learning accounts align with student development (Rice, 2014). Gamers not only learn in the game but also through the game. Learning accounts may include skills in problem solving, strategic thinking, social interaction, orientation, combination of patterns and meta-recognition (Mitgutsch, 2011). Because players rarely reflect on meaning making, they do not recognize learned skills beyond the game space (Engerman, MacAllan, & Carr-Chellman, 2014; Mitgutsch, 2011). Players recognize, understand, remember and master in game learning patterns, however these skills remain within the context of game play. As a result Mitgutsch argues, “…the experience has an impact on the players’ lives, but not in the sense of a productive transfer” (2011, p. 8). Consequently, learning in and through games does not automatically lead to productive transfer in the real world. Lastly, meaningful learning occurs in social moments. Players often create connections to learning through life events. Gamers relate meaningful experiences to particular groups of people (friends, siblings, classmates, parents, teachers or celebrities) (Mitgutsch, 2011). Playographies can ultimately help visualize connections between the virtual world of gamers and the real world (Mitgutsch, 2011; Rice, 2014).

We cannot hope to understand the meanings or significance of play in video games without understanding the internal motives of the players themselves. According to Engestrom, (1987) player motives are bound by historical and socio-cultural concerns that must be investigated. Player motives are critical components of play that reveal characteristics of the game play sphere (Huizinga, 1949). Also, according to cultural norms, motives describe what
and how play activities are arranged and to what purposes. Therefore, we must unpack cultural and historical factors that produce the activity of CoD play. Specifically, I look to boy culture, to uncover the nuances that make boys distinct and examine how their historically innate tendencies impact their patterns of play. The following section addresses the identities of our population, looking both at the cultural and historical lenses of boy gender according to developmental psychology perspectives.

**Inside the “Boy Crisis” with Boy Culture and Play**

Researchers in the field of developmental psychology have suggested that males and females are fundamentally different both biologically and psychologically. Leonard Sax (2007) wrote on gender and why it matters, laying out a descriptive assessment of what parents and teachers should know about the gender/sex differences in their children. Particularly, Sax spoke to how these differences relate to learning on both biological and physiological fronts, saying that it is quite normal for boys to be drawn to themes of dominance and power. Sax (2007) further explained that primatologists suggest that in many primate species, the male is more likely to pursue and kill moderate-size prey and that it is therefore useful for young males to engage in play fighting. Wrestling and fighting with other males teaches young male primates the rules of the game, and if young male primates are deprived of opportunities to fight with other males, those males grow up to be more violent as adults, not less. This heightened level of violence occurs because more violent males never learned how to get along with other males in a playfully aggressive ways. Sax (2007) put it this way: “The rage seems to be bottled up until it explodes. Implications suggest that depravity will increase the likelihood of more serious violence” (p. 62). For the human species, it has been clearly verified that boys tend to be more prone to aggressive behaviors (Maccoby & Jacklin, 1974) as well as to engage in more rough
and tumble play patterns than girls (Pellegrini & Smith, 1998). These distinctions are clearly visible in human interactions. When given a choice between violent fairy tales and warm and fuzzy fairy tales, boys at the earliest ages more often choose the violent stories, while girls would more often choose the warm and fuzzy fairy tales (Sax, 2007). These stark differences should not be perceived as early indicators of underlying psychiatric troubles. Rather, Sax suggested that an appreciation of violent stories is normal for young boys (2007). Kindlon and Thompson, two of the world’s leading psychiatrists, corroborated Sax’s assessment in their influential work Raising Cain (2009). Their book spoke to the developmental needs of boys, which include aggressive behavior that plays itself out in what they label “violent fantasy” (Kindlon & Thompson, 2009). Michael Thompson expressed that the interpretation of the ways in which boys play in violent and competitive forms as early indicators of true violent behavior comes as a result of “misunderstanding the nature of boy activity and the real journey to violence that some boys undergo” (Thompson, 2009). The collection of Stuart Brown’s works revealed that normal play behavior was absent throughout the lives of actual highly violent, anti-social men regardless of demographics (Brown, 1998). His conclusions suggest that these individuals lacked the coping capacities that were related to rich and various play experiences in early life. So we see that for boys, engagement in aggressive play habits and violent fantasy is a form of normal development.

One way to look at this relationship is with Kurt Squire’s recent podcast on the Bring Back the Boys website, in which he stated that “shooter games can be viewed as an evolved version of tag” (Engerman, Carr-Chellman, & Squire, 2014).

Aggression has a different meaning for girls than it has for boys (Kindlon & Thompson, 2009; Sax, 2007). With boys, aggressive sports such as mixed martial arts (MMA), football, wrestling or boxing may not only be enjoyable but may also provide the basis for long-lasting
friendships as boys engage in these activities with their closest friends. Preliminary findings of research (Engerman, Yan, Mun, Hein, Bayeck, Schroth, & Carr-Chellman) support this notion, as researchers write on the impact that free play has on boys. One of the main themes from this research shows that aggressive free play develops strong bonds among boys and their playmates. For these researchers, their participants’ play habits helped to develop long-lasting and important bonds between cultural sub groups of boys (Yan, Mun, Engerman, & Carr-Chellman, in Press). The conception that active aggression is enjoyable does not come as naturally to most girls. In fact, Sax (2007) suggested that aggression between girls actually destroys relationships rather than build friendships. As a result, it is difficult for girls to imagine that positive results come from these types of behaviors.

Although active aggression may seem meaningless, evidence indicates that active play benefits its participants. Pellegrini and Smith’s research suggested that boys who had engaged in roughhousing play had developed better social problem-solving skills compared to those who did not (1998). Flanders and his research team discovered that “rough-and-tumble play continues to be related to children’s psychosocial adjustment over time, and that the effect remains moderated by the quality of the father-child relationship during play” (Flanders, Simard, Paquette, Parent, Vitaro, Pihl, & Séguin, 2009, p. 257). Even further, physical play studies show benefits for emotion-regulation (Barth & Parke, 1993) and emotion-encoding skills (Carson & Parke, 1996; Flander, Leo, Paquette, Pihl, & Séguin 2012). Within a growing body of literature, active play is shown to help children perform better academically (Haapala et al, 2014; Rasberry, Lee, Robin, Laris, Russell, et al., 2011; Singh, Uijtdewilligen, Twisk, van Mechelen & Chinapaw, 2012; Shephard, & Trudeau, 2010). These findings are particularly interesting for boys. Haapala and others found that engagement in organized sports correlated to better arithmetic skills. What
is more, they found that boys who engaged in higher levels of physical activity had better reading fluency and reading comprehension when compared to other boys (Borzekowski & Robinson, 2005; Carlson, 2011; Haapala, et al, 2014). These studies demonstrate not only the social and developmental value that natural aggressive play has for boys but also the implications of aggressive play for academic enhancement.

**Masculinity vs. femininity in schools.** Another approach to the underachievement crisis among boys has been to examine the impact of social constructs through the ideals of masculinity. The masculinity argument concerns the perceived notions among boys as to who they are and what a man does (Farrell, 2001; Kammer, 2012; Kimmel, 2013, 2009; Tobin, 2000). Societal norms and pressures inform boys of ideas of masculinity and contribute to the boy crisis. Michael Kimmel is a parent of a boy, Professor of Sociology and Gender Studies and executive director of the Center for the Study of Men and Masculinities. Professor Kimmel also writes for the Huffington Post’s “Parents” section and speaks to the issue of masculinity through his own research:

Boys' underachievement is driven by masculinity—that is, what boys think it means to be a man is often at odds with succeeding in school. Stated most simply, many boys regard academic disengagement as a sign of their masculinity. It is not the school experience that “feminizes" boys, but rather the ideology of traditional masculinity that keeps boys from wanting to succeed. "The work you do here is girls' work," one boy commented to a different researcher. "It's not real work." (Kimmel, 2013)

Kammer supported Kimmel’s message as he documented that there is an unwritten societal rule that boys have to be tough. Kammer further added that boys and young men are not allowed cry. In fact, Kammer (2012) argued, society needs this unwritten rule to thrive, but it
comes at the expense of boys’ health. In many societies outside of the United States, boys go through organized societal rituals that are usually guided by male adults and mark the traditional transition into manhood. However, in the United States, this supervised developmental process is absent. Boys are often left to make the transition into manhood alone and unguided by positive male role models (Kimmel, 2009). This problem, some say, is exacerbated as normally ignored boy-centric perspectives are only acknowledged when profit is to be gained from them through advertising (Kammer, 2012). Scholars believe that the misconceptions of boy behavior and skewed ideals of masculinity embedded within society increase and fuel the crisis among boys (Sommers, 2013; Pollack, 2006).

Misconceptions are brought to light when established constructs of femininity further add to the alienations boys feel. Between 2009 and 2011, women teachers represented 87% of the primary education workforce (The World Bank, 2014). This gender imbalance leads to conflicts within classrooms as females (generally of a pacifist nature) dominate power positions in educational decision-making (Parry, 2010). Ultimately, the domination of femininity can lead to conflicts with boy culture. Ongoing work reveals that women’s tendency toward collaboration, cooperative learning and group work conflicts with the competitive disposition of boys (Carr-Chellman, 2011; Logue & Harvey, 2009). According to Public Broadcasting Service Parents (PBS) Arizona State’s Professor of Early Childhood Education, Joseph Tobin, agreed that the culture of schools is much more feminine than masculine as boys “find interests in violence, gross things, and bodily functions…” (PBS, 2015b). Tobin further adds that educators need to recognize that they have 'internal prejudices' against such interests and need to ask, “In what ways are we disapproving of boys' interests in our classrooms?” (PBS, 2015b).
Aggressive and competitive play is natural and good for boys’ development. Limiting boys’ natural inclination to play fight and engage in aggressive play hinders their ability to navigate real conflicts later in life. In fact, studies suggest that this type of experiential play can help them develop empathy, build trust and navigate real conflicts later in life (Gallis, 2013). Researchers define games as play that is structured and goal-oriented with preset rules (Brown & Vaughan, 2009; Sutton-Smith, 1997). Salen (2008) added that “gaming is play across media, time, social spaces, and networks of meaning; it includes engagement with digital FAQs…” (p. 9). Video games can be considered the rough-and-tumble play space of young men and boys (Jenkins, 2006), but they also serve as social hubs for peer bonding and relationship building (Yan, Mun, Engerman, & Carr-Chellman, In Press). Video game play is a natural outlet for boys to engage in themes of competition, dominance and power. Despite these benefits of this type of play, we must also investigate the harmful aspects of video game play, especially as we consider adolescent boy development.

**Video Games and Boy Development**

**Concerns about video game engagement.** The use of advanced technological tools has significantly influenced societies around the world. Technological implementations have shown evidence of anticipated (usually positive) and unanticipated (often negative) consequences (Tenner, 1997). Considering that there is a particularly large amount of media attention given to video gaming and its potential negative consequences, I will address the concern of how video gaming may have impacted my adolescent participants. When observing advanced technologies, we may notice how innovations evolve over time. What began as black powder used by the Chinese to propel fireworks became gunpowder for the Europeans and has evolved further to become the primary component of military explosives (“Military Explosives”, 1984). In the same
way, video gaming can result in unintended consequences. Gaming can develop the means to solve AIDS protein dilemmas with computer games such as FoldIt or enable addiction or endorse toxic behaviors including heightened aggression and deviant behaviors (Bartholow & Anderson, 2001; Carnagey, Anderson, & Bushman, 2006; Cooper, 2013).

Video game addiction is related to decreased academic achievement, lower social skills and higher hostility (Chiu, Lee, & Huang, 2004). In 2007, Lindsey Tanner reported for NBCNews.com that a large group of doctors within the American Medical Association (AMA) were trying to get video game addiction behavior officially classified as a psychiatric disorder (Tanner, 2007). This would allow sufferers to get insurance coverage for treatment and raise awareness for the growing issue. Although online games are not linked to causing addictions, AMA also reported that Massively Multiplayer Online Role Playing Games (MMORPG) tend to be the most overused and abused types of games (Tanner, 2007). These online environments are engaging and extremely immersive; thus for a gamer with addictive tendencies, gaming can become an addiction, which is obviously an unintended and negative potential consequence of gaming.

Online games have also been considered to be toxic environments where poor ethical behavior is not only tolerated but also reinforced (Consalvo, 2012). These toxic game environments were on full display for what became known as Gamergate. Gamergate encompassed a cultural war between traditional gamers and newer, more diverse and inclusive gamers (Dewey, 2014). The traditionalist group, seeing its gaming experience being dramatically changed, took to threatening several women within the gaming industry including designers, a feminist activist and a gaming journalist (Dewey, 2014). This cultural war has been playing out on social media outlets, such as Twitter; however, due to the nature of the threats, law
enforcement has now been involved. Gamergate battles have become so intense that they have forced several women gamers to step down from their positions and even move from their homes ("Gamergate", n.d.). Toxic environments like these develop from a culture of aggression and reinforcement of destructive norms that are particularly offensive towards women. Unfortunately, gaming can be a toxic environment and one that can have unanticipated negative consequences.

Many make claims about the aggressive nature of the ways in which boys, in particular, engage with video games. Bartholow and Anderson found that players of violent video games demonstrate higher levels of aggression immediately after play (Bartholow & Anderson, 2002; Bushman & Gibson, 2011). When looking at the media reports on extreme acts, such as a school shooting, we see a common report of the shooter’s engagement in violent game play. Logically, these insights can lead the public to conclude that violent games cause violent acts (Zimbardo & Duncan, 2012). However, violent acts in the real world (as opposed to in-game) can be linked to many factors including social isolation, being bullied and immersion in a variety of violent media (Carey, 2013). If we look at profiles of mass shooters we see this more clearly. The Sandy Hook shooter (Adam Lanza), for example, was socially awkward, was not known to have had any close friends in school and indicated feelings of neglect (“Adam Lanza”, n.d.). Seung-Hui Cho, the Virginia Tech shooter, was diagnosed with multiple mental disorders. His family members had concerns about his behavior even during early childhood (“Seung-Hui”, n.d.). Along these lines, we are labeling boys as both emotionally disturbed and with ADHD at more than 3 times the rate of their girl counterparts (Bruchmüller, Margraf, & Schneider, 2012; Mortenson, 2011). Research by Lemmens, Bushman and Konijn (2006) clarified our speculations, as they spoke to a violence cycle. They claimed that aggressive individuals are
attracted to violent games rather than games causing violent behavior. Playing a violent game has shown to increase aggressiveness and decrease empathy for some individuals; this pattern leads to increased appreciation and use of more violent games (Lemmens, Bushman, & Konijn, 2006). Now we see that games have the potential to encourage deviant behaviors that may already lie latent in individuals. Furthermore, violent games may serve as grounds for reinforcing and perpetuating poor behaviors and may also have the potential to foster toxic environments and create addiction. While the aforementioned possibilities exist, there is little research evidence that supports these as common outcomes of game play (Ferguson, 2014). Despite the minimal evidence to support these negative consequences, there continues to be a good deal of media and theoretical attention to suggest the causal nature of these possibilities. Just the same, it is important to bear these concerns in mind when working in the space of violent gaming for learning.

**Understanding violent video game play and true violence.** From childhood through young adulthood, boys and girls engage with media and play video games in distinctly different ways (Cassell & Jenkins, 1998; Paraskeva, Mysirlaki, & Papagianni, 2009; Ragusa, 2014). This difference comes as a result of developmental differences. Boys’ and girls’ play states are noticeably distinctive, with boys usually engaging in more competitive, aggressive and violent games (Kafai, Heeter, Denner, & Sun, 2008). Many boys report that gaming is an alternate activity to others that include physical engagement (DiSalvo, Crowley, & Norwood, 2008). Therefore, boys play competitive fighting games, sports games and action adventure games for the purpose of competing with one another. Research, however, is split on the effects of violent game play. Although research suggests that video games may cause increased levels of aggression immediately after play (Bushman & Gibson, 2011), there is no conclusive evidence
that video games cause greater levels of actual interpersonal violence. In fact, the delinquent and violent crimes research would suggest the opposite. Arrest rates for juvenile violent crimes have shown decreases of up to 49.3% as sales of video games have almost quadrupled during the same time span (Cunningham, Engelstätter, & Ward, 2011; ESA, 2014; FBI, 2010). Going back earlier, the American Sociology Association states that in the 10 years following the release of games such as Doom (‘93), rates of violent crimes among juveniles decreased by as much as 77% (Sternheimer, 2007). Other research is in line with a Secret Service report on school safety, suggesting that exposure to violent video games or other media is a developmentally normal experience for adolescents and that violent video game exposure did not correlate with traits of aggressiveness and stress (Ferguson & Olsen, 2014). Specifically, Ferguson and Olsen’s (2014) findings reported that violent video games were not associated with “delinquent criminality nor bullying behaviors in children with either clinically elevated depressive or attention deficit symptoms. Nor did we find support for the belief that trait aggression would interact with video game violence within this sample of youth” (p. 132). Wright’s work suggests that violent video games provide complex social practices organized around “having fun” (Wright, Bouria, & Breidenbach, 2002). According to Wright and his colleagues, violent gaming communities have been observed to include creative-player actions with the ability to produce, entertain and amuse players (Wright, Bouria, & Breidenbach, 2002).

The preceding research suggests that, if anything, violent video games may have impacted the rate of violent crime in a beneficial way. Gaming scholars such as Kurt Squire refer to first-person shooter games as an evolution of the playground game of tag (Engerman2014), and this may be especially true for boys. Other gaming researchers suggest that violent games may afford boys a space to explore their aggressive natures in safe and controlled environment.
(Engerman, MacAllan, & Carr-Chellman, In Press). Although video game play can be considered a natural and normal manifestation of engaged play for boys, we have not explored the learning values embedded in game play. Can game play provide valuable learning gains for boys? The following section will discuss empirical data that would suggest that COTS could also serve as valuable learning tools.

The Benefits of Gameplay for Boys

**Video games in the digital era.** Eshet-Alkalai considered digital literacy a survival skill in the digital era (2004). Digital literacy involves not only reading from user interfaces but also using digital reproduction to create new and meaningful materials, constructing knowledge from non-linear hyper textual navigation, evaluating the validity and quality of information and understanding the rules of digital spaces (Eshet-Alkalai, 2012, 2004). Digital literacy has been viewed as the baseline for learning and meaning-making, having strong ties to situated meaning—that is, having to do with meaning making through active engagement (Gee., 2013; Gee, 2007). Steinkuehler, a student of Gee’s, argued that even at their most basic levels, video games represent a form of digital literacy and that the practices of video game play include the production of meaning within the embedded semiotic resources of the game space (Gee, 2007; Steinkuehler, 2010).

Based on previous literacy work, Steinkuehler (2010) conceptualized a body of New Literacy Studies that strongly emphasizes the learner’s ability to recognize and produce meaning in a given semiotic domain. The New Literacy Studies movement is based on the concept that reading, writing and meaning are situated within individual social contexts and discourses (Barton & Hamilton, 2000; Gee, 2000; Street, 2003). The movement, moreover, involves sense making in multimodal, multimedia settings akin to digital environments (Steinkuehler, 2007).
Given these tasks within contextual of New Literacies, Steinkuehler’s (2007, 2011) work suggests that video games are not in competition with the concept of “mere literacy” but instead can be considered literacy practices in and of themselves. As we look to boy connections to video games, what types of New Literacy do boys enact through video game play and how might they benefit? The next section will look at empirical data on games-based learning for boys, focusing in particular on improved literacy as well as cultural aspects that influence digital literacy practices.

Aside from studies on violence, much of the past research on boys and games involved spatial awareness improvements and spatial visualization acquisition. Researchers primarily identified differences in these attributes between genders as boys and girls engaged in digital game play (Dorval & Pepin 1986; Feng, Spence, Pratt, 2007; Lowery & Knirk, 1982; Okagaki & Frensch, 1994; Subrahmanyam & Greenfield, 1994). These studies may demonstrate innate traits that highlight elements of natural differences between the two genders that manifest through game play (Gagnon, 1985); however, they do not specify how games lead to learning gains, let alone skills improvement considered beneficial to career preparation or development. Due to Gee’s (2007) work, which powerfully linked games to learning and literacy development, we begin to see a productive and robust research tradition involving boys and games. This research has lead to demonstrations of the ability of games improve learning in areas such as literacy (Abrams, 2009; Blair & Sanford, 2004; Engerman, Mun, Yan, & Carr-Chellman, 2015; Sanford & Madill, 2007; Gerber & Abrams, 2014; Steinkuehler, 2011, 2010, 2008, 2006). This effort comes as literacy measurements of boys are in grave danger. Marginalized populations of boys represent a large number of underachievers within the literacy crisis in the United States (Steinkuehler, 2011; Watson, Kehler, & Martino, 2010; Whitmire, 2010). In fact, boys score
significantly lower than their girl counterparts on basic literacy assessments. One third of boys in the 4th, 8th and 12th grades are below basic levels on the National Assessment of Educational Progress in comparison to one fifth of girls (Snyder & Dillow, 2011). Gee’s work offered a bridge that demonstrates a strong link between video games and improved literacy skills (Gee, 2007, 2005). As we moved into the new millennium, known as “The Information Age,” (Birkinshaw, 2012), literacy began to take on a variety of meanings and forms, particularly for video game-playing boys. The next section will look at empirical data on games-based learning for boys, focusing in particular on cultural aspects that influence digital literacy practices then on improved literacy.

**Morphing literacies towards third spaces.** Scholars link boy culture, masculinity and literacy resistance to institutional authority, hegemonic masculinity and femininity (Carr-Chellman, 2011; Sanford & Madill. 2006; Steinkuehler, 2010). These scholars argue that video game play offers boys a safe place to resist authority. Acts such as these are often limited to small acts of adolescent defiance that could limit their future ability to engage thoughtfully and critically in the world, these scholars argue (Sanford & Madill, 2006). Furthermore, this type of resistance shapes and reinforces their identity formations and iteratively supports resistance to traditional literacy practices that boys consider to be feminine. Scholars contend that the boys in their studies resist school-based practices by transforming assigned literacy work into more personally relevant, engaging and meaningful activities aligned with their socio-cultural constructs (Blair & Sanford, 2004; Sanford & Madill, 2006). Communal norms do not dictate value, as video games have the ability to create equal standings amongst participants regardless of age, income or education level (Sanford & Madill, 2007; Steinkuehler & King, 2009). Games allow for expertise to be determined by knowledge and skills, based on the situation within the
experiences, opposed to normative social status. Virtual worlds disrupt traditional hierarchal relationships as a result of their function as “levelers” (Steinkuehler, 2005). That is, the gaming environment creates a halt on everyday roles, effectively leveling the playing field among participants (Steinkuehler & King, 2009; Steinkuehler & Williams, 2006). As a result of games as levelers, video games have the potential to position boy learners by mastery and expertise rather than by credentials, in any given situation (Steinkuehler & King, 2009). The notion of leveling can be considered an important aspect of games that strongly attracts boys, as traditional classroom settings are highly feminized spaces (Sanford & Madill, 2006; Sommers, 2013). For boys, games improve literacy through socio-cultural and emotional connections.

While reading and writing texts, boys prefer an emphasis on action to personal relationships and experience excitement over the unfolding character (Blair & Sanford, 2004; Millard, 1997). Blair and Sanford (2004) considered a type of morphing that occurs for boys with traditional literacy school practices. Morphing refers to distinctive characteristics boys exhibit as they adapted and repurposed literacy practices learned in classrooms into their everyday activities. Essentially, they transformed the nature of these activities in attempts to make (socio-culturally) valuable meaning out them. These practices were “most often used in connection with visual and technology-based activities, and morphing describes, we believe, a new generation of literacy practices” (Blair & Sanford, 2004). Morphing can be later explained by the work of Hutchinson (2007) as he spoke to a phenomenology in place. Hutchinson (2007) argued, “that places in education exist not only in the real world of schools and classrooms, but also in the virtual world of children’s imaginations, online life, and video games” (p 36). It follows that our new generation of literacy practices has real-world meaning for boys. This new
form of literacy is further seen as relevant activity that can align with boys’ socially accepted real-world applications.

As adolescents build their identities they often retreat to private social spaces with peers (Woolfolk, 2011; Steinberg, 2005). Peer groups support how they make meaning of the world around them and their social spaces serve as safe spaces to explore identities (Erikson, 1994; Steinberg, 2005). Within the context of video games boys have online social peer spaces. Steinkuehler gives us insight into youth culture with her work on the New Third Spaces for massively multiplayer online gaming (2005). Steinkuehler draws from Oldenburg’s (1999) work on third spaces. Third Spaces refer to locations outside of work and home that function primarily as social atmospheres (Steinkuehler, 2005). Even more, these spaces foster essential group experiences enhance self-consciousness and build engagement through communion (Oldenburg, 1999). Using Oldenburg’s framework, Steinkuehler re-conceptualizes the spaces for multiplayer online games to include the following characteristics.

- Gameplay is neutral (players can come and go freely)
- Games are levelers (players rank and status in society is of no importance)
- Conversation is the main activity
- Easily accessible and accommodating
- Games have regulars that shape the character of the environment
- Game communities are low profile (stable)
- The mood is playful
- And it’s a home away from home (rootedness, feelings of possession, spiritual regeneration, feelings of being at ease, and warmth) (Oldenburg, 1999; Steinkuehler, 2005)

New Third Spaces, such as CoD have significant relevance within boy peer relationships. Based on the preceding research it follows that boys transform school-learned literacies into socially beneficial products to be transported into New Third Spaces (Hutchinson, 2007; Madill & Sanford, 2004; Steinkuehler, 2005). Further implications would suggest that the new practices have real-world meaning for boys within these informal social spaces. This new form of literacy
is further seen as relevant activity that can align with boys’ socially accepted real-world applications.

In the dialogue of morphing (Madill & Sanford, 2004), games based learning scholars may want to consider race as an influential factor. In the dialogue of within-video game practices, we may want to consider race as a demonstration of morphing. Race has been observed to correlate with boys’ attraction to specific kinds of gaming. Race is a factor even within boy populations, and also with how boys engage within game spaces (DiSalvo, Guzdail, Macklin, Meadows, Perry, Steward, & Bruckman, 2009). DiSalvo et al. (2009) discovered that there were significant differences in how African-American boys interacted with video game play compared to their white peers. DiSalvo and her team discovered that African-American youth began playing video games younger, considered games similar to or as an extension of competitive sports and used fewer modifications, hacks, Easter eggs and cheats than their Caucasian counterparts (DiSalvo et. al, 2009). Supported by this type of research, work by Kolko, Strohm and Lonian (2003) showed that a significant number of black youth tend to spend more than half of their time playing with others in the room, compared to a lower number of white youth. African-American boys preferred to engage in games that allowed them to role-play as actual characters and with popular topics that they admired in the real world. These popular topics fell along socio-cultural norms, such as particular sports athletes, hip-hop artists and fashion and comic book characters (DiSalvo, Crowley, & Norwood 2008; Woodruff, Woodruff, & Saulter, 2004). In alignment with the aforementioned concept of morphing, these African-American boys played games as an alternative to physically engaging in activities such as sports. Game play therefore acted as an extension of their real-world lives. The participants used the game space not only to engage in real-world physical activities but more specifically to “narrate
stories about these characters, talking about them interchangeably between what would happen in the ‘real world’ and game situations” (DiSalvo et al., 2008, p. 134).

**Literacy gains for school.** Video games are viable curricula options towards developing literacy skills, particularly for boy adolescents (Abrams & Gerber, 2014; Engerman, Mun, Yan, & Carr-Chellman, 2015; Rice, 2014). Given the poor performance of boys on literacy assessments (Snyder & Dillow, 2011; Whitmire, 2010), research shows the ability for games to be a solution to performance gaps in literacy assessment. Video game play has the potential to bring boys “back online” in terms of literacy (Abrams, 2009; Engerman, Mun, Yan, & Carr-Chellman, 2015; Rice, 2011; Steinkuehler, 2011; Steinkuehler & King, 2009). Engerman, Mun, Yan and Carr-Chellman aligned commercial games with valuable educational objectives within the national Common Core Standards (2015). Games can help develop literate identities of adolescent boys (Rice, 2011). Agency through self-selected text materials, reinforced through video game play, has shown to improve boy strategies to labor through difficult texts. Steinkuehler’ reports that self-correction rates have doubled as a result of self-selected reading materials (Steinkuehler, 2011). Works such as these confirm that interest driven learning matters. Interest impacts academic performance and even assessments of intelligence (Duckworth, Quinn, Lynam, Loeberd, & Stouthamer-Loeberd, 2011).

Learning that occurs in video gaming environments can have interdisciplinary applications and an important role in classroom settings (Abrams, 2009; Engerman, MacAllan, & Carr-Chellman, 2014; Carr-Chellman, 2012). Meaning-making activities such as gaming can help to cultivate schemas for school-based tasks. Abrams (2009) observed that boys’ gaming activities “informed their comprehension and recollection of historic information, assigned vocabulary, or simulation features” (p. 344) In-game learning, in turn, allowed each boy
participant to gain significant and meaningful understanding of history content, even to the extent of participation inside the classroom (2009). Meaningful and relevant engagement in gaming practices developed powerful schemas that were triggered and transferred during classroom activities.

Researchers indicate that games provide a variety of literacy learning (Gerber & Abrams, 2014; Sanford & Madill, 2007). Sanford and Madill’s (2007) work found that their boy participants engaged in operational literacy that involved the following skills: 1) an ability to read visual and print instructions, use and adapt semiotic systems to meet their needs and create icons to communicate with future players of the developing game; 2) cultural literacy, involving connections to the ideas of the students on their level as they shared cultural capital; and 3) critical literacy, which relied on their own experiences with teachers. Students utilized these skills as models to adopt their own techniques in order to create effective learning environments (Sanford & Madill, 2007). The game space appeared to be a place for powerful literacy learning.

Speaking to the cultural literacy identified, during instruction the team observed demonstrations of respect and establishments of hierarchies as the peer instructors interacted with peer students. This led the team to identify what they considered to be a powerful space for boys to take up a critical stance in relation to power dynamics (Sanford & Madill, 2007). The game space seemed to be an environment that allowed these adolescent boys to display their own expertise, in which talent and skill determined value, not age or position. Despite the aforementioned impactful learning gains, this new generation and culture of literacy practices is not well respected. A lack of agency and respect leads to resistance as boys are left to feel alienated in traditional classroom settings (Carr-Chellman, 2012, 2011; Newkirk, 2002). In contrast, research shows that boys
value school more when they can perceive their new learning in the context of processes, agents within their social systems (Martin, 2002; Blair & Sanford, 2004).

Through the immersive and social experiences of gameplay, boys are using their literacy skills towards developing socio-culturally relevant forms of literacy. In fact, according to both Digital Literacy and New Literacy Studies, researchers see that the skills learned in video games have relevance. In preparation for the Information Age, we can see games developing important literacy skills as there is an emphasis on the learner’s ability to recognize and produce meaning in a given semiotic domain (Steinkuehler, 2010).

**Summary**

Aligning with Vygotsky’s view on development, learning is inseparable social and cultural confines. This would include interactions with people as well as cultural artifacts. Sociocultural items should be investigated to discover the root causes and intentions of the phenomenon of learning. Vygotsky is credited with being a heavily influential figure in the development of CHAT (Engeström, Miettinen, & Punamäki, 1999). Cultural historical activity theory lends an analytic lens to investigate such a phenomenon as it unpacks the social and cultural significance of activities. With a focus on mediated artifacts and activity systems of actions, CHAT provides an explanatory and developmental frame for describing both direct and indirect factors and influences of the learning phenomenon. Through the various generations of CHAT, researchers have evolved its agenda to encompass a more robust set of assumptions and components towards capturing activity with motivations through the motive-object. Third-generation CHAT requires the researcher to acquire a reflexive stance within the investigation. Immersion in the culture and socialization of the participants becomes imperative in understanding how the activity system fosters motive-objects (Engestrom, 1987). Tensions allow
the researcher to view how motive-objects evolve and how changes within the system can occur (Foot, 2001). As such, the activity system can be viewed as a living organism, bringing into account the effects of historicity and multivoicedness (Engestrom, 2001). The current view and use of the CHAT perspective strengthens the ability to view motivations and identities within the system, thereby revealing the essence of change and describing intentionality of the phenomena.

At the center and essence of the gaming activity is play. Quite often, play is seen as the opposite of work; however, play should be viewed as a state of existence (Schwartzman, 1980). In this way, we align with Huizinga’s school of thought on play as a cultural function (1949). Play is a necessity that humans engage in towards development. With minimalized risk and agency, free play is liberating from the stressors of everyday life that place impositions and demands on one’s time and choices. Csikszentmihalyi’s (1977) Flow theory gives us a concept within a “Play Experience,” which allows us to understand a state of mind that is immersive and optimal. Being in a state of Flow gives the player a unique feeling of oneness with his/her environment while simultaneously leading to productive outcomes (Csikszentmihalyi, 1977; Stevens, 1980). As these experiences are culturally bound, we must understand that boys have distinctive socio-cultural play habits. The ways in which boys engage in play usually involve rough and tumble activities as well as aggressive and competitive play. These play states are seen by some as social imperatives for building relationships, demonstrating normal energetic activity and innate impulses (Sax, 2007; Yan, Mun, Engerman & Carr-Chellman, In Press). Violent fantasy, aggressive and competitive video game engagements fall into the realm of modern boy play (Steinberg, Kehler & Cornish, 2010). Engagements of modern boy play have come under scrutiny as violent media can be seen as negatively influencing the impressionable minds of boys and young men. However, viewing violent games as the authors of actual violence is a mistake,
as the causal relationships between the two are unfounded. Psychologists suggest that this common lapse is due to a lack of understanding regarding where real violence derives (PBS, 2015a). In fact, research would suggest that video games could be a root influencer of the decline of juvenile crimes throughout the country (Cunningham, Engelstätter, & Ward, 2011; FBI, 2009).

**Conclusion**

The current chapter has captured the relevance of play, boy culture, video games and learning. These notions determine intertwining concepts towards unpacking the essence of the experience of gameplay for boy populations. I conclude this literature review by noting that Vygotsky’s sociocultural theory has lead me to view the learning phenomenon through a lens that seeks to unpack social, cultural and historical components. Social, cultural and historical elements are critical within the CHAT framework, which seeks activity through mediated artifacts. In fact CHAT views the social and individual as inseparable entities towards the manifestation of learning outcomes. Particularly, this study has sought motive-objects of the experience of game play through the activity systems within the game play of *Call of Duty*. Games-based learning researchers call for investigations of social structures within online multiplayer games such as this through psychosocial interactions aligned with activity perspectives (Ang, Zaphiris, & Wilson, 2010; Mysirlaki & Paraskevea, 2012).

The ethnographic approach enabled me to unpack the various cultural, historical and social factors influencing motivated actions, which surfaced through emerging multivoicedness in the desired population (Blomberg, Giacomi, Mosher, & Swenton-Wall, 1993). I was able to extract private speech patterns from inner speech patterns through think alouds and reflective interviews. The present chapter has illuminated several key aspects of the study that set the stage
for the investigation. It has discussed the theoretical framing and historical literature that shape this study’s design. This study adds to the literature on games and learning by extending understanding of the experiences of games. The following chapter will review the methodological constructs that served as a blueprint for how the research was executed.
CHAPTER 3: METHODS

The purpose of the present chapter is to describe how I designed and implemented the research towards discerning the highly interactive and socially situated gaming experiences of *Call of Duty (CoD)*. I sought to understand the essence of the experiences within *Call of Duty* through socio-cultural engagements. As a result, I developed an integrated methodological framework that centered on implementing both phenomenological and ethnographic approaches (Joo, 2013). Combining these two designs allowed me to investigate the essence of the online gaming experience through mediated actions of cultural and historical activities.

**Rationale for Collaborative Methodological Frameworks**

The current study built upon previous phases along previous interpretive phenomenological inquiry. A foundational ingredient of phenomenology is to understand the essence of the participants’ experiences (VanManen, 1990). Departing from the traditional transcendental approach to phenomenology, including notions of “bracketing,” this study embraced the researcher as fully part of the analysis. I did not attempt to detach my preconceived ideas towards illuminating pure consciousness (Barritt, Beekman, Bleeker, & Mulderij, 1985; Moustakas, 1994; VanManen, 1990). Due to the notion of bracketing, essence is seen as a pure abstraction of the essence of the phenomena, which is to say that there is one true existence of an essence. VanManen (2007) views essence as an interpreted phenomenon. Along the Heideggerian origin of meaning, this trend of phenomenology believes that the essence of a phenomenon is reported in our actions and in the tangible things within the world in which we live. The current stance draws on the view of the power of pathic knowledge. The pathic logic is understood within phenomenology as "the way one finds oneself" in the world (Hegel & Baillie, 1910; Heidegger, 1962, p. 172-188; VanManen, 2007). The way one finds oneself is viewed as
interpreted here and was interpreted through the researcher’s etic perspective (Rossman & Rallis, 2012).

I conducted a series of semi-structured individual interviews (Seidman, 1998, Drever, 1995) and collected in-game recordings as well as multiple types of observations. Through an iterative process of questioning at the individual level, researchers can unpack the emic perspectives (Rothman & Rallis, 2012) toward obtaining the essence of the lived experiences of their participants. In alignment with current games based research, the use of a phenomenological approach enabled me to further understand the participants’ perspectives and motivations behind decision-making (Crick, 2011; Jorgensen, 2008; Steinkuehler, Black, & Clinton, 2005). Qualitatively, my study provided a joint understanding of the phenomena, acknowledging my own reflexive experience and meaning-making within the process (Rossman & Rallis, 2011; VanManen, 1990). In addition, I was able to give my participants’ a voice and enhance my understanding of the motivations, feelings of alienation and impact of the video game environment on quality of life.

According to the Stanford Encyclopedia of Philosophy (SEP, 2015), Phenomenology is the study of “phenomena” such that we uncover things as they appear in our experience or the meanings things have in our experience. VanManen (1990) declared that phenomenological interviews serve as a means of exploring and gathering experiential narrative material that may function as a resource for developing a richer and deeper understanding of a human phenomenon. It may also be used as a vehicle to develop a conversational relation with a partner (interviewee) about the meaning of an experience. Leaning further on the philosophical and disciplinary definition of phenomenology, we see that it is the study of structures of experiences or consciousness as qualified from the subjective/first-person point of view (SEP, 2015). This
definition resonated with Campbell, as she acknowledged that her ethnographic approach required a phenomenological process. Campbell (2014) stated that, “…the methodological framework is a critical ethnographic snapshot that lays out why and how I collected phenomenological, observational, GIS, and visual data for analysis…” (p. 9). Campbell further noted that she used phenomenological thematic data structures to unearth activities in participants’ migrant experiences (2014). Joo (2013) relied on a triangulation of phenomenological and ethnographic designs by developing “a description that all participants shared as the essence of their experiences about the phenomenon of resistance” (p. 94). The phenomenological approach allowed Joo (2013) to highlight the essence of the participants’ lived-experience of resistance while also engaging in and emphasizing their particular educational processes. Maintaining the disciplinary definition of phenomenology, we see that ethnographic methods are constructed toward developing phenomenological processes. Maggs-Rapport (2000) suggested that the combination of these research approaches may bring the researcher closer to understanding both his or her own personal interpretation of the research phenomena and the experiences of the research participants.

**Virtual Ethnography**

Online video game research has commonly relied on virtual ethnographic work (Hines, 2000; Hunsinger & Krotoski, 2013; Steinkuehler, 2005). Among the staple ingredients for ethnographic research is the recognition of the researcher’s involvement as a participant-observer within the natural lives of the participants (Creswell, 2012). Hines (2000) suggested that although still considered the key anthropological approach, ethnography has changed from its early origins of understanding whole cultures in distant locations. These changes have primarily included a more focused approach to people within particular roles or activities including people
as patients, as students, as television viewers or as professionals (Hines, 2000). According to Hine’s (2000) principles, virtual ethnographies such as this allow for all forms of interaction to be valid, not just face-to-face: “Cyberspace is not to be thought of as a space detached from any connections to ‘real life’ and face-to-face interaction” (p. 41). Keeping a virtual ethnography in mind, my observational research included frequent online engagement with participants as well as bi-weekly face-to-face engagement. I observed their play states within CoD online, collected recorded games and played with teams. During bi-weekly face-to-face meetings I observed interactions among peers outside of gameplay and asked explanatory questions. In alignment with my CHAT frame, I did find that “Virtual ethnography is adequate for the practical purpose of exploring the relations of mediated interaction” (Hines, 2000, p. 63). An ethnographic agenda unearthed the nuances of the cultural phenomena of norms, values, beliefs and ideas from the perspective of the participants within the online culture itself (Hines, 2000; Rossman & Rallis, 2011).

Implementation of Integrated Methodology

Although phenomenology and ethnography share commonalities, they also share differences. The phenomenologist is viewed an interpreter, where the ethnographer is seen as an observer. Consequently, for the phenomenologist, meaning is what the researcher interprets it to be, and for the ethnographer meaning is cultural (Maggs-Rapport, 2000). These differences can lead to difficulties in striking a balance between researcher interpretations and participant dialogue as well as searching for meaning within data that simply does not exist. Despite these concerns, a blended approach was beneficial as my participants and I were empowered to play important rolls in the research (Maggs-Rapport, 2000). A phenomenological design allowed me to gain access to intimate individual accounts of the impact of gaming. The current
phenomenological research design reflected a hermeneutic (interpretive) lens (Barritt, Beekman, Bleeker, & Mulderij, 1985; Groenewald, 2004; Lester, 1999; VanManen, 1990). This perspective required a qualitative nature of reflexivity. This reflexivity represented a crucial element of qualitative inquiry that elucidated the paradigmatic lenses that drove my etic (researcher’s) perspectives. In this way, I first recognized that I was not separate from the analysis of the data and identified myself as an interpretive tool (Creswell, 2012; Rossman & Rallis, 2011). The phenomenological design allowed me to investigate the lived experiences of the boys as they described how they manipulated the designed experiences and the meanings they constructed from game play through these dynamic systems (Jorgensen, 2008; Squire, 2006). The ethnographic approach to this phenomenological design illuminated influential factors of interactions through mediated tools and socially constructed activities. Table 3.1 below illustrates how different research inquiries were obtained using varying approaches and techniques (Phil, Joo, 2013).

Table 3.1

Methodological approaches and analysis foci

<table>
<thead>
<tr>
<th>Phenomenological Analysis</th>
<th>Techniques</th>
<th>Data Sources</th>
<th>Boy Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analysis Focus</td>
<td>Lived experiences by the voices of the participants.</td>
<td></td>
</tr>
<tr>
<td>Ethnographic Investigation</td>
<td>Techniques</td>
<td>Survey document analysis, interviews, team play, Observations (in game, daily lives).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Sources</td>
<td>Boy Participants, Online Video Games</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analysis Focus</td>
<td>Demonstrations of learned actions and tasks through socially and culturally based gaming activity (Collective activity)</td>
<td></td>
</tr>
</tbody>
</table>

Although not without flaws, this blended methodology provided a holistic outlook that spoke to the interpretation while simultaneously addressing the theoretical method (Maggs-Rapport,
Ultimately, this ethnographic/phenomenological methodology strengthened the investigation through rigorous triangulation towards a more thorough research base.

**Design Overview**

**Background**

The current investigation represented the fourth phase of an ongoing three-year study. Hence the study represented the culmination of detailed accounts and collections of data about the learning that occurred for boys as a result of video game play. The previous studies looked through a hermeneutic lens of a phenomenological design (Heidegger, 1962; VanManen, 1990). Previously, a research team conducted a series of semi-structured interviews (Drever, 1995; Seidman, 1998). The initial phase of this study was designed to explore the various games and experiences boys have within their natural playing settings as it explored commercial off-the-shelf (COTS) gaming. The second study took a more individualistic approach as it targeted individual accounts of learning to draw a deeper understanding into emergent themes. This phase developed individual protocols to draw out the depths to which each individual participant understood and gained by learning content, skills and desirable characteristics as well as utilizing these attributes in various contexts. The third phase utilized focus group interviews and observations. The purpose of the third phase was to generate a shared understanding of learned content, skills and characteristics based on themes, content and games as we asked participants in a focus group to reflect deeply on learned experiences. The third phase gave us an opportunity to develop an in-depth grasp of the cultural aspects of gaming. As our unit of analysis now shifts to the intersections of activity systems, the fourth phase keyed in on a particular game that spoke to the culture of boys. Using data from the previous three phases, I built towards a richer
understanding of how video game spaces foster learning for their participants through socio-cultural constructs and mediating artifacts.

Methods

Participant Population

There were 16 total boy participants within this study, eight of which participated fully in all three interviews. Eight of the participants represented members of the main participants’ playgroups and provided additional interview information. These boys were all middle class, adolescent boys between the ages of 14 and 19 (average age of 16). The boys came from a rural school district located in Northeastern Pennsylvania. The participant students were of average intelligence and otherwise normal academic standings for boys of their age and location. The researcher had a relationship with the boys as both a teacher and coach. Particularly, the participants were football players, among others (basketball, baseball, wrestling, & track), and represented the same population throughout the 3-year study (Rossman & Rallis, 2011). As a teacher, tutor and a coach of these boys for the length of 7 years, the researcher can attest to these boys being a representative group of the literature. Their engagement in academic activities was dependent upon their engagement in school sports. The researcher knew from prior conversations that these boys were involved in and enjoyed playing Call of Duty. Therefore, students were selected for this study based on the following criteria: (a) Male adolescents (b) between the ages of 14 and 19 (c) played or had played significant hours of Call of Duty online (10+ hrs/week) (d) able to effectively verbally communicate and (e) demonstrated an ability to record and play games independently. In addition to these criteria, the final selection of participants also included those who produce signed parental consent forms. The group of 16
boys represented the unit of analysis and as well as the subject population of my CHAT frame (Engestrom, 1987).

In addition to boy participants, I was able to verbally interview three parents of boy gamers. All three fathers happened to be football coaches of which two were teachers within the school district. The first father (Brent) was not a teacher but was the parent of 3 of the boy participants, who had also been a part of the study over the course of 3 years. The second father (Hassan) was a teacher and parent of 2 boys who did not participate in this phase, but both had participated in this study over the course of 3 years. The third father (Wally) was also a teacher and the parent of a younger boy who was also briefly interviewed for additional information.

**Research Setting**

The research areas consisted of three major locations. The first location was online, as *Call of Duty* is an online game: consequently, I conducted and recorded game play in these online environments. The second location was the coaches’ locker room, located in the school weight room. Most activity and data collection happened in this location as participants met here for summer workouts and practices. The third major location was at the Wayne County Workforce Alliance, which was a neutral location to collect gaming and interview data. I also collected data in participants’ homes; with parental consent and with parents present, two of the collection sites were the homes of four of my 16 participants. These various locations allowed me to directly capture data from the participants’ social spaces. This allowed for a more authentic ethnographic approach but aided in identifying the cultural and historical mediating artifacts for analysis. In alignment with my ethnographic frame, the settings helped capture the social environments in which the boy participants resided (Rossman & Rallis, 2011). *Figures 3.1 – 3.7* show the locations and illustrate the settings where the data was collected for this study.
Figure 3.1. Playing with Participants Online

Figure 3.2. Coaches Office
Figure 3.3. Boy Participants; Figure 3.4. Head Coach Working with Participants

Figure 3.5. Football Field; Figure 3.6. Participants in Off Season Training
Materials

The materials that were used in this study included various gaming technologies along with their accessories. These included a (a) Hauppauge HD PVR Rocket, (b) PlayStation 3 & 4 (c) Xbox 360 & Xbox One, (d) Zoom, (e) QuickTime (Laptop) (f) Kodak PlaySport.

Video Capture Devices

- Hauppauge HD PVR Rocket

Console Systems

- PlayStation 3 & 4
- Xbox 360 & One

Video Tape and Audio Recording

- Zoom
- QuickTime (Laptop)
- Kodak PlaySport
Collection of Data

An ethnographic study requires a broad and varied quantity of data collection methods and techniques (Creswell, 2012). Throughout this study I used various data collection tools including: (a) survey data of *Call of Duty* use, (b) Video recordings of Think-Alouds, (c) Video capturing of gameplay, (d) Audio/Video Recordings of interviews and (e) Detailed Observations (f) Informal Conversations. The CHAT lens acknowledges these various forms of data as mediating artifacts that help inform the activity systems (Engetrom, 2001, 1987). The data for this investigation were collected over a period of 8 months. Each data collection method is described below.

**Gameplay surveys.** Initial surveys were distributed amongst my target population to determine players’ expertise. Several of our previous participants reported that they played or had experience playing *Call of Duty*. However, this information was limited to be considered for my current study. I sought to understand the depth to which *Call of Duty* players had developed learned skills. Therefore, I required experienced game players. This ethnographic study required participants who were deeply rooted in the particular game space and culture of the *Call of Duty* franchise. As such, a survey helped to identify a niche population of expert players who were deeply rooted in this specific game space. I distributed this survey to the population of boys that claimed to play *Call of Duty*. I then chose participants who demonstrated the most time spent and expertise within the group and also returned signed permission slips within a month’s time.

Having the perspectives of both current and past CoD enthusiasts gave various perspectives of experienced population of the adolescent boy CoD community. The survey questions can be viewed below in Appendix A.
**Video recordings.** Video recordings were collected during all interviews and also to capture the gaming atmosphere. Interviews were recorded using the QuickTime feature on a MacBook Pro laptop. Also, due to distance, I used Zoom’s video conferencing technologies. These videoconferences were reserved for college students. I had initially intended to use video conferencing technologies to capture real-time collective gaming practices within the place-based gaming environments. This was intended to include the face-to-face lived experience of gaming within natural settings of the home and the interaction between and amongst the participants. However, this was unnecessary as I was able to capture these environments through game play and being in physical proximity with game players. This is where the neutral location came in play as well as the home. The recordings were stored in a password-protected external hard drive. Both students and parents alike were informed that names and identifiable information were replaced by pseudonyms. All video recordings were saved using the student pseudonyms and dated appropriately. All digital data collected was maintained on a password protected external hard drive, and it will be destroyed seven years after the initial recording date.

**Video interviews.** I used individual interviews in alignment with Seidman’s semi-structured interview approach (Drever, 1995; Seidman, 1998). The individual protocols served three main purposes. The first interview was exploratory in nature to identify the ways in which *Call of Duty* was used as well as to identify general learning themes. The first interview spoke to the life history of the boy participants in relation to *CoD* and gameplay. The second interview was conducted through Think Aloud Protocols (Games, 2009; Henderson, 2005; Young, 2005). The Think Aloud modification to Seidman’s semi-structured approach accomplished its traditional purpose as well as added to the ethnographic construct of the research design. The purpose was to capture the meaning making processing of the experience through the actions and
tasks of the event. The think aloud interviews revealed decision-making explanations in real time. Lastly, I video recorded follow up interviews to allow participants to reflect on their actions and decision-making. During this final video interview I used the second interview or in-game video as a reference for discussion and explanation. Participants were able to view and reflect upon the video recordings. This reflective process allowed participants to further explain their intentionality’s within their various activities. The third interview constituted member checking and a joint understanding of the phenomena as the boy participants reflected on the meanings of their actions. I served the purpose of researcher and interpreter, while participants solidified and refined emergent themes that were developed. Using a constant comparative analysis led me to simultaneously analyze and collect data throughout the investigation (Glaser, 1965). At every stage of analysis, I iteratively and rigorously refined emergent themes towards clear identification and descriptions. This deeply reflective process elucidated more concrete themes of learning accounts for boys within the game space.

**Think alouds and video recordings of gameplay.** I collected video of the boys playing *Call of Duty* while using a think aloud protocol (Games, 2009; Henderson, 2005; Young, 2005). To collect this data, I used a video camera to capture the Think Alouds as well. These Think Aloud protocols were developed to capture not only objective actions as a talk-aloud protocol would do but also explanations of decision-making processes (Young, 2005). Think Alouds of this nature captured participant thoughts, actions and feelings as they played. This further allowed me to observe a first-hand account of the processes involved in completing tasks as well as logical thought processes. Collecting thought processing within speech demonstrated self-reported actions and tasks. A normal critique of qualitative analysis of this type is the difficulty in relying on self-reports of adolescents. Especially for adolescents, it is difficult for gamers to
articulate and justify their actions when asked to recall events in gameplay. However, this think aloud type of data collection made explicit that which is normally implicit. Recording the gamers' meaning-making explanations was powerful within their native digital environments (Blumberg & Randall, 2012; Games, 2009). In alignment with my Social Development framework, I was able to capture the private speech and inner thought (Vygotsky, 1978).

During the recorded game play and Think Aloud Protocol, the boys were prompted to explain their game play actions and decisions simultaneously while they completed tasks within the game. If players became silent, I asked targeted questions to elicit explanations using language embedded within the community of learners specific to CoD. I used open-ended questions such as “Why did you attack the person with the bomb first when you had enemies on your six?” or “Why are you using guerilla tactics instead of run and gun?” Each participant provided different tactics and personalities and required different types of Think Alouds. Two types of think Alouds were used. The first required the participants to simultaneously describe their thoughts as they played. Some participants were quite efficient at this. I was able to give the video gaming recording device to some of these participants. These boys completed narrative recordings on their own. However, some participants were not able to speak and concentrate on gaming at the same time and required interviewer prompting. During this Think Aloud, I questioned the participants as they played the game in real time. Screen capture software has the ability to capture in-game experiences as they naturally occur, including gaming actions and cultural nuances within team gaming. Think Alouds were then used for the reflective interview alongside the in game video game recording. After capturing inner thought this reflective analysis gave critical insights into the intentional and internal meaning making processes of activity (Engestrom, 1987; Vygotsky, 1978).
**Hauppauge HD PVR Rocket.** Using the *Hauppauge HD PVR Rocket - Video input adapter - Hi-Speed USB - External*, I captured the video game decisions that players made. Capturing in-game actions was used to separate what players declared that they were doing from their immediate actions. Video game players can become enchanted and captivated in their play experience, and as a result they may react out of reflex. Screen-capture software allowed me to discern the movements and decisions made that were not conscious even for the player, which was imperative for accurate analysis of player decisions.

**Observations.** Observations were conducted during each stage of data collection and took two main forms. The first were interviewer field notes, and the second were in-game participant-observer notes. The purpose of my observations was to note my involvement as a participant-observer. I recorded the participants’ moods, describe the physical environments of the data-collection areas—including participant mediating artifacts, divisions of labor, tools and rules—and included variables that may have served as influential factors during the data collection process. Each participant had his own observation folder full of the appropriate types of observation notes. I used a uniform observation protocol as displayed below in *Figure 3.6*. Also see Table 3.2 for Observations with verbal communications and dates.

Student name (pseudonym):

Location: Weight room, Home, Online:

Date: / / 

Time began: __________ Time ended: __________ (Total minutes: __________)

Activity:

- Initial Interview observations
- Think Aloud observations
- Reflective Interview observations
- Immersive in-game observations (Participant)
- Supplemental observations (real world)

Call of Duty Game:

Game Mode:

Session Participants: 1 2 3 4 5 6 7 8

Data Collection Tool:

- Hauppauge
- Twitch
- In-game Recording
- Video recordings
- Audio recordings
- Other

Data Collected:

Observer: Jason A. Engerman (JAE)

Overview: (What happened during the session including tools, rules, environment and activities):

Notes: (Include context and outstanding actions that may require further inquiry)

Figure 3.6. Observation Protocol
Table 3. 2

*Verbal Communication Dates*

<table>
<thead>
<tr>
<th>Week</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>25-Jun</td>
<td>23-Jun</td>
</tr>
<tr>
<td>Week 2</td>
<td>16-Jul</td>
<td>14-Jul</td>
</tr>
<tr>
<td>Week 3</td>
<td>23-Jul</td>
<td>21-Jul</td>
</tr>
<tr>
<td>Week 4</td>
<td>30-Jul</td>
<td>28-Jul</td>
</tr>
<tr>
<td>Week 5</td>
<td>6-Aug</td>
<td>4-Aug</td>
</tr>
<tr>
<td>Week 6</td>
<td>13-Aug</td>
<td>11-Aug</td>
</tr>
<tr>
<td>Week 7</td>
<td>20-Aug</td>
<td>18-Aug</td>
</tr>
<tr>
<td>Week 8</td>
<td>26-Aug</td>
<td>25-Aug</td>
</tr>
<tr>
<td>Week 9</td>
<td>30-Aug</td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>4-Sep</td>
<td>2-Sep</td>
</tr>
<tr>
<td>Week 11</td>
<td>11-Sep</td>
<td>9-Sep</td>
</tr>
<tr>
<td>Week 12</td>
<td>16-Sep</td>
<td>15-Sep</td>
</tr>
<tr>
<td>Week 13</td>
<td>25-Sep</td>
<td>23-Sep</td>
</tr>
<tr>
<td>Week 14</td>
<td>30-Sep</td>
<td>29-Sep</td>
</tr>
<tr>
<td>Week 15</td>
<td>9-Oct</td>
<td>7-Oct</td>
</tr>
<tr>
<td>Week 16</td>
<td>16-Oct</td>
<td>14-Oct</td>
</tr>
<tr>
<td>Week 17</td>
<td>23-Oct</td>
<td>21-Oct</td>
</tr>
<tr>
<td>Week 18</td>
<td>30-Oct</td>
<td></td>
</tr>
<tr>
<td>Week 19</td>
<td>14-Dec</td>
<td>3-Dec</td>
</tr>
</tbody>
</table>

**Ethnographic Snapshots**

I simultaneously collected and analyzed data over a period of 8 months. Although this is a shorter time period than traditional ethnographies, I would say, like Janzen (2008, 2005), that I captured snapshots of time and space using ethnographic methods including video/audio recordings and video game recording data. Although different than traditional ethnographic studies, with the affordances of modern technology combined with the nature of my study, I believe these methods are no less significant. Other ethnographic snapshots have been quite successful including the work of Campbell (2014).

Although maintaining the participant observer component of ethnographies, these snapshots are different than other ethnographic snapshots (Campbell, 2014; Janzen, 2005). This
study was longer than Janzen’s five-week study (2005). I also built this investigation upon a three-year relationship with participants and drew from the same population of participants. Further, I conducted the research in approximately the same timeframe as Campbell’s ethnographic study (2014); however, the current study included a virtual component. In addition, I used video recordings that captured periods of interaction and action tasks within the online gaming environment. Video recordings can help illuminate tacit knowledge through production and interpretation of actions and interactions that rely upon communication, objects, texts, tools and technologies (Heath & Hindmarsh, 2002).

Ethnographic snapshots are gathered within a designated amount of time, unlike traditional ethnographies, which take on a more naturalist and anthropological approach (Hines, 2006; Janzen, 2008). Accordingly, I analyzed the data for participants within time frames that are close to the collected dates. I intended to spend 2-3 weeks with the player groups. However, due to conflicting schedules and difficulties operating across four individual console platforms, I was forced to gather data from many participants simultaneously. Many individual collections had to be completed on the same day. This alteration required me to analyze data side-by-side as well. During this time, I required the assistance of participant reflection as we collectively made sense of the data (Maggs-Rapport, 2000). During the 7-month timeline, I continued to engage with and refer to previous participants as data collection and analysis evolved. This included continual participation in gameplay, further interviews with peer group members and observation notes as needed. As my participants and I worked to make sense of the phenomena, the iterative design process revealed rich data and deep themes. My methodological design and iterative processing (constant comparative analysis) enabled a rich volume of data collection and helped to reach a goal state of saturation (Joo, 2013). I used an ethnographic snapshot within a phenomenological
agenda that sought to uncover the essence and intentionality of activities. These processes supplied a thick amount of data to support rich descriptions of the game play experience for boy gamers.

**Procedure**

Currently I am an employee of the school district from which my participants were drawn and had several conversations with both the principal and the superintendent about my research agenda, including using the boy participants. Parents of the participants were also aware of my current research agenda, due to previous research I conducted with the participants. Before beginning this research study, I needed to conduct a *CoD* Expertise Survey (See Appendix A). I understood that the game itself required play in groups and that the boy population engaged in this game primarily in collective groups. As a result, the purpose of the survey was to identify participant groups that did not merely play *CoD* but would be considered experts within the community of *CoD* gamers. I recruited the same population from our previous research phases as well as additional boys. The survey sought to identify how long the participant had played *CoD*, who their player group members were, and if they would be interested in participating in my study. Using the survey, I selected the 8 player groups that would be considered expert *CoD* teams within the community of *CoD* players. The player groupings usually consisted of 1-4 person player groups. The criteria for selecting these participants included: groups must play more than 10 hours per week and have successfully completed at minimum 100 hours worth of cooperative play in *CoD*. I believe that the aforementioned criteria ensured the most expert player groupings within this population of boy gamers. Upon identifying my pool of experts, participants needed to get parental consent and give child assent to use video interviews and
photo capture between group members during play. Students were instructed to have parental consent forms signed within two weeks of being selected (See Appendix C).

The first phase of data collections involved an exploratory interview of game play within *Call of Duty*. The primary function of this interview was to identify the styles of cooperative play and learning gains developed by boy participants from a historical perspective (Rossman & Rallis, 2011; Seidman, 1998). These included a generic protocol of questions such as: “Why do you enjoy playing *Call of Duty*? What are your favorite types of activities in the game space? Can you describe what you do while you are playing the game? Walk me through level within the game describing what you are doing and why.” The next phase of data collection utilized video-recorded Think Alouds. Because of the athletic participation of many of the research contributors, collection of data varied in location between the home, the school and the Wayne Pike Workforce Alliance. The purpose of the second phase was to capture both the actions of participants and the thought processes of participants’ decision making. I was able to capture tasks as well as interactional data between individuals and team members, and this process allowed me to uncover the details of the experience (Siedman, 1998). I recorded activity for approximately 15-30 minutes for each participant while they described their thought processes. Within these activities were several *CoD* matches. I was able to capture multiple games as well as the players changing lobbies. I was also able to capture the surrounding gaming environment. At times, participants took the recording devices home with them to narrate their game play on their own. The game modes that this population of gamers primarily engaged in represented a variety of cooperative play modes. Although there are several other game modes across games, the modes that I was able to capture for this study included: Search and Destroy, Search and Rescue, Domination, and Team Death Match. Among the games that I didn’t capture during this
study were Zombies and Capture the Flag. The final phase of data collection consisted of a third individual interview. The major purpose of the interview was to clarify and elaborate on developed themes that were drawn from the think aloud protocols (Seidman, 1998). Individual protocols prompted respondents to elaborate on decisions made within the game space as well as thought processes throughout the activities. Collectively, the arranged interviews elucidated clearer links between CoD and desired motives of the game play experience. Lastly, I was sure to capture the gaming environment to obtain not only face-to-face interactions but also the natural habitat of CoD. I collected additional game play from various gaming groups and video recorded my play sessions with the participants. This approach ensured that I was able to capture the cultural interactions within the gaming environment.

Data Phenomena

Within these two main design approaches in social science research, qualitative studies have a history of being viewed as a lesser practice when compared to quantitative research (Marsh, 2012). At times, qualitative designs are seen as less scientific, and many researchers question the ability of qualitative designs to ensure validity as well as generalizability (Lincoln & Guba, 1985). To address validity, I will speak to triangulation methods that were used throughout this study. Secondly, I will speak to trustworthiness.

A common method for validity within qualitative research is the use of triangulation (Yin, 1998). Patton (2002) cautions that it is a common misconception that the goal of triangulation is to arrive at consistency across data sources or approaches. Patton believes that inconsistencies should not be viewed as weakening evidence but instead may be seen as an opportunity to discover deeper meaning in the data (Patton, 2002). This may hold especially true within a qualitative approach. Together with member checking, I employed two types of
triangulation to establish validity (Creswell & Miller, 2000). Methodological triangulation was used in this study, as I melded phenomenological design with ethnographic approaches. Secondly, I utilized data triangulation, as I collected a multitude of data types including a survey, interviews, video recorded interviews (including think alouds), gameplay, informal conversations and observations.

Outlining the rationale for the methodological and theoretical decisions allows me to describe why multiple research techniques are necessary and not only if but how the Call of Duty experience fosters learning. CHAT provides an ideal model for examining this phenomenon. The CHAT lens allowed my study to evolve where needed to address unexpected findings and more accurately obtain the essence of the motive-objects (Roth & Lee, 2007). Thematic Analysis (Braun & Clark, 2006) was used as the foundational analytic tool of inquiry, which is admittedly flexible. Table 3.3 shows each technique of data collection used with its respective explanations and rationales. Table 3.4 then demonstrates how each research question was approached by the research design.

Table 3.3

<table>
<thead>
<tr>
<th>Techniques</th>
<th>Explanation</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection Survey</td>
<td>Survey to select expert gamers.</td>
<td>Identified boy gamers who were deeply immersed in the culture and knowledge of the gaming environment.</td>
</tr>
<tr>
<td>Think Aloud Protocol</td>
<td>Collected while participants are actively playing a game.</td>
<td>Identified intentional and logical thought as a result of learned experiences as well as how thought processes developed.</td>
</tr>
<tr>
<td>Game Recordings</td>
<td>Visual and audio recordings of tasks and actions during gameplay</td>
<td>Looked for alignment between player thoughts and action, collective cultural activity and intriguing data that would need further investigation.</td>
</tr>
<tr>
<td>Interviews</td>
<td>Semi-structured video taped interviews</td>
<td>Looked for deeper and richer explanations of actions and performance</td>
</tr>
<tr>
<td>Question</td>
<td>Collection Method</td>
<td>Data Collected</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ethnographic: “How are social and material practices developed by playing Call of Duty?”</td>
<td>Document Analysis</td>
<td>Survey of Game play experience. Games recordings shared with me.</td>
</tr>
<tr>
<td>Phenomenological: “How do boys perceive their experiences within the online game space of Call of Duty?” Ethnographic: “What are the meanings and values of participation for boy gamers within Call of Duty?”</td>
<td>Individual Interview 1</td>
<td>Video Recording</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnographic: “What are the meanings and values of participation</td>
<td>Think aloud play</td>
<td>Video of play Recording of gameplay</td>
</tr>
</tbody>
</table>
Data Analysis

The first analysis took place with the survey. My participant pool consisted of top end-users of CoD. Top end-users were considered those who have logged significant playing time and have demonstrated a high level of expertise. My survey was designed to identify such users (See Appendix A). I was looking for users who played more than 10 hours of Call of Duty per week and had played several cooperative modes of CoD for multiple years. After using the survey to identify my target population, I began collecting data and analyzed the collection of
data within a modified thematic analysis (Braun & Clark, 2006) that looks through the lens of the CHAT framework, viewing it as an explanatory guide (Joo, 2013; Roth & Lee, 2007). Through historical interviews from previous phases, proposed interviews, game play, think alouds and various observations, this study focused on participant voices. Each participant provided a unique amount of language data from 861 words/min to 145 words/min. Lengths also varied by individual participant and interview. The college participants provided more well developed communication and language use. The older participants gave more insight than the younger as they were able to have stronger reflective abilities having more gaming and life experiences than their younger counterparts. In addition some participants were more verbal than others. Despite these distinctions all participants were able to contribute to the narratives provided. The structure of this analysis benefited from a constant comparative analysis approach. I constantly compared data internally, between the team groupings themselves, as well as between and amongst other team grouping data within the activity systems (Charmaz, 2006; Glaser 1965). The following represents a guiding Thematic Analysis approach with stepwise descriptions of how and when I merged my analytic lens.

**Familiarize yourself with data.** After transcribing interviews and observation field notes as well as viewing and reviewing video data, I began familiarizing myself with the data. For transcribed data, this included the use of the word cloud software Textisbeautiful. For each individual interview I cleaned the identifiers of interviewer and interviewee to focus on the participant responses. Then I copied the individual transcript responses into the word cloud software. During this stage, I utilized four forms of information visualization to prepare myself for the coding process. I used a Topic Frequency Chart to determine the volume of particular words within the transcripts (See Figures 3.10). I used a Word Cloud and a Word Wheel to get a
sense of which words were expressed together (See Figure 3.11). The Story Web enabled me to get a sense of how the descriptive words were connected to each other (See and Figure 3.12).

Figure 3.10. Frequency Chart of Transcribed Interview

Figure 3.11. Word Cloud of Transcribed Interview
This process revealed prominent uses of language that the boys used to describe meaning making processes. During violent game play of a game like CoD, one would expect to see frequent use of violent words such as kill, bomb, shoot or die. However, words like play, people, game and think were more frequently used to describe meaning amongst this group of participants. Although the following charts show the word “mean” being used frequently, within context this term was often used to express the following: “I mean, people…”or “you know what I mean?”.

Overall, the word-clouding tools helped me identify main elements of the textual data shown through visual and analytic displays. Braun and Clark suggest immersion in the data as you allow the data to work on its own, which includes several iterations and revisions of the data (2006).
Being a participant observer as well as utilizing several sources of information including field notes and video recordings enhanced my immersion in the data. The collections of various forms of data also helped to fill in data gaps throughout the analysis. Analysis of these multiple data sources occurred simultaneously, and towards the end of this process I was able to begin thinking of codes using the 15-point Checklist (See Appendix B).

**Generate initial codes.** Initial codes were formed during this stage that transformed descriptions into joint interpretations (Braun & Clark, 2006). I broke down data sets into individual attributes, continually asking, “What is significant?” I organized data into meaningful constructs or concepts as they related to the phenomena and identified distinct attributes, while I classified or categorized without thematizing. I focused on making clear and concise codes as I worked towards a thematic model. I then compared and contrasted attributes. Afterwards, I grouped attributes on the basis of that comparison. The major objective of this stage of analysis was to create a set of nominated codes that were supported along with their attributes.

(See Table 3.5)

Table 3.5

**Open Coding to Search for Themes**

<table>
<thead>
<tr>
<th>Passage</th>
<th>Open Codes</th>
<th>Search for Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that mainly more than anything, it was a social way to like enjoy time with my friends. So development in the social aspect would be pretty interesting (Interview #1, Historic Relationship Interview)</td>
<td>Social event, socializing with peers, bonding with peers, being with close friends</td>
<td>Peer Bonding</td>
</tr>
<tr>
<td>Ok so the round is so that we are trying to find people to kill and keep away from our, uh target. So I’m going around, peeking around the corner trying to find someone to take out, before they take out our target A. So I’m sticking to the corners trying to take my safe route, so I can get,… cuz I’m the “run and gunner”. So I get to see them like a second faster. That way it’ll take me two more rounds to kill them than the big guns. So I just ry to stick to the corners so I can get them.</td>
<td>Reflect, strategic thinking, tactic, learning, expertise, expert towards mastery</td>
<td>Computational Thinking/Developing Expertise</td>
</tr>
</tbody>
</table>
(Interview #2, Think Aloud)

If you see there’s two people on your team using sniper rifles, you’re not going to use sniper rifle. If you see more than two people doing, which is the thing that I am doing which is running around with a high powered gun (it’s like a faster weapon to use). And if you see more than one person doing that, you try to fall somewhere taking a point. There’s usually a reason for it. Because it’s usually heavily guarded or somebody is camping far away and trying to snipe you.

(Interview #3, Reflective Interview)

Problem solving, understanding team dynamics, developing tactics, strategic planning, expertise

Search for themes. Braun and Clark (2006) suggest that researchers searching for themes, “Collating codes into potential themes, gathering all data relevant to each potential theme” (p. 87). Baptist suggests that at this stage it is important to compare between and among properties and categories simultaneously (I. Baptiste, Personal Communication, May 2013). It is by comparing in this manner that I was able to group ideas into themes. At times I gave exhaustive description and explanations of phenomena in an attempt to give a fuller picture of what the intended phenomena entailed. I felt that the thematic processing should be strongly related to the research question. Without a goal direction, as dictated by our research questions, it became easy to get lost in the abstract nature of the meaning-making process for the data. Because of this, I began to use CHAT’s guiding principles to analyze the various forms of information. I identified the main components of CHAT by identifying activities within gameplay. The CHAT frame then helped to constitute activities within the activity system of game play. The current process was ongoing and iterative as I used the variety of data sources to fill gaps, answer arising questions and reinforce narrative themes between individual data collection sources and amongst all participants (Campbell, 2014; Joo, 2013). As a researcher searches for themes, Braun and Clark (2006) suggest including multiple perspectives and maintain close ties to the research question. To this end, I explicitly employed the Activity
Theory analytic framework of the 8-step-model as a lens to help create meaning in the data (Mwanza, 2001; Mwanza & Engestrom, 2005) (See Table 3.6). I actively searched out objects and their various forms through producing activity and neighboring activity systems of the phenomena.

Table 3.6

*The Eight-Step-Model (Mwanza, 2001; Mwanza & Engestrom, 2005)*

<table>
<thead>
<tr>
<th>1. Activity of interest</th>
<th>Within this event, what activity may align with social and material practices?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Object or Objective of activity</td>
<td>Why is this activity taking place?</td>
</tr>
<tr>
<td>3. Subject(s) in this activity</td>
<td>Who is involved in carrying out this activity?</td>
</tr>
<tr>
<td>4. Tools mediating the activity</td>
<td>By what means are the subjects carrying out this activity?</td>
</tr>
<tr>
<td>5. Rules and regulations mediating the activity</td>
<td>Are there any cultural norms, rules or regulations governing the performance of this activity?</td>
</tr>
<tr>
<td>6. Division of labor mediating the activity</td>
<td>Who is responsible for what, when carrying out this activity and how are the roles organized?</td>
</tr>
<tr>
<td>7. Community in which activity is conducted</td>
<td>What is the environment in which this activity is carried out?</td>
</tr>
<tr>
<td>8. Outcome or Results of the activity</td>
<td>What is the desired <em>Outcome</em> from carrying out this activity?</td>
</tr>
</tbody>
</table>

This process ensured alignment with my research questions as a first step in understanding how *CoD* impacts behavior. Using the activity inquiry framework as an initial guide, I illuminated themes that applied to experiences in alignment with my research question. The power of this approach lies in the ability to include the initial mediating actions and artifacts. These actions and artifacts contribute to events, creating a clearer picture of what and how experiences occur for boys within the gaming environment. After completing Mwanza’s 8-Step model, I asked additional questions of the data to gain a better understanding of the relationships within the activity (See Table 3.7). A more advanced version of activity theory was then applied in the following phase.
**Table 3.7**

*Additional Questions*

<table>
<thead>
<tr>
<th>Additional Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the (Activity) require the (Subject) to use (Tools) for meeting the (Objective).</td>
</tr>
<tr>
<td>2. Does the (Activity) require the (Subject) to work with (Divisions) for meeting the (Objective).</td>
</tr>
<tr>
<td>3. Does the (Activity) require the (Subject) to learn new rules for meeting the (Objective).</td>
</tr>
<tr>
<td>4. Does the (Activity) require the (Subject) to work within the (Community) for meeting the (Objective).</td>
</tr>
<tr>
<td>5. Does the (Activity) impact the (Community) (Tools) for meeting the (Objective).</td>
</tr>
<tr>
<td>6. Does the (Activity) impact the (Community) (Division) for meeting the (Objective).</td>
</tr>
<tr>
<td>7. Does the (Activity) impact the (Community) (Rules) for meeting the (Subject) (Objective).</td>
</tr>
<tr>
<td>8. Does the (Activity) have direct impact on the (Community) for meeting the (Subject) Objective.</td>
</tr>
</tbody>
</table>

**Review and refine themes.** I sought to not only identify but also determine the extent to which the gaming environment fosters learning outcomes through socio-cultural and historical factors. Therefore, a more rigorous refinement of themes was needed. I investigated to determine if the themes were consistent between and amongst them as well as reinforced across a third-generation CHAT system. This stage of analysis strained the identified activities through a modified version of Engestrom’s (2001) Expansive Learning matrix. Using the identified activity systems that represented products of learned accounts within the 8 Step Model (Mwanza, 2001; Mwanza & Engestrom, 2005), I used Engestrom’s Expansive Learning matrix to draw even clearer ties. I also revealed tensions between the mediating actions and consequent results. The Expansive Learning matrix now included the socio-cultural, historical and multivoiced influences on the motive-objects (Engestrom, 2001). Engestrom’s (2001) expansive learning model has the ability to more clearly articulate contradictions between learned objects and available tools. Contradictions are not the same as problems or conflicts (Bakhurst, 2009). Mentioned previously, contradictions are historically accumulating structural tensions within and
between activity systems (Engestrom, 1999). With these contradictions, the matrix will give insight not only if but also how these interactions between boys and the gaming environment facilitate reported experiences (See Figure 3.13).

Figure 3.13. Engestrom’s Expansive Learning Matrix (2001)

The 8-step-model clearly showed overlap in several areas, which demonstrated their complimentary natures. However, I believe Engestrom’s Matrix was distinct and essential to my analysis. The matrix includes important components of CHAT, such as multi-voicedness and historicity among others (Engestrom, 2001). Multi-voicedness speaks to the community providing diverse points of views, traditions and interests. As a result multi-voicedness acknowledges that the viewpoints provided can only represent a single perspective at one time. It follows that a single perspective could change the historical viewpoint, sociocultural position among other areas and ultimately affect the emergent theme. However Engestrom argues that
this is significant because, “It is a source of trouble and a source of innovation, demanding actions of translation and negotiation” (2001). Historicity explicitly calls to attention historical circumstances and facts as it acknowledges that activity systems take shape and transform over time. Where the 8-step-model addresses the various components of activity and activity systems, especially sub-activity systems, it maintains that the object is stationary. The power in Engestrom’s Expansive Learning framework centers on the concept that motive-objects are not static. Instead, objects are fluid and “not reducible to conscious short-term goals” (Engestrom, 2001). Motive-objects become visible through a deep analysis of tensions. Due to the fact that my analysis was iterative, reflective and under continual reflective revision, I believe that this approach more accurately aligned with both my analysis process and the essence of the activity systems data. Participants had opportunities to reflect as I collected a variety of data strands that informed each component of the holistic frame of CHAT. Engestrom suggested that the holistic frame of CHAT taken with contradictions could produce culturally new patterns of activity (2001). When data is filtered through the learning matrix that orchestrates the current five-principle summary, this framework can clearly answer the following four questions: (1) Who are the subjects of learning, how are they defined and located?; (2) Why do they learn, what makes them make the effort?; (3) What do they learn, what are the contents and outcomes of learning?; and (4) How do they learn, what are the key actions or processes of learning? The use of these four inquiries strengthened my analysis and overall research.

The Expansive Learning model provided descriptive criteria that demonstrated each component of the model. In this study, I used the activity systems to inform Engestrom’s matrix for expansive learning. This rigorous process and use of design, which included member checking (Creswell & Miller, 2000), strengthened the findings to move beyond identification of
learned accounts and supporting scaffolds. The aforementioned processes gave rich descriptions of how one comes to the learning account. Identifying and refining themes occurred both iteratively and simultaneously throughout the study on three dimensions using a constant comparative analysis (Charmaz, 2006; Glaser, 1965). I first identified, refined and reviewed data between individual collections of data and then did so across the collective data including all participants. Finally, I included researcher reflections as I acknowledged my own identity within the participant-observation dimension of the analysis.

**Define & name themes.** Through this analysis, I refined the specification of each theme as it related to the activities found in the data. Doing this generated clear definitions and names for each theme, developing a clear and concise narrative of the data. I also remembered that themes must not try to extend beyond the data (Braun & Clark, 2006). Maintaining an interpretive lens, I identified what information found within the themes aligned with my research question. In my search for motive-objects, extensive use of the CHAT frame enabled me to continually consider the main components of CHAT including the subject, object, mediating artifacts, community, divisions of labor and rules of the culture (Allen, Karanasios, Yorkshire, & Slavova, 2011; Engeström, 1987, 1999). Engestrom’s model informed cultural impacts, historicity and multivoicedness throughout the development of themes, which helped to illuminate contradictions and their possible resolutions. While I identified the essence of the themes, I asked: How do the data themes make an argument in relation to my research question? What are the implications of my findings? Does it confound the existing phenomena? Or does it challenge the phenomena? (Moustakas, 1994; VanManen, 1990) I combed through and reflected on my initial assumptions to speak to both the phenomenological reflective process of as an interpreter of data and that of an ethnographic researcher—notions that speak to the evolution of
the researcher. I placed activity systems and networks into the TheBrain software. This tool allowed me to visually represent the relationships within the Activity networks, which allowed for visual representations of links between ideas. TheBrain offers links to the www, notes, attachments and video. After careful analysis, I was able to identify links between and amongst the activity systems and networks. I then refined activity systems and built consistency between and amongst neighboring activities. The final stage of the Thematic Analysis was to write a report based on the narrative. It is at this stage that I fully acknowledged and utilized the advantages of my blended methodological approach. Based on this thorough research base, I report the story through descriptive narratives and wider interpretation (Maggs-Rapport, 2000).

**Researcher Identity**

Reflexivity is defined as researchers’ acknowledgement of their own influence on reporting and analyzing their research participants’ sense making of the world (Rossman & Rallis, 2011). In alignment with the foundation of ethnographic participant observations, I am continually aware of and mindful of my position as researcher, coach and teacher as to the influence it can have on this investigation (Rossman & Rallis, 2011). I recognize that as the author of this proposal, the product will be unquestionably biased to some extent. The interpretive stance that I have taken on this study is consciously chosen in concert with this belief.

There are several biases that I bring to the study, as I embody the positions of coach, teacher and mentor to many of the participants. For the past seven years, I have been involved with the participants in several capacities, including instructor, mentor, coach, counselor and tutor. More recently, I have held the position of interviewer researcher with the Boys and Gaming study that has been conducted over the last 3 years. Secondly, my position as an
educator and football coach within the school district has allowed me to observe the relationship between the culture within the school environment and the community culture. This gives me insight into the cultural fabric and environment in which these participants live, work and play. Lastly, my master’s degree in teaching and learning in the 21st Century gives me insight into the ways in which teaching and learning trajectories align and misalign with 21st Century workplace needs. This degree gives me experience in both designing for and teaching towards these 21st Century agendas with, at times, the population of participants.

Biases such as the relationship between my participants and myself may have interfered with the data collection and analysis in a few ways. During interviews I may have led the interview process with presumptions and elicited information from the participants through leading questions. I may have relied to heavily on the history of our relationships during questioning. These biases may also influence my data analysis, as I may take for granted the pre-existing relationships established between my participants and myself. That is, I may have presumed more than what was said or predict meaning from actions that were not present. Other assumptions may be that adolescent boys can have great difficulty recognizing or articulating relevant learning within external activities beyond the traditional school setting. Among this list may include a limited vocabulary that may require translation, a game not only being something they do but a part of their identity and that emotions are telling and important aspects of learning. My position as a 21st Century Learning Designer may influence my analysis of game mechanics, intentions of gameplay and interactions between and amongst team members for the participants under study.

To remain conscious of these biases throughout the analysis, I first wrote them down for review and remembrance. Secondly, I used Braun and Clarks’ 15-point checklist on good
thematic analysis research (2006). This 15-point checklist ensured that I was in line with standard qualitative research throughout each stage of the analysis (See Appendix B). I also drew from my three previous data collection and analysis processes within this study. The previous three studies were conducted with the same population of students and serve as preparation for this current study. Other ways in which I ensured trustworthiness of data are mentioned in data phenomena.

**Limitations**

My study was implemented with a limited number of participants in a single school district. The number of participants interviewed was 19, with 8 fully engaged in the three-series interview process. Adolescent self-reports can be limited; however, I relied on my previous experiences with research of this type as well as interpretivist qualitative analysis. This included considering my identity as a current educator to make clearer relationships between self-reports and social and material practices. The small number of participants is not uncommon in qualitative research (Rossman & Ralllis, 2012), and I sought to acquire an appropriate level of saturation before considering a larger number of participants.

Another limitation to the study might have been in the lack of extended time period towards an ethnographic design. Although this study incorporates several of the main ingredients of ethnographic studies, including participant-observation, various data sources and a focus on participant voices, an argument can be made that an eight-month timeframe for the collection of data is too short. This limitation speaks to the proposed snapshot ethnography (Campbell, 2014; Janzen, 2005). Due to the shortened time frame, I may have missed historical processes that can lead to learning. That is, I might not have been able to capture important historical processes that may have been imperative building blocks for sense making for my participants.
Ethical Considerations

This study was conducted under the approval of an Institutional Review Board (IRB). Confidentially was maintained by creating a unique random identification (RID) number. This number was created with a random number generator from 100-500 for up to 20 participants. As this study looked to view social and material practices and participation, these behaviors were viewed through interactive and collaborative activities with groups. Therefore, online participants were marginally accounted for as team members within cooperative play. Each participant was assigned an individual RID number. I also created a master Excel document that held participant pseudonyms as well as team member pseudonyms for use within the data analysis and report. This master spreadsheet contained information indicating parental permissions and assent permissions and was stored on a password-protected external hard drive. Located under each pseudonym, I created individual folders for each student that included transcripts, video files and observation notes. These folders further included both raw data material and refined and analyzed data materials. These files had the same format (pseudonym_2015_06_09_transcript), and all hard copies (e.g., transcripts, observation notes) were stored in a personal file drawer in my office under lock and key.

Summary

There were additional questions to ask along the trajectory of what participants were learning. This study sought to provide rich and detailed descriptions of boy gamer experience within the online environment of Call of Duty. The present study took on a phenomenological design; however, due to the nature of game play within Call of Duty, the researcher utilized ethnographic approaches to capture organic data within the study environments. The combination of these two methodologies has shown promise, as it empowers both the researcher
and participants to contribute to a study (Joo, 2013; Maggs-Rapport, 2000). Acknowledging the interactivity of researcher and participants, distributed tool use and the situativity of this particular type of gameplay, the researcher has taken to the use of CHAT. CHAT, as an analytic theory, has the ability to help explain the phenomena of gaming experience through mediating artifacts, interactions, rules and distributed knowledge of the learning community. In addition, CHAT seeks motive-objects and resolutions of contradictions (Campbell, 2014; Engestrom, 2001; Foot, 2014; Joo, 2013), which provided the intentionality that a phenomenological process seeks towards unpacking the essence of a lived experience (SEP, 2015).

Using an adapted 8-step-model (Mwanza, 2001; Engestrom & Mwanza, 2005), I was able to clearly identify if and where the learning habits are formed. Secondly, I moved towards descriptions of how these characteristic habits were being formed by the game with the filter of Engestrom’s (2001) Expansive Learning Matrix. Through this analysis, the reported themes give the ability to identify and provide richer descriptions of learning. As we sought to identify learning accounts where they applied to Call of Duty game play, this study also speaks to cultural practices and values through the use of an ethnographic/phenomenological design analyzed through CHAT’s analytic frameworks (Joo, 2013). This analytic frame gave insights to answer our research questions by using the following modified guiding inquiries: (1) Who are the subjects of learning, how are they defined and located?; (2) Why do they learn, what makes them make the effort?; (3) What do they learn, what are the contents and outcomes of learning?; and (4) How do they learn, what are the key actions or processes of learning? Chapter 4 will provide the findings of this study that was conducted based on the methods described within the current chapter.
CHAPTER 4: FINDINGS

This chapter will discuss the findings in terms of thematic narratives. I defined and named themes based on central activities along my CHAT analytic frame (Engestrom, 1987). Specifically, the themes narrate the social and material practices within the CoD gaming community for this population of boys. Categories and themes were not strictly bounded boxes of information. CHAT recognizes that activity systems are multi-layered with several fluid components that may share elements (Engestrom, 2001, 1987). Activities occurred simultaneously and components overlapped across central activities and themes. During highly interactive video game play, activities and motive-objects emerge and evolve instantaneously through simultaneous actions and tasks. Therefore I utilized my definitions of the nodes of an activity system to help articulate terms within each node. Ethnographic data helped inform the CHAT lens and analysis including: video recorded interviews, recorded game play data, supporting video (including previous phases), informal conversations and observations. Because of the complex nature of interactive gameplay, I did encounter approximately 15 activities within this study. I have fused some of these systems to form cohesive narratives that re-counted the strongest themes alongside my research questions. In additions the four activity systems communicate themes that aligned best with the historically culminated works up this point. To this end, four distinct central activities were identified to form the CoD Activity Network (CAD) for this study. The group of 16 boy adolescent participants represented the collective subject (unit of analysis) of the activity (Engestrom, 1987). First I will introduce you to the participants in this study. Eight of the participants completed the full 3-interview series protocol. The supporting interviews, game play and observations represented playmate companions and
parents’ contributions to completing the thematic narratives. The themes containing their central activities included:

- **Theme: CoD as a Social Function**
  - Central Activity: Socializing with Peers
- **Theme: Satisfying a Competitive Drive**
  - Central Activity: Competing in CoD
- **Theme: Activity: Identity Formation Through Playographies**
  - Central Activity: Enacting Personas
- **Theme: Showcasing Expertise Through The Flow State**
  - Central Activity: Pursuing the Flow State

Tensions were identified through the investigation of Expansive Learning. As tensions are resolved over time, new knowledge may have formed (Engestrom, 2001, 1987). My findings showed that some tensions might have led to Expansive Learning. Tensions are explained within each central activity and show unresolved tensions as well as trajectories of Expansive Learning, where applicable. Multi-voicedness played a significant role in understanding expansive learning. Participants transmitted diverse histories, and the complex activity systems also transmitted multiple layers and strands of history that were imprinted in their artifacts, rules and norms. These adolescent boy perspectives and insights impacted the report on the basis that the sources of reported perspectives impact the system and networks they form (Engestrom, 2001).

The activity system network brought all activity systems towards the merging motive-object of the experience of playing CoD for adolescent boys in “owning the zone”. Finally, I discuss the profound role that “play” performed throughout each of the central activities, ultimately forming (what I interpret to be) a playcology of CoD play for my boy participants.

**Participant Profiles**

**Main Participants**

**Zane** was a 19-year-old high school graduate. He would be entering college and playing football for his University in the Fall 2016. In the 2015-2016 school year, he helped to coach the
varsity team. Zane was an enthusiastic CoD gamer who played across both Xbox and PS platforms. He often played with his best friend Kevin. Zane reported that he enjoyed gaming to get away from the real world and relieve stress.

**Blake** was an 18-year-old college freshman who was also playing football at his current school. His interest in gaming was oriented towards Indy games and narrative-based games. Blake also played MMO’s such as WOW and RPG’s such as StarCraft. He reported that he liked to help other players in CoD and help them to become great.

**Avery** was a 16-year-old high school sophomore. He played CoD with a group of friends including his twin brother and good friend Trevor. Avery played on an Xbox 1 but also played on the PS4. He reported that he liked to spend the time with friends in the game space.

**Cody** was a 19-year-old college sophomore. He had been with the project from the beginning. He used to play CoD more during his high school days. Particularly, he played with his good friends Austin and Hunter, who are both mentioned in this report. Cody reported that he truly enjoyed teaming with friends and competing fiercely with large groups of people.

**Josh** was a 16 year old high school junior. He was one of the more talented players of CoD. In the 2015-2016 year, Josh started for the first time on the varsity football team. Josh was an avid CoD gamer and attributed his self-esteem to his gameplay. He often sought out notoriety for his gaming skills and prided himself on his ability to be recognized by the worldwide gaming community. He normally played with Justin on the Xbox 360 live.

**Kevin** was a 17-year-old high school senior and one of the better gamers of the group. He and his best friend Zane would be going to the same University to play football in Fall 2016. They normally played on the PS3 but recently upgraded to the PS4. Kevin reported that he began as a gamer and loved to compete with all opponents.
Christopher was a 16 year old high school junior. He usually played on a PS3 with his brother, Trevor and several others. Christopher and Mike viewed CoD as a training ground for their next steps to join the military. Together, they had dreams of serving in the military to protect their country. Just recently, Christopher and his best friend Mike upgraded to the PS4 to rejoin his friends in CoD.

Brad was a 19-year-old sophomore in college who had been with the project since the beginning. Brad came from a video game-playing family with two younger brothers. It was normal for all brothers and his dad to play together, especially when a new version of CoD became available. Brad had expanded his gaming preferences to Indy games, much like Blake. He reported that he enjoyed socializing across the headsets with international friends.

Table 4.1

Participant Interview Log

<table>
<thead>
<tr>
<th>Name (Age)</th>
<th>Completed 3 Interview Series</th>
<th>Total Recorded Interviews</th>
<th>Think Aloud Time</th>
<th>Play Dates</th>
<th>Captured Playtime Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zane (18)</td>
<td>Completed</td>
<td>1.17 hr</td>
<td>30 mins</td>
<td>8/26/15</td>
<td>1 hr</td>
</tr>
<tr>
<td>Blake (18)</td>
<td>Completed</td>
<td>47 mins</td>
<td>16 mins</td>
<td>6/25/15</td>
<td>7/16/15 3 hrs</td>
</tr>
<tr>
<td>Avery (15)</td>
<td>Completed</td>
<td>31 mins</td>
<td>13 mins</td>
<td>6/25/15</td>
<td>8/26/15 30 mins</td>
</tr>
<tr>
<td>Cody (19)</td>
<td>Completed</td>
<td>42 mins</td>
<td>11 min</td>
<td>7/16/15</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Josh (16)</td>
<td>Completed</td>
<td>58 mins</td>
<td>13 mins</td>
<td>6/25/15</td>
<td>7/16/15 8/26/15 4 hrs</td>
</tr>
<tr>
<td>Kevin (17)</td>
<td>Completed</td>
<td>1.28 hrs mins</td>
<td>27 mins</td>
<td>6/25/15</td>
<td>8/3/15 8/26/15 9/10/15 7.5 hrs</td>
</tr>
<tr>
<td>Christopher (17)</td>
<td>Completed</td>
<td>3 hrs</td>
<td>2:10 hrs</td>
<td>8/3/15</td>
<td>9/10/15 7 hrs</td>
</tr>
<tr>
<td>Name</td>
<td>Age</td>
<td>Interview Type</td>
<td>Time (mins)</td>
<td>Estimated Time (hrs)</td>
<td>Date</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>----------------</td>
<td>-------------</td>
<td>----------------------</td>
<td>------</td>
</tr>
<tr>
<td>Brad (19)</td>
<td>Completed</td>
<td>2 hrs</td>
<td>1:10 hrs</td>
<td>8/30/15</td>
<td>2.5 hrs</td>
</tr>
<tr>
<td>Ben (16)</td>
<td>Additional</td>
<td>13 mins</td>
<td>1:40 hrs</td>
<td>8/30/15</td>
<td>2.5 hrs</td>
</tr>
<tr>
<td>Bryan (14)</td>
<td>Additional</td>
<td>25 mins</td>
<td>1:40 hrs</td>
<td>8/30/15</td>
<td>2.5 hrs</td>
</tr>
<tr>
<td>Trey (17)</td>
<td>Additional</td>
<td>8 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>0 hrs</td>
</tr>
<tr>
<td>Trevor (14)</td>
<td>Additional</td>
<td>10 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>0 hrs</td>
</tr>
<tr>
<td>Troy (14)</td>
<td>Additional</td>
<td>11 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>30 mins</td>
</tr>
<tr>
<td>Justin (17)</td>
<td>Additional</td>
<td>10 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>1.5 hrs</td>
</tr>
<tr>
<td>Dano (12)</td>
<td>Additional</td>
<td>4 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>0 hrs</td>
</tr>
<tr>
<td>Wally</td>
<td>Additional</td>
<td>7 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Brent</td>
<td>Additional</td>
<td>10 mins</td>
<td>N/A</td>
<td>8/30/15</td>
<td>30 mins</td>
</tr>
<tr>
<td>Hassan</td>
<td>Additional</td>
<td>8 mins</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Table 4.1 shows the Participant Interview Log of each player in the study. The table also shows the estimated gameplay time that was captured. Following are the secondary participant profiles that helped inform the data and provide support for analysis. Likewise Table 4.2 shows a portion of the gameplay dates for the participants and also gives information from observational notes of games, consoles and modes of play from observational data sheets. Note the average age of adolescent boy participants within this study was 16.

**Supporting Participants**

**Ben** was the second born brother of Brad and a 16-year-old high school junior. Ben was rather soft spoken outside of game play. During gameplay he seemed to liven up and “activate.” Ben often played with Avery and Trevor, among other friends. His family had just purchased multiple PS4’s and monitors, so the gaming experience became incredibly visceral for his friends to come over and play.

**Bryan** was the youngest brother of both Brad and Ben. He was a 14-year-old high school freshman and had also been a participant of the study since the beginning. Admittedly, Bryan
was the best *CoD* player in the group and took great pride in that. He also played many other games with his young friends, including Minecraft and Little Big Planet, among others.

*Troy* was a high school freshman like Bryan who played with Avery and his twin brother—often on the Xbox1. Troy provided additional information about his gaming experiences with Avery.

*Trevor* was a 15-year old high school freshman like Bryan and joined us from the third phase of this research to give insights into his playing habits.

*Trey* and *Justin* were both high school juniors. They both joined in from previous phases of the research and gave additional information on their experiences of *CoD* gaming.

Lastly, *Dan* was our youngest additional participant. Dan was the head coach’s young son and gave a bit of information on how he felt about not having *CoD* in his home.

**Parents**

*Coach Wally* was the head coach and father of Dan. The football program runs from 7th grad through 12th grade. Coach Wally had been the head coach of the football team for several years and had a great relationship with the boys. This consistency throughout the years gave him great insights into the players as individuals with rich contextual relevance. We had had several conversations about the impact of gaming on his players.

*Coach Hassan* was the father of two boys who had been with the study for all three phases. He had also been the defensive coordinator for the football team alongside the head coach. Coach Hassan was one the most beloved coaches and always had a room full of players and students alike during the homeroom and after school hours. His insights into the significance of games in the lives of boys were helpful. I talked to Coach Hassan frequently about this
research over the past three years. He also gave great insights into his view on parenting and violent games.

**Coach Brent** was the father of three of the boy participants. This family had been a part of all of the phases of this research. Coach Brent had been with the coaching staff for several years and provided a perspective that spanned three timelines at once. His sons represented the entire breadth of this adolescent range. He had a high school freshman (Bryant) and junior (Ben) and a college sophomore (Brad). In addition, this perspective was invaluable as he also brought a parental perspective as well. Coach Brent provided us with helpful insights into seeing the evolution of his gaming boys throughout the adolescent boy stages.

Table 4.2

*Participant Gameplay Log*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Console</th>
<th>Game</th>
<th>Game Mode</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zane [18]</td>
<td>8/26/15</td>
<td>7:30pm - 9:00pm</td>
<td>Doc's</td>
<td>X360/P3</td>
<td>AW</td>
<td>BOI/AW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bake [18]</td>
<td>6/25/15</td>
<td>4:00pm - 6:45pm</td>
<td>WP Workforce</td>
<td>X360/P3</td>
<td>AW/M3</td>
<td>SR/SD/Domination/On/Capture</td>
<td>7/16/15</td>
<td>4:00pm - 6:30pm</td>
</tr>
<tr>
<td>Avery [15]</td>
<td>6/25/15</td>
<td>4:00pm - 6:45pm</td>
<td>WP Workforce</td>
<td>X360/P3</td>
<td>AW/M3</td>
<td>SR/SD/Domination/On/Capture</td>
<td>7/16/15</td>
<td>4:00pm - 6:00pm</td>
</tr>
<tr>
<td>Josh [16]</td>
<td>6/25/15</td>
<td>4:00pm - 6:45pm</td>
<td>WP Workforce</td>
<td>X360/P3</td>
<td>AW/M3</td>
<td>SR/SD/Domination/On/Capture</td>
<td>7/16/15</td>
<td>4:00pm - 6:00pm</td>
</tr>
<tr>
<td>Kevin [17]</td>
<td>6/25/15</td>
<td>4:00pm - 6:45pm</td>
<td>WP Workforce</td>
<td>X360/P3</td>
<td>AW/M3</td>
<td>SR/SD/Domination/On/Capture</td>
<td>8/3/15</td>
<td>9:00am - 1:00am</td>
</tr>
<tr>
<td>Trevor [16]</td>
<td>8/26/15</td>
<td>7:30pm - 9:00pm</td>
<td>Doc's</td>
<td>PS3</td>
<td>BOII</td>
<td>TDM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brad [19]</td>
<td>8/30/15</td>
<td>2:00pm - 4:30pm</td>
<td>Blue House</td>
<td>PS4</td>
<td>AW</td>
<td>TD/Domination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ben [16]</td>
<td>8/13/15</td>
<td>7:30pm - 9:30pm</td>
<td>Blue House</td>
<td>PS5</td>
<td>AW</td>
<td>TD/Domination</td>
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<td>Bryant [14]</td>
<td>9/1/15</td>
<td>2:00pm - 5:00pm</td>
<td>Blue House</td>
<td>PS5</td>
<td>AW</td>
<td>TD/Domination</td>
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<td></td>
</tr>
<tr>
<td>Cody [19]</td>
<td>7/16/13</td>
<td>4:00pm - 6:00pm</td>
<td>WP Workforce</td>
<td>PS3</td>
<td>AW/M3</td>
<td>Domination</td>
<td></td>
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<tr>
<td>Justin [17]</td>
<td>8/26/15</td>
<td>7:30pm - 9:00pm</td>
<td>Doc's</td>
<td>X360/P3</td>
<td>BCII/AW</td>
<td>TDM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ralph [14]</td>
<td>7/15 - 7/25</td>
<td>2 hrs</td>
<td>His House</td>
<td>PS3</td>
<td>AW/M3</td>
<td>SR/SD/Domination</td>
<td>8/3/15</td>
<td>9:00am - 1:00am</td>
</tr>
<tr>
<td>Trey [17]</td>
<td>8/26/15</td>
<td>7:30pm - 8:30pm</td>
<td>Doc's</td>
<td>X360</td>
<td>AW</td>
<td>TDM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tristan [14]</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Coach Brent</td>
<td>9/10/15</td>
<td>4:00pm - 10:00pm</td>
<td>Online</td>
<td>PS3</td>
<td>MW3</td>
<td>D/SR/Domination</td>
<td>10pm - 1pm</td>
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<td>Avg Age = 16</td>
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Theme 1: Call of Duty as a Social Function

The current theme discusses how social engagement resided at the core of CoD play. CoD acted as an adolescent social function because socialization was inseparable from all meaning making processes within the activity itself (Vygotsky, 1978). The principal activity observed during all interactions was social in nature. In fact, CoD took on several characteristics of a New Third Space (Oldenburg, 1999; Steinkuehler, 2005). The central activity for this theme was Socializing with Peers (See Figure 4.1). The motive-object was defined as Peer Bonding. Some of the rules and regulations include the use of the community language, trash talking, game rules-dependent upon game and mode- aggressive play, active engagement and a strong rule of “No Hacking Allowed.” The community of CoD players consisted of geographically local peer playmates as well as an international online population. The mediating instruments included the online virtual environment, the gaming console, gaming maps, class and equipment (perks), CoD game of choice, headsets, User Interface (UI), lobbies, and game controllers among others. Although the desire to bond with peers was observed across the CoD community at large, social connectivity mostly occurred with peers that were geographically local (Observation, June-December, 2015).
Figure 4.1. Socializing with Peers

Figure 4.2. CoD as a Social Function (Blake, Kevin & Josh)
Social Connectivity

Historically, socialization experiences for boys took place face to face as they enjoyed hobbies together. For example, thirty years ago boys may have congregated outside or joined model-building clubs to socialize with their fellow boy peers. Boys were not likely to pick up the phone and call their peer friends but instead preferred active participation in their social engagements. They played at each other’s houses, in back yards, parks, or on the sidewalks. These environments and opportunities could be thwarted by poor weather, lack of a transportation or location. The digital environment of CoD provides a just in time access social space. In Figure 4.2 we see Josh, Blake and Kevin playing together face to face, however they could just as easily be playing at home across the online environment. As seen in the photo, the environment is informal, relaxed and social. The boys in this study did not need to find a hobby group in order to perform social activities with peers. The digital landscape enabled the boys with the ability to connect to their hobbies just-in-time and provides customization. Call of Duty acted as a social hub (magic circle) for my boy participants. In this way, CoD showed to be free activity that occurred in a cultural sphere limited by time and space (Huizinga, 1949). Likewise CoD has regulars, can be considered neutral and provides easy access and accommodations for its play community (Steinkuehler, 2005; Oldenburg, 1999).

Within this boy culture, game play was not simply a way to build social connectivity. Game play was the most desirable way to keep in touch with friends and build social bonds. Boys highly preferred video game spaces for social connectivity. Towards New Third Spaces, CoD may be considered a home away from home providing comfort and a sense of security (Steinkuehler, 2005) for boys. Kevin said,” I think playing with my friends is fun. And I think it’s like a way to bond with them. When you have videogames, you play together at the same
time, and talk to each other too. It’s like a form of communication. Kind of like social media—Just fun!” (Kevin, Interview #3, 7-30-15). Kevin recognized the gaming environment as a social hub for him and his friends. Furthermore, he acknowledged that it was similar to social media with a unique distinction of being preferable and even more enjoyable than social media—“Just fun!” For Kevin, the game acted as a social hub that was specifically tailored for him and his peers. New Third Spaces allow players to create effective learning environments as players engage in personalized cultural practices with regular community members (Steinkuehler, 2005; Sanford & Madill, 2004). In this regard, the findings of this study align as CoD could be seen as space that the boys were able to build meaningful connections through the convenience of online play. Cody had been involved with this project over its 3-year duration and reflected on his CoD gaming in high school.

I think that mainly more than anything, it was a social way to like enjoy time with my friends. So development in the social aspect would be pretty interesting. I remember talking to you earlier saying that friends that I played Call of Duty with would usually like reciprocate in real life. I’d usually hang out with them in real life and you know, visa versa, so. As far as the social aspect it bonded me closer to my friends. (Cody, Interview 1, 7-14-15)

These adolescents were particularly drawn to the commercialized exposure and notable allure of the CoD franchise. Because of its broad reach, the social impact of CoD was leveraged as a tool for peer relationships. Scholars suggest that boys utilized developed skills as models to adopt techniques for future social situations (Blair & Sanford, 2004; Sanford & Madill, 2007). Social development is imperative through all levels of adolescence as the need to bond even occurs beyond secondary school (Steinberg, 2005; Woolfolk, 2011). Like all of the participants, Blake “grew up” on CoD. At the time of the study, Blake was entering into his first year of college where he would play football for post secondary University. Blake described how he could use CoD to build social connections in this next phase of life.
The more I grow up the more I realize that almost everyone knows how to play CoD. And if you wanna break down the walls, you know, break the ice with somebody. Especially that I’m going to college next year. I’ll be like hey, “You got CoD. Let’s go come in my room and we’ll play it”. Like we can have a gaming tournament or whatever and we can like build connections that way. Then uh, then I’d play online with them and I’d help them. Establish them being a better player in the game. Bring somebody else into the game. 
(Blake, Interview #1, 6-16-15)

![Figure 4.3](image)

*Figure 4.3. Playing with Peers*

*CoD* has an international following, which tremendously increased access to peer groups. In *Figure 4.3* Blake plays with Josh and Cody at the Workforce Alliance location. Although there is incredible comfort with local friends, the *CoD* environment provided a sense of belonging within an international community. *CoD* participants enjoy socializing just-in-time (on demand) and beyond geographical boundaries. The opportunity to access new peer groups was amplified onto a global stage. Brad described the convenience of engaging with geographically distant peers:

I am friends with people that I met in *Call of Duty*, that I’ve met on *Destiny*, that are like from Alaska or like *Canada*. I have a friend who I think he lives in the UK. I would never have met those people if it was not for the game *Call of Duty* or *Destiny*. Especially, *Call*
of Duty. Because so much communication goes on that you’re automatically like, “Oh, you’re really cool.” And then you got a friend request from a person that you just talked for two seconds. “That is cool, I’ll play with him again”; and you play with him and you become friends. It’s a very social environment to be playing a game. (Brad, Interview #3, 8-30-15)

Brad demonstrated that CoD provides a social connectivity has no geographical boundaries. The participants liked the ability to easily change lobbies and engage with new peer groups.

Changing lobbies maximized opportunities for new gaming experiences and maintains engagement within a single medium. This is an attractive feature of the CoD franchise as players participated in a global peer playground.

Teaming to Build Camaraderie

The boys felt a sense of rootedness, being at ease and warmth within their online multiplayer environment (Steinkuehler, 2005). This “home away from home” developed a sense of camaraderie for boys. As players worked towards building camaraderie there was a change in the activity. Teaming reaches beyond simply playing together as teammates. Teaming emerges as a response to pursuing camaraderie. Teaming can occur from the desire to play with social group members against an oppositional force. As a coach and a teacher, I’ve observed this numerous times throughout the gameplay as well as in the weight room, and on the football field for these participants. Often the boys team up naturally to play touch football after practices or during lifting session as they get to choose their lifting partners (Personal Observations, 2009-Present). The boys gravitated towards their closest friends on the team for all collaborative competitions. Brad described teaming in CoD through improving collaborative efforts and how he enjoys collaborating with his closest friends.

I feel like more than anything, it’s very social. Most online video games are very social. Call of Duty especially, because it is all about teamwork in Call of Duty. The only other things that continue in Call of Duty are the amount of teamwork and trust is an MMO. Because in an MMO you’re always working with somebody. In Call of Duty, it is
constant. “Oh there is a guy over here. There is a guy over there. I just got killed by this guy over here.” It is always about trying to help everyone else while also helping yourself. You gain the ability to kind of understand why it’s important to work together because if every person in the match of Call of Duty was just on their own, it wouldn’t be fun because everyone will be terrible and every game would probably end in a draw. And that’s no fun, because everybody’s gotta win; and it’s more about working together and making connections with people, that you wouldn’t have met anyway.

(Brad, Interview #3, 8-30-15)

The boys in this study usually played the team based modes of CoD. However, teaming forced the rules and regulations to become more refined to include: protecting teammates, owning your role, leveraging team dynamic, communicating clearly, and not sabotaging team goals. Divisions of Labor became more pronounced as individual team combinations designate roles- sniper, run and gunner, or camper among others.

Working towards building camaraderie heightened the commitment to success because players desired to protect each other. The boys liked to take care of their friends and viewed the online environment as a way to develop their relationships. Christopher reported that he liked to play with teams because he could “have his friend’s backs.” When asked why he plays CoD, Christopher responded, “Because it helps you cooperate with others, like, learn how to maneuver as a team and to conquer one goal. Yeah. So pretty much you have to have each other’s backs.” When asked what was so fun about playing with friends, Christopher then respond, “With my friends, it’s easier to communicate with them. It’s funner, because you get to, make up jokes while you go. It’s inside stuff that connects you with each other in real life, instead of just over the console.” Christopher’s example highlights the desire the boys have to retreat with friends into a social comfort zone. Boys retreated into a personalized play sphere (magic circle) to engage in personalized cultural activities of play (Huizinga, 1949). Participants loved to take on an “Us against the world” attitude with their playmates. For the boys in this study, teaming required competition as both a rule and a tool of play. Teaming occurred as a result of wanting to
compete on a larger stage with large groups of peers. Cody talked about how he experienced camaraderie in CoD.

You love like going with your friends online. Being able to compete with them. …… I just think that being able to get a bunch of your friends, because with sports games and stuff, you'd be like one-on-one, two-on-two at most. But being able to go in a party with like 20 kids,… I mean who doesn’t like shooting games? Cuz everybody, you know! It’s kinda cool. It’s fun. It's just fun to do, and that combined with being able to get like 20 people in a game and all your friends, really makes it unique. It's really one of the first games that you were able to do that with. It's just cool! It was fun. Tons of people playing and tons of people getting better and shooting each other. Nothing much better than that! (Cody, Interview #3, 11-10-15)

Cody illustrates how the boys in this study have a passion (love) for playing with their friends because of the camaraderie that teaming provides. In alignment with the notion of a New Third Space CoD represents a home away from home where players had a sense of ownership, possession and feelings of being at ease and warmth (Oldenburg, 1999; Steinkuehler, 2005). Every participant enjoyed playing together against opposing teams, nevertheless competing is a part of the bonding experience. Boys bonded through competition, especially against close friends: "You love like going with your friends online. Being able to compete with them”. CoD play for boys is uniquely linked to their propensities to engage in aggressive play (Jenkins & Cassell, 1998; Sax, 2007). It could be said that for these boys competition was a necessary ingredient for bonding with peers. Through competitive means the boy participants understood the value of team building and the impact it had on building relationships beyond the game.

Players demonstrated an understanding of how teaming concepts can be used in the real world. This findings supports Sanford and Madill’s (2007) work on literacy and games the boys developed cultural literacy, building connections of ideas and sharing cultural capital amongst peers groups. Josh was asked how he believes CoD has helped him understand team dynamics. He explains the types of teams he would like to be a part of: “Well, maybe like my teammates
that I want in real life are sometimes like easy going, not always like yelling all the time, knows
what they’re doing, works together with other people, like comfortable working with other
people. Don't like shy away from the group.” Historically this aligns with other responses like
Hunter’s from Phase II, as he recalled playing *CoD*:

> Because when you are playing games (CoD), you find that you are playing in
team-based game inside the game; you have to communicate to be on the same page I
think. And in real life, you will be in teams in a job, in school; for this team you got to
build the ability to communicate effectively and clearly. It's the point, and I think that in a
lot of video games, yeah, they do that. You have to communicate clearly, effectively,
quickly, and get your point across to achieve whatever you are trying to achieve.
(Hunter, Phase II, March 2014)

The boys learned to communicate and find their roles within a team atmosphere. Josh was asked
how learning teamwork in the game related to his understanding of teams in the real world.

> Well, maybe like my teammates I want in real life. I’d like a team that’s easy going. I
always like to be easy going all the time. I like teams that know what they’re doing. I like
to work together with other people. I’m comfortable working with other people. I like
teammates that don't to shy away from the group.
(Josh, Interview #3, 7-30-15)

Josh considered the characteristics of a team that he preferred in the real world, saying he
preferred an environment of comfort and competence: “I like teams that know what they’re
doing. I like to work together with other people.” Players could see that team dynamics had some
transferable properties that operated as platforms for real-world team building. The notions of
teamwork were significant and transferred between the virtual world and the real world,
demonstrating an important impact on the boys’ concepts of team development.

**Developing Communication Skills**

Connecting to New Third Space literature (Steinkuehler, 2005), conversation was the
main activity during playful engagements. Beyond teaming, players also developed both
communication skills and confidence in their ability to participate in conversation. Players also
believed that they could provide meaningful contributions to a discussion. Through CoD, the participants became more confident in their abilities to articulate thoughts, feelings and ideas clearly. Blake was asked how he felt CoD had developed his communication skills for real world applications.

Well I could sit down and have a conversation about this. You know what, I’m comfortable talking to anybody now! Because I’m literally, like you said, talking to someone across the world at some point. I think that helped me as a leader, as cheesy as that sounds. Because I can go into a room and make it a positive environment; have people follow my lead and be a leader there. That little difference makes difference. You know what I mean? Knowing that somebody can act like me and be a little bit more responsible. Communications is probably the biggest thing you need. I mean, first impressions are your only first shots. If I go up to you and be totally comfortable being myself in front of you, then that definitely helps. I do that everyday, whether it’s two minutes or two hours of meeting new people- 16 at a time. And it’s kind of overwhelming if you let it get to you. I think that it has expanded my horizons. Because, like I said, you talk all the time. So obviously you learn different cultures, stuff here and there. It gives me confidence. If somebody’s talking about something from maybe Asia or whatever and I’m like, “Wow I had an experience talking about that... ”. Now I can engage in a conversation and be more well rounded in a topic I didn’t know about. So it definitely helps with that kind of interaction with people. It definitely makes me more comfortable in my own skin, being around people. Being able to say what I wanna say and just take over a room, pretty much. (Blake, Interview #3, 7-16-16)

Although not mentioned specifically, the international online environment provided a colocation practice for these players. Colocation practices are quite popular across the business world and refer to multiple sites or entities communicating in one place (“Colocation”, n.d.). The boys in this study operated in this type of environment so frequently that colocation was a seamless norm. There was no onramp for these players when it came to communicating across geographical boundaries, particularly within the community language of CoD, as the game facilitates and encourages international communication and engagement. To Blake’s point, this reality built confidence and made global colocation a more natural experience. Much like our previous phases on this work, communication skills were demonstrated in CoD through
vocabulary acquisition and refining rules of socialization (Engerman, MacAllan, & Carr-Chellman, 2014; Yan, Mun, Engerman, & Carr-Chellman, In press).

**Trash talking to enhance competitive engagement.** A major form of communicating in *CoD* could be described as “Trash Talking.” The activity of Trash Talking has a few functions, from getting into an opponent’s head to livening up the play environment. At times Trash Talking can even become volatile. However, its chief role is to enhance the competitive engagement of gameplay. Kevin, a high school senior lineman who had been a lifetime gamer, provided a great example. Kevin only began playing football during his sophomore year and admitted that he wouldn’t have gone out for sports at all, had it not been for the head football coach. During *CoD* play sessions Kevin displayed the most aggressive forms of Trash Talking amongst the group. The following dialogue captured the use of Trash Talking before gaming and during gaming. Afterwards, a post-gaming interview with Kevin revealed his interpretation of the use of Trash Talking.

During Game Setup: (Game Setup Video Recording, 6-25-15)
Kevin: (Talking to me about the game) See it says I’m talking so I’ll at least be able to hear people. “Man you fucking suck. You booty. You aint kill nobody. Do sumtin’!”

During Gameplay: (In Game Video Recording, 6-25-15)
Kevin: (To his playmate Blake) Yo just stay by me. And I’ll stay by you,... and we’ll stay by each other (laughs). We’re staying on the edges of the map. (On the mic) “Yo try and stay on the edges of the map. Don’t run straight at ‘em”. (Wadefaze Responds) What?! Whatchu mean be quite. You ass! (Wadefaze Responds) But I’m better than you, so. (Wadefaze Responds) Oh yes I am. I’m better than you bro. (Wadefaze Responds) Who care’s about your prestige. You still booty at this game! Oh you died, and I’m booty at this game, and you’re the first person to die. (Laughs)….

Reflection on *CoD* Gaming: (3rd Interview, 7-30-15)
Interviewer: Are you usually talking to people when you play?
Kevin: Yea! Like I don't know if you considering talking, I'm usually just sitting there cursing them out. Like "What the hell are you doing?"
Interviewer: Is that a part of the fun?
Kevin: Yes! It’s -- yeah. It's like being competitive. Like cursing at people, when they get you angry -- especially your teammates. If they're not doing what they're supposed to. It’s
like what the F are you doing?! What the hell man?! And then like when people get
mad,… Like you kill them and they get mad and start cursing at you. It's so funny…..
That’s like -- it's funny to begin with. There's always that one thing to hype you up and
you just -- and it's like when people start cursing at you, you're like, “Bet! You want to
talk about me?!” And you just go for that one person. You don't want to kill nobody else
but that one person. It makes me better I think.

Interviewer: Do you build friendships that way, you think?
Kevin: I mean there's this one kid, his name is Peter. One of my great friends, I met him
and stuff but I met him on X-Box. We were playing Black Ops 1. And the one day it was
me and him and like two other kids and we're in a clan at that time, and everyone else left
and it was just me and him. Me and him played every day. I mean I was a loser, because
all we did was play every day. And we became really good friends. And he came down to
New York the one summer and we hung out a couple of times. We play X-Box still.
Well, PS3 now. He doesn't have X-Box no more. So I mean if you want to say build
friendships, Yeah!

Kevin: Yeah. So when I was talking shit on Wadefaze and he started talking shit back
and it kind of got me more into it. To like show him like that I'm better than you. Or like
that I’m not as bad as you think I am. You know what I mean?

Trash Talking was used to “hype” gamers up within game play as it also served to heighten the
stakes of competition. Kevin became more focused and increased the stakes on failure. Failure
may now have the extra weight of personal embarrassment within the community. Kevin’s
communications demonstrate that some of the abrasive and volatile language used by boys can
be intended as playful banter. Trash Talking was more often used to enhance the competitive
spirit and was equally observed between teammates. I observed a jovial environment full of
laughing and smiles during these heated interactions. Although Kevin was more focused on
winning, he genuinely enjoyed the banter (Observation, June 25, 2015). Confrontation and
conflict align directly with boy culture as they engage in aggressive forms of play (Sax, 2007;
Kindlon & Thompson, 2009), which could also include language use according to these findings.
Despite this, Trash Talking can be miscommunicated. Wadefaze was not particularly fond of
being told what to do during gameplay. Despite the friction that Trash Talking created with
Wadefaze, it seemed to be a bonding experience between Kevin and his dear friend Peter. Kevin spoke fondly of Peter and mentioned him frequently throughout the interviews.

**Tensions Towards Expansive Learning**

Secondary and Tertiary tensions developed (Engestrom, 1987; Foot, 2014) as players Socialize with Peers in *CoD*. Within the central activity, secondary tensions emerged between tools and rules and the motive-object of *Peer Bonding* (See Figure 4.4). Aggressive Play and Trash Talking were both rules and tools of the activity Socializing with Peers. Aggressive play rules were dependent on subcultural norms. Tertiary tensions emerged as players’ demonstrated motives of wanting to *exercise power* created tensions with *peer bonding*. These tensions manifest as team play becomes negatively impacted. These tensions were clear between motive-object of Competing in CoD, which will be discussed in the following theme. Aggressive play impacted physical play style but also language use such as Trash Talking. This further adds to the notions of multi-voicedness as players bring with them various histories and norms that are engraved in multiple layers of artifacts, rules and conventions. These led to unintended outcomes such as the acquisition of cursing language as a norm. This is where boys develop a language use that normalized curse words and aggressive language as acceptable peer language. Trash Talking was a common rule in playful engagements with boys. When gamer play or communication styles did not mesh, they generally left the lobby to find better-suited team members. However, complicating actions and language use had different meanings and values among independent subgroups. As a result players developed tensions while trying to communicate effectively towards joint objectives.
Figure 4.4. Secondary Tensions in Socializing with Peers (Website: https://webbrain.com/u/19BW)

Figure 4.5. Tertiary Tensions in Socializing with Peers

**Expansive learning: the problem with trash talking.** Within the social activity of gaming Trash Talking took its place as a mediating instrument and was a primary form of communicating. However this form of communication manifests itself in a wide variety of ways depending on subcultural norms and language use. A motive-object was introduced taking on a tertiary tension to relieve the secondary tensions (Engestrom, 2001; Foot, 2014) (See Figure 4.5). The new motive of *enhancing competitive engagement* had tensions with the central motive-object of *Peer Bonding* and began to impact the activity system. Christopher mentioned earlier that the social communication involved “inside stuff” between himself and his peers. This was exactly the case when Trash Talking was used. Some of the “inside stuff” may not have been transmitted, or rather interpreted, by other players as favorably as amongst local peer
groups. As a result, tensions arose within the differing rules and regulation as well as the mediating instruments. While playing with Blake, Kevin was Trash Talking with Wadefaze. Kevin’s use of language did not align towards successful communication. So Kevin’s began to experience tensions within the activity system of Socializing with Peers.

Kevin: (on the mic) I am, I was watchin the bomb dude. You know what I mean?! That’s Blake: the point of the game?! 
Kevin: But I mean I was still watching just in case he did, so

Blake: Dude I don’t know how he going to use kimbo,…
Kevin: (on the mic) So I mean I was still watchin the bomb though. Cuz I’m playing the mode. That’s why I was watchin’ the bomb. (To Blake) I hate people! (on the mic) Ima mute you. (To Blake) How do you mute somebody? (Both laugh)
Blake: This is the exact opposite of communicating. Coach Engerman is like, “what are these guys doing”….. (Blake & Kevin, Video Recorded Conversation, 6-25-15)

Kevin and Wadefaze did not communicate on the same frequency. Secondary tensions are visible in this example between Kevin’s rules and use of language. The central activity Socializing with Peers began to accrue a modified set of rules and mediating instruments. Tertiary tensions were also seen as Kevin’s alternative motive of enhancing competition had tension with the peer bonding motive (See Figure 4.5). These tensions blocked either player from enacting the primary motive-object of peer bonding. Therefore, Kevin demonstrated a use of different mediating artifacts. We notice later in this conversation that Kevin began to change his communication practice and use softer language. After communicating with Wadefaze for a few rounds, Kevin then started to implement a new practice based on newly developed tools.

Kevin: (sarcastically) Why don’t you go and diffuse a bomb dude instead of making fun of me dude. God you’re mean. 
(Blake and Kevin start laughing)
Kevin: (To Blake) Where those tags at? He’s too busy making fun of me. He needs to be playing the game.

(Later in conversation)…..
Kevin: See that’s teamwork bro! Ah (Blake: right in the foot!) Let’s go. (Handslop) I’m better than you Wadefaze! What are you like the Dwayne Wade of Faze.
Kevin: (on mic) Thanks man I didn’t know, (Wadefaze responds). Thanks,… Dude I don’t know why you’re so mean to me.
Kevin: Hah you (inappropriate language). (To Blake) Dude I don’t even know what these dudes are saying.
Blake: That’s alright, they’re mean and I don’t talk to mean people!
Kevin: He real! He real!
Blake: He’s not bad actually. I’m 1 and 3 so I can’t really say nothing.

(Even later in the conversation)…..
Kevin: Uh it’s a wrap for them now.
Blake: Oh he’s good!
Kevin: Wadefaze is really good.
Blake: Man he’s really good
Kevin: I mean he was talking shit but he was able to back it up, so…
Blake: He can talk shit whenever he wants. (Laughs)
Kevin: That’s what I’m saying. If you talk shit, you gotta back it up

…
Kevin: (Winning kill) Whew!
Blake: Who was that Faze?
Kevin: Yea was that Faze? I don’t know if our mic is actually working. Yo Wade! Maybe he, he muted us?
Blake: We were being assholes
Kevin: I can hear the, I can hear myself talk. I just think they muted us.
Blake: It’s working. We can grab a new lobby that way they don’t have to be dicks about it. (Blake & Kevin, Video Recorded Conversation, 6-25-15)

Kevin received quite a bit of backlash from Wadefaze and began to alter his approach with different language. He may have reevaluated his major motive-object—which was peer bonding. Kevin and Blake acknowledged Wadefaze’s talent and altered their language towards him. “Why don’t you go and diffuse a bomb dude instead of making fun of me dude. God you’re mean.” Although much of his change was sarcasm, Kevin’s altered approach was noticeable. This is especially noteworthy considering that Wadefaze turned out to be a useful teammate. It’s possible that Kevin began to evaluate his language use and adapted to express a more submissive approach to a useful teammate: “Dude, I don’t know why you’re so mean to me.” The teaming aspect of the activity is included here as Kevin actively engaged with Blake. He also teamed with Wadefaze as they coordinated with collaborative efforts during the game play. Kevin, however,
quickly returned to his normal mode of Trash Talking. The banter went back and forth for a few games until Wadefaze had enough and muted Kevin’s mic. Both Kevin and Blake then said, “We can grab a new lobby that way they don’t have to be dicks about it,” indicating that this was how they joked and had fun together. It was common to have muted mics between such large groups of players that communicate differently, as the boys learned boundaries of communication. Although Kevin and Blake had intentions of playful banter, to Wadefaze their antics were not interpreted as playful. The findings showed that boys learned how to communicate with different types of people from all over the world. Players also gained exposure to different languages and ways to communicate through team play. Trash Talking was so pervasive that it continued for Kevin even after Wadefaze had stopped communicating. The boys continued to talk trash to pump them up throughout gameplay. Although new practices did surface, we see that ultimately the motive to enhance the competitive engagement prevailed as Kevin decided to maintain his original set of rules and tools. However, these findings may suggest that an exercise in communicating through colocation impacted social communication skills.

Scholars suggest that physical play studies have shown benefits of emotion-regulation and emotion-encoding skills (Barth & Parke, 1993; Carson & Parke, 1996). Kevin’s communication example may give insight into how these emotional regularities occur. An expansive transformation is accomplished when the motive-object of the activity is re-conceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity (Engestrom, 2001) (see the Expansive Learning Matrix below). For Kevin it may have been, for a brief moment, softening his language towards his teammate in order to create a more cohesive team atmosphere. The next section unpacks the competitive drive that not only creates bonds, but fuels improvement.
### Table 4.3

**Expansive Learning Matrix for Communication**

<table>
<thead>
<tr>
<th>Who are learning?</th>
<th>Activity system as unit of analysis</th>
<th>Multi-Voicedness</th>
<th>Historicity</th>
<th>Contradictions</th>
<th>Expansive Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male adolescent CoD gamers, Gamer community</td>
<td>Voices of Adolescent members of CoD Community</td>
<td>What players do and how they learn is historically and culturally shaped by the history of CoD gameplay as well as how boys communicate. Historically boys improve relationships through active psychomotor engagement with their peer groups in this case CoD community members. They learn in order to continue their bonding experiences through culturally acceptable means.</td>
<td>Tensions between behaviors and desired outcomes. Mediating artifacts and rules has tension with central motive-object.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Why do they learn?</td>
<td>A new pattern of communication: alter approach to communicating with certain groups. Boundaries are formed for improving /building relationships</td>
<td>Historical ideals of how to improve companionship. Where it is appropriate to communicate in different ways towards building relationships. Between close friends or “randos”.</td>
<td>Struggle between fooling around, Trash Talking, and building connections towards peer bonding within socialization</td>
<td>Expansion of rules and mediating artifacts towards more collaborative forms of communication (teamwork) and even leadership skills. Enhancement of communication skills and socialization abilities. Broaden social boundaries and perspectives. Empathize and build</td>
<td></td>
</tr>
</tbody>
</table>
## Theme 2: Satisfying a Competitive Drive

The current theme elaborates on inherent aggressive play habits that manifest in *CoD* and how boys satisfy their competitive drives. Aggressive competition came natural to these male adolescents and aligns well with scholars who suggest that boys desire to engage in themes of dominance and power (Hines, 2004). The central activity of *Competing in CoD* has a motive-object of *exercising power*. Some of the rules and regulations included aggressive play, active psychomotor engagement, violent fantasy, the use of the community language, trash talking, game rules-dependent upon game and mode, and a strong rule of “No Hacking Allowed”. The community of *CoD* players consisted of geographically local peer playmates as well as an international population. The mediating instruments included aggressive play, violent fantasy, the online virtual environment, gaming console, gaming maps, class and equipment (perks), *CoD* game of choice, headsets, User Interface (UI), lobbies, and game controllers among others. Divisions of labor included *CoD* roles depending on modes (run and gunner, sniper, camper, kamikaze scout, planting the bomb, etc.). (See *Figure 4.6*)
Figure 4.6. Competing in CoD Activity System

Exercising Power Dynamics

Boys have historically engaged in aggressive competition around themes of dominance and power (Maccoby & Jacklin, 1974; Pellegrini & Smith, 1998; Hines, 2004). In agreement with this literature, my conversations were saturated with themes of domination and power. Within the context of CoD, gameplay primarily revolved around dominating opponents as well as performing better than teammates by being on top of the leaderboards. All participants have said “I love to compete” and/or “I’m a competitive person” throughout the investigation. The definition of power is the possession of control or command (“Power”, 2016). Participants overtly exclaimed that they “want to win”. Blake described why he chose to play particular modes in CoD. “That’s why I play. I play so we can dominate, because I like to win! Obviously!
And those are the surroundings I find myself in. The game modes I find I’m best at. So that’s why I choose them.” (Blake, Interview #1, 6-16-15). Even further, Kevin expressed why he loved to play the game. “I feel pretty good. Like I mean that’s one of like -- I feel like I’m better than everyone else. Especially like if I’ve been in the same lobby. I do what I had to and just keep doing what I have to. I feel better than anyone else. And I get,… like I feel like no one can stop me.” (Kevin, Interview #3, 7-30-15). Blake and Kevin’s statements indicated the strong desire to overpower and dominate their opponents within CoD. Aggressive and competitive behaviors such as these were in alignment with historical literature on inherent boy behaviors (Kindlon & Thompson, 2009; Pellegrini & Smith, 1998; Maccoby & Jacklin, 1974).

Although the boys in this study competed to exercise power dynamics, competition was a central driving force for improvement throughout CoD. During the study, satisfying a competitive drive was tightly woven to winning. Gaming expertise was collected through the competitive process, but winning validated efforts. Winning was not solely an intrinsic motivation based on high levels of competition, but came with its social rewards. Ultimately demonstrations of expertise resulted in social notoriety. “Bragging rights”, as the boys called them, were earned by displays of mastery and expertise for the entire CoD community. Some players were more interested in the benefits of winning. Historically speaking, during the second phase of this research, Austin (an avid CoD gamer) described winning like this:

**Interviewer**: What’s the best part of winning?
**Austin**: You can have the bragging rights basically. Like, “oh I’m better than you.” Like it’s all about who’s better and who’s not better. So having the bragging rights over your friends is definitely the best accomplishment from beating them.

**Interviewer**: So, what you would say is more important to you, bragging rights or having the right decision making skills, say that give you that edge?
**Austin**: Um probably the bragging rights. Just knowing that you’re the better one.

(Austin, Phase II, March 2014)
Austin alluded to the importance of peer acceptance and status for boys. Winning not only built confidence but also enhanced notoriety among peer groups and playmates. Players demonstrated the ability to read visual and print instructions, use and adapt semiotic systems to meet their needs as well as develop cultural literacy, involving connections to the ideas of the students on their level, as they shared cultural capital (Sandfor & Madill, 2007). Through my observations, I interpret this as the acquisition of "cool points" or social capital within peer circles. Social capital has exchange value and manifests in the relationships of people through social interactions (Coleman, 1988). My participants used the term “bragging rights”. Bragging rights can be viewed as a sort of peer currency. Social capital was exchanged for privileges, special treatment and notoriety within close peer groups as well as the CoD community at large. Specifically, I have observed the development of improved self-esteem, the ability to take risks, and players gaining the respect of their peers (Observation, June 2015-December 2015). These findings, more specifically, support Hsiao and Chiou’s (2012) MMOG findings based on social capital theory, which found that social structure could create valuable consequences for players and also influence his behavior within that social environment.

In alignment with the Coleman’s (1988) position, my findings suggest that players gained social capital through explicit demonstrations of skills. The boys were intrinsically motivated to develop and build gaming expertise. This motivation was so intense that boys were willing to learn what it took to overcome incredible challenges. Social capital was greatest in CoD when competition was at its highest. In the same Phase II interview Austin elaborated on why completing challenges was so important to him.

Because it gives you the feeling that you completed something by yourself, rather than having other people do it. Like for yourself and not having people do it for you. So it always feels better when you complete something by yourself and you feel good about it. Especially when other people think it’s a hard challenge. You think that if you got help,
you didn’t really do it by yourself. And when you do that yourself you get a better feeling about it. And it’s kind a like,… spending money. When you buy something, its better to use your own money. Like me buying a phone with my own money. I feel like it’s more personal to me and better. Rather than using my mom’s money and go to buying a phone. It’s like I had help with it. I’m not gonna care for it as much. It’s not a self challenge. Like people see you don’t take care of it. It’s nice and stuff to do it on your own. (Austin, Phase II, March 2014)

There was an intrinsic nature of obtaining individual accomplishments through challenges and competition. Austin’s example above showed a sense of ownership that can exist when individuals complete challenges—“It’s like I had help with it. I’m not gonna care for it as much. It’s not a self challenge.” Austin describes a deep sense of pride and ownership of his accomplishing difficult challenges. He also mentions, “And it’s kind a like,… spending money. When you buy something, its better to use your own money… I feel like it’s more personal to me and better.” Austin highlights an exchange value of having currency that he earns and can exchange for some other valuable entity. Like Austin, the boy players desired to improve themselves and gain capital through competitive means and as a result developed a sense of ownership of the skills they could display. The difficulty of the task reciprocally aligned with its value earning more prestige and respect for the player. There was little to gain from trivial tasks.

When accomplishing highly challenging tasks, these players were rewarded with praise and acknowledgement. Peers consistently acknowledged and praised each other for successfully getting the last kill or participating in the winning kill. In CoD, players are recognized for the skills they can demonstrate. Josh was one of the most masterful players in the group. Josh described his recognition of talents to what seems to be an imaginary audience. However, his pride and acknowledgment of earned skills was directed at the global CoD community.

Interviewer: Why is it so important to you to be good at this game? You really honed in your skills towards this particular franchise. Why?
Josh: I feel like it’s a great place to make a name for yourself on the Call of Duty’s, I guess. Like to show them what you’re capable of. Instead of being a newb and everyone
thinking you suck and everything. Yea that’s what I think! Honing yourself to this, getting better at it, progressing to other games of *Call of Duty*. You’ll become like known for being so great.

…

A bunch of people notice me in Call of Duty when I get on there. They see me like when I try. Sometimes like I’ll try. Sometimes they know I won’t try because I’ll be messing around. Trying to like walk around… Just sitting there camping. Cuz I usually don’t camp in games. When they see me running, when I start trying and shit. They see me pull out a gun and shoot like 3 people in a row and kill like two more people. They know I mean business! Like a few people complimented me online. From bringing the team back from 0 and 3. They say, “You’re awesome” and shit. Like they want to play with me sometimes. (Josh, Interview #3, 7-30-15)

Josh had the ability to do what few CoD players can and takes great pride his talents. In this exchange, Josh emphasized the notoriety that he often received from his great skills. Although it seems like an imaginary audience, Josh was speaking to the CoD community when he mentioned “They”. He even received praise from his online peers- “Like a few people complimented me online”. Not only did some peers recognize his skill, but also his recognition was amplified onto an international stage. Recognition and praise were important for self-confidence and self-value within the peer group.

“Meaning as Doing” with Psychomotor Engagement

One of the fundamental characteristics of play is in its desire to create order (Huizinga, 1949). Participants showed a strong desire to be actively engaged in the meaning making processes of the game as they seek order in the play space. Engagement within CoD involved autonomous active participation in socially acceptable engagements of psychomotor skills. Active psychomotor engagement was the primary method that boys use to engage in themes of control and power in CoD. Kammer believes “For many men, being in control—or clinging to the illusion of control—is the very essence of being manly” (Kammer, 2009, p. 54). A tertiary tension emerged (Foot, 2014) as boys sought opportunities to prove CoD gamesmanship. In Phase II Brad mentioned how he would change the Campaign (story) mode of CoD. “You should
be able to interact with every single thing you are possibly doing. Every little piece of the story, you should be able to control a little bit; and that’s what makes a game too. I think if *Call of Duty* applied that, then a lot more people would want to play Campaign,…” (Brad, Phase II, March 2014). Brad’s explanation revealed his desire to “interact with everything you are possibly doing” while in his social play space. To Brad’s point, the autonomous nature of *CoD* gave players agency within virtual environment. When players engaged in *CoD* play their physical activity was paralleled and made visible through the virtual medium. The players’ active psychomotor movements were virtually transmitted on demand. Therefore, autonomous movements allow players to be active designers or producers (Squire, 2006; Wright, Bouria & Breidenbach, 2002) of their own understanding.

First person experiences are central to first person games and sync intentions with “doing” such as *CoD*. For *CoD* players this began with the system and, more so, the gaming controllers. Players needed to be comfortable with their controllers which had implications for their ability to control their virtual avatars. Players strived to build a union with their physical controllers to enhance their immersive experience. There was a telepresent experience that players sought to optimize. Telepresence refers to the sensation of being elsewhere through the use of virtual reality technology (“Telepresence”, 2016). In-game perks allow the player to have different abilities, uniforms, protective equipment, enhancements to weapons, camouflage, etc., while classes are collections of perks that form sets of equipment. Within game play the players desire to form intuitive bonds with these complex combinations of equipment. To this end, players often found controllers that worked well for them, as the controller is the medium between their real world movements and the virtual world interactions. It was rare that gamers
would play across platforms because the controller gave a different physical feel for the players.

*Figure 4.7 shows a PlayStation 4 controller in the hands of a PS4 gamer.*

![PlayStation 4 Controller](image)

*Figure 4.7. PlayStation 4 Controller (Jules Carr-Chellman, 2015)*

Zane explained that he was addicted to the ability to control his avatar in the digital environment.

*Zane: Yea! I mean that’s kinda why I don’t like Final Fantasy. You press a button and tell it what to do. To me that’s not really appealing. Like Basketball or CoD or Madden, you literally control each player. You have to make them run right, run left. I mean in Final Fantasy you just click a button and they run to it or you click a button and then they fight. I mean that’s just boring. I’d rather control what I’m doing.*

(Zane, Interview #3, 12-7-15)

Blake was asked why he chose CoD over other first person shooters.

Like I said. I’ve been playing CoD since Black Ops II. It’s easy. It knows what it is and it does what it does. So I prefer to play the Hardcore mode but on the online multiplayer instead of the Campaign. Cuz if I want to play Campaign, I go RPG. Like The Witcher or
Bioshock, if I want a real story. But if I want to just have fun, pick up the controller, play for a couple of minutes or for a couple of hours, I can pick up CoD and play it. I’m pretty good at it so it’s fun, and it’s a good competition. It’s kinda a unique aspect where everybody, everybody kinda started with Call of Duty. Even Modern. Like Modern, you remember Modern Warfare? Everybody started playing that. And that’s when computer games got fun. And that’s why I prefer to play online instead of Campaign.

(Blake, Interview #1, 6-16-30)

Much like Zane, the boys preferred to control their avatar’s movements in the virtual space. Zane also made the case for ownership of the outcomes within the game--“I mean that’s just boring. I’d rather control what I’m doing”. Blake made a distinction between following a storyline and playing CoD online. When playing CoD online, Blake enjoyed the autonomy of the a first person competitive play experience in CoD in comparison to other narrative based games or the Campaign mode. Both Zane and Blake made the case for being drawn to the first person experiences in CoD towards an immersive competitive experience. According to the boys, first person games grant boys the most control in the game space when compared to Real Time Strategy (such as StarCraft) or some Action Role-Playing Games (such as Final Fantasy or The Witcher). Control of the avatar and immediate visual feedback contributed towards immersion and was perceived as having a direct link to success as players engaged in high levels of competition.

Physical engagement facilitated a meaning making experience that was instantaneous and preferable for the boys. The boys needed to have responsibility and be held accountable for the successes or failures of their active engagements and was able to make links to other social spaces. After reading the definition of psychomotor learning (via wikipedia), Zane described the relationship between psychomotor learning and playing CoD.

Zane: Well I read the definition and it kinda like had, the throwing a ball as an example. You’re not going to be perfect when you first start. You’re not going to be able to just jump in and be a natural. You know, you work on it, and you work on it and you get better, and better. And to me the more you play video games, the better you get. I truly
believe that playing video games helps hand eye coordination, especially with the analogue sticks and buttons. You have to react quick. So the better your skills are with that, the better you’ll be able to react to a football or react faster to something.

Interviewer: And that’s appealing to you? That active engagement is important to you? Zane: Yea! Because to me if I don’t hit X quick enough, that’s my fault. I’ll work on that make my fingers move faster. But if I click something and I’m not powerful enough, like in Final Fantasy, to me that’s not something that’s, that appealing.

(Zane, Interview #3, 12-7-15)

Scholars of games based learning suggest that gaming spaces serve as extensions and substitutions of real world social engagements (DiSalvo, Crowley, & Norwood 2008; Woodruff, Woodruff, & Sautler, 2004). We see that Zane was making meaning by comparing gaming to playing football. His link to football was strong and Zane saw video gaming as an avenue to help build transferable skills to other social spheres. Zane described his desire to extend elements of his real world social spaces--“You have to react quick. So the better your skills are with that, the better you’ll be able to react to a football or react faster to something.” Also transfer was demonstrated as Zane traverses from psychomotor skills in gameplay to psychomotor skills in football. Dr. James Gee evokes a game based learning principle of “Meaning as Action” (Gee, 2013). The “Meaning as Action” principle declared that games provide spaces in which player actions could not be separated from the meaning making practices. Uniformly, for this boy culture, I found that meaning could not be separated from action. In other words, meaning making was inseparable from doing (Engestrom, 1987; Kuuti, 1996; Gee, 2013; Wertsch, 1998) within a cultural play space (Huizinga, 1949). Based on these findings it is possible that psychomotor play experiences represent foundational schemas for boys’ future meaning making processes.
Leapfrog Learning to Prove CoD Gamesmanship

As players competed for control over protagonist and outcomes, they began to outperform one another as well as their opponents. Play is said to demand order and to be worthless without it (Huizina, 1949). Even further, Huizinga elaborates on the characteristic of order as having tension, which refers to uncertainty such that the player takes control and wants to “succeed” by his own exertions. These sentiments align with my findings as "leapfrog learning" accounts surfaced as outcomes of Competing in CoD. I defined this as leapfrogging or leapfrog learning. Leapfrog learning was dynamic and repetitive as players navigated through tools that included game perks (equipment) and classes during game play. Leapfrog learning demonstrated the ability to adapt and may have been a significant way that the boys proved they belonged within the magic circle (Huizinga, 1949) of CoD. The boys demonstrated a deep willingness to perfect their crafts by studying their opponents and teammates. Competition forced participants to improve quickly and often. Throughout the game skills were tested and retested by the community for virtuosity. Once a skill was learned, peers almost immediately challenged them. The boys even competed with teammates to reach the top of the leaderboard. This opportunistic environment kept the boys interested and engaged. Christopher describes the leapfrog concept as breaking individual barriers and he does so meticulously through studying opponents and teammates:

Once you played with the same people you kind of have a barrier. Where you can’t play past that barrier because that’s all you really know about the game. If you play with them the whole entire time and you can’t really learn any more tactics, which there’s more than thousands out there. People have their own {playing} style. But that barrier kind of like blocks you off from the rest of the world. You only know the tactics that other people are using in that lobby with those specific people. If you go out and play with new people, that expands your barrier because you know the ones from the lobby before that and the new lobby once you learn their tactics.....It’s just a sense of competition- fun. You know you already like take the next step in a different lobby and you can handle what they have with their tactics coming at you from the tactics you learned. If they use the same tactics,
you can prevent it. If they’re using the same tactics as someone on your team you also study your team’s tactics. So you’re ready to prevent that… I study a lot actually, because if I see they’re moving around the maps (some people travel as a whole entire group to one objective) I’ll be that oddball that goes around the other way; because they’re all gonna get shot down right there. The rest of the team is going over there and as you go to the other side and flank ‘em from behind, you got more chance than surviving.
(Christopher, Interview #3, 11-10-15)

It is clearer to see how Christopher may have been able to gain his depth of knowledge. As Christopher showed, competition fueled his leapfrogging activities. As a result Christopher studies his opponents and teammates, perceived that he was breaking his barriers and ultimately developed incredible expertise. Players recognized their strengths and weakness, but attempted to leap over deficits through the process of social competition. Like Christopher, the other participants broke barriers, as they normally operated at the edges of their own boundaries. “Breaking the barrier” required players to actively seek out challenges and operate at the out edge of their own skill sets often building confidence.

Leapfrog learning may have built player expertise within CoD as the boys refined and acquired more and more talent. Leapfrog learning was driven by both the desire to prove CoD gamesmanship. When new motive-objects are introduced into the system they form tertiary tensions (Engestrom, 2001; Foot, 2014). Proving gamesmanship was a way that these expert CoD players proved their expertise and even membership within the CoD community. Christopher has a wide depth of knowledge about CoD and outlined several “basic” key components of success.

Aiming down the sights is always more accurate than hip fire. Unless it’s like a mandatory hip fire gun because I know like if you’re dual wielding, it’s mandatory hip fire, you can’t aim down two sights at one time. But also movement speed can also affects like how you’re game play is or if you’re gonna wanna stay back or not. Like if you’re trying to run through like blowing stuff up and grab like-- doing random stuff and trying to move faster than LMG, it’s not going to work. You’re going to be held back and people are going to be like running circles around you because they’re one of the heaviest guns on the game. So, yea, mobility equals tactic.
The language Christopher used illustrated community language generated from the CoD community- “Aiming down the sights is always more accurate than hip fire. Unless it’s like a mandatory hip fire gun because I know like if you’re dual wielding”. Players, like Christopher, have meticulously developed expertise through the inherent competitive nature of CoD. His depth of knowledge was built from using the CoD tools and meticulously outperforming his counterparts.

Leapfrog learning may have contributed to critical thinking and strategic thinking skills. Commercial-off-the-shelf games have shown to develop boys’ strategic thinking as well as extended thinking skills (Engerman, MacAllan, & Carr-Chellman, 2014). Although many of the skills earned were intentional, quite often players gained skills organically through playful engagements and exploration. Subconsciously, players began to implement tactics that naturally make sense to them. Players created new strategies on their own and became producers and designers of their experiences (Squire, 2006; Wright, Bouria, & Breidenbach, 2002). In affect, players may have unintentionally implemented skills that allowed them to subconsciously improve their strategic thinking and problem solving skills. During the think aloud, Brad simultaneously talked about how he implemented a strategy while playing with his brothers:

Right now I am pretty much running around the perimeter of the map to see if there’s anyone on the edges sniping or camping. Just generally not trying to get killed, obviously because I’m winning. Well at least, cuz we’re not winning right now, But we’re trying to win. I’m trying to prevent that or stuff like that. Because once you push all the players towards the middle, it’s a lot easier to get large amounts of kills in the amount of time that you would like to get them, like…. Because the perimeters of the map are the most dangerous to be when there’s somebody there. Because the vision,.. the sight lines are pretty open around the edges of the map. And because the sight lines are so open it’s hard to hide from anyone unless you’re the person shooting. Because once you see someone in an area like this, you can shoot them pretty much wherever they’re gonna go.

(Christopher, Interview #3, 11-10-15)
Brad’s team was losing, but he identified a strategy that worked as he ran around the perimeter of the map. He leaped to this strategy after trying others that did not provide desired results. Brad further demonstrated how he rationalized his movements while playing the game. Brad used deception as he essentially herded his opponents like sheep. This was an organic development that occurred as a result of many years of playing the game. By herding his opponents, Brad’s brothers could more easily complete their objectives. Normally, players would seek out and destroy their opponents. However, Brad’s tactic may have been based on critically thinking about his opponents’ movements and experience in the game and forced his opponents to react in a counterproductive manner. Simultaneously, Brad analyzed how those reactions would allow his teammates to do their jobs more effectively. Active engagements in video games can demonstrate operational literacy and require reading visual and print instructions, and use and adapt semiotic systems to meet their needs (Sanford & Madill, 2007). These findings agree as CoD players continually used and adapted semiotic systems to meet their needs. Competition may have served as a refinement tool that gave players reasonable options for solutions. It’s possible that leapfrogging through competition (order making) refined the mediating tools and rules (Engestrom, 2001, 1987) to particular contexts that allowed for rational transformations within the game.

No Hacking Allowed!

As the players developed expertise and proved their gamesmanship, the boys had a strong sense of ownership of their talents. Based on their talents, CoD players demonstrated much machismo. Despite this bravado, all players within this study had one common boundary—NO HACKING! A zero-tolerance approach to hacking was fundamental for every participant. Expertise must be earned through hard work. I have encountered several hackers throughout the
CoD gaming community. The “No Hacking” honor code seems to be a unanimous part of this sub-cultural community. Cultural boundaries were learned and clearly drawn through playful engagements, despite the broader community rules and regulations (Carson & Parke, 1996; Flander, Leo, Paquette, Pihl, & Séguin 2012; Huizinga, 1949). Every participant expressed extreme disdain for hackers. Hackers are defined as individuals that use special codes to gain unfair advantages within the game. An example of hacking could be “God Mode,” where a player recovers more quickly than others and can move around the board before their opponents. The use of hacking provides an unfair advantage that allows users to fundamentally change the balance of the game play to his/her advantage. The “No Hacking” policy was such a powerful factor during play that participants immediately abandoned lobbies after encountering one. During a game Christopher, Kevin and I encountered a hacker and Christopher recalled this experience.

Christopher: That one invisible guy, he knifed me. Kevin was aiming down the sights right at him. He saw his nametag and then he disappeared. And he ran behind Kevin and knifed Kevin. Kevin was like, “Did you just kill me?” I was like, “It shows that you got knifed.” He was like, “You got knifed too, right?” I was like, “Yea.” He was like, “I was watching your back.” I was like, “I know.” So we left that lobby. Me, you and Kevin left that lobby as soon as we could. He’s like (Kevin), “I can’t stand hackers.” I was like, “You’re not the only one here.”

Interviewer: Out in the real world, hackers are considered people that are really smart and they have really good skills. Do you think that in game spaces, they’re not? Christopher: They are cheap. They’re just people trying to look for an easier way to win the game which is…annoying. It aggravates people because if you can’t play the game right, then don’t play it at all. I hate hackers because they’re just -- they’re not helping. Just like for a sense of getting better. They’re not helping anyone around them because they’re not using any tactic. They can just walk around, take like 90 bullets to the chest and still live. And at that point, it’s like, “I can’t kill this guy, what’s going on with my skills?” So you try to change it. And if you have to constantly change tactics, it’s going to work to the enemy’s advantage. Because you’re just gonna walk around like a chicken with its head cut off. (Christopher, Interview #3, 11-10-15)
Christopher demonstrated a strong disdain for hacking or even playing with hackers, to the point that he would leave the lobby. Christopher mentioned that hackers were not helping people get better and disrupted his ability to earn and hone his own talents, which he felt needed to be earned through fair play and not taking shortcuts. Hacks were considered cheats within this sub-community; however, many players within the larger CoD community do engage in hacking. The group preferred to engage in fair play with perks and classes that were available to all players. To the boys in this study, gameplay was about earning talent through individual efforts and hard work.

**Aggressive Play Through Violent Fantasy**

There are many ways to compete in digital spaces including racing for fastest times, completing puzzles, and finishing storylines. Yet CoD participants enjoy engaging in violent fantasy competition. A characteristic of play is its ability to captivate the player in a fantasy world (Huizinga, 1949). Violent fantasy play was a default activity within Call of Duty. Historically, rough and tumble play for boys has been an important developmental event that teaches rules and balance (Ferguson & Olsen, 2014; Kindlon & Thompson, 2009). It is well known that boys enjoy engaging in aggressive sports. Aggressive play is a cultural norm and even bonding event for boys. Boys are even drawn towards aggressive play habits that can be described as violent play. Violent play is the ultimate form of aggressive play. Therefore, aggressive play can at times be represented as violent play. Historically we have been quite familiar with boys’ obsession with imaginary games like Cops and Robbers or Cowboys and Indians. These are violent fantasy play practices that many boys still replicate today with pointed index fingers and sky-high thumbs. Over the years playful violent fantasy engagements evolved towards movies and shows like Batman, Superman, and the Ninja Turtles, among others. Visual
media such as television provide compelling visual and aesthetic experiences, and we now see that violent fantasy play has transformed itself over the years. The once imaginary worlds of Cops and Robbers or Cowboys and Indians turned more visual with movies and shows. In today’s society violent fantasy practices have become immersive and much more interactive. *CoD* can be seen as an extension of these historically violent fantasy practices. Digital environments such as *CoD* give boys the opportunity to engage directly with the content and become first-person protagonists in violent fantasies.

One of the negative features of violent fantasy engagement is that impressionable boys can consume negative violent behaviors. In addition boys may learn destructive rules, as the game space may not provide a positive masculine guide. However, the boys in this study were been able to successful distinguish healthy behaviors at this moment in time. The focus of gameplay was not on immersing in violent activity as much as it was about having fun and playfully engaging in a culture (Wright, Bouria, & Breidenbach, 2002). Given the fact that the study took place in a hunting region of PA, Zane explained how he internalized the violence in video games and compared them to movies.

> I've had this conversation with tons of people actually. Most people say they are completely anti-guns are anti- anything violent. In the real world, that's not true. There’s a lot of people that run around with weapons and are the nicest people (Referring to hunters). But in a game, you need to be able to teach your son or daughter that it's a game. That you can't just go and grab a gun and kill somebody and then they'll revive and 20 seconds. Like that's just not possible. But I mean, we train our military with it. We do use it for other things. That's like saying, if you watch a violent movie, you're going to kill somebody. No! It's a movie for entertainment. Your game is entertainment. (Zane, Interview #1, 11-10-15)

Because of the heavy local population of hunters, Zane stated that many people carry weapons and do not intend to do harm. He made the case for a misconception of the larger population of responsible gun owners. Zane also made the argument that video games are a form of
entertainment much like other forms of media, such as movies. During an informal conversation Zane described his love for fantasy play. He sincerely enjoyed separating himself from the real world and immersing in fantasy (Informal Conversation, 10-8-15). These sentiments were shared for all the boys within this study. Beyond their entertainment value, boys showed a special affinity towards games. Violent fantasy play speaks to a deeper desire to engage in themes of dominance and power in its highest form. An informal conversation with Blake, Josh and Cody revealed how these games can make boys feel.

**Interviewer:** Why do you guys think that killing people in these games is so much fun?

**Blake:** Cuz I can’t do it in real life.

**Josh:** Yeah, basically.

**Cody:** I mean, I don’t know if it’s that,…

**Josh:** You feel -- you feel over -- you feel, like powerful, when you kill somebody.

**Blake:** Dude, that’s scary. You should get checked out. (Everyone Laughs)

**Josh:** Like -- imagine, like, 10 people and they can’t kill you.

**Cody:** Well, they could kill you.

**Blake:** Yeah, they could. Yeah, they come back and they can destroy you.

**Josh:** I mean, like they try to kill you, but they can’t kill you because you’re too good.

**Blake:** For me, it’s like it’s (Josh: It makes you feel awesome!) just the goal of the game. (Cody: Yea!) It’s something that comes natural to a gamer.

**Cody:** Right!

**Blake:** Any game involves, even Mario, is to kill things. So since the beginning of the gaming, it’s been killing something.

**Interviewer:** Is that a function of the game? Or is it a function of you guys choosing those games.

**Blake:** It’s a function of us liking them and it’s the most of fun to play (Cody: Yeah!)

**Josh:** Yeah! It’s the most exciting and fun.

(Blake, Josh & Cody, Video Recorded Conversation, 7-16-15)

These two examples indicate that boys understand the fantasy component of CoD game play. (Blake--“Dude,… you should get checked out!”) Based on historical understandings of boy engagements, aggressive behaviors are highly desired within a play experience (Ferguson & Olsen, 2014; Flanders et. al, 2009; Kindlon & Thompson, 2009). In addition aggressive engagements manifest themselves through the activity of violent fantasy. Here, the participants understood the value that fantasy provided within the play space; one of the key attractive factors...
of the play experience was the ability to be revived and try again: “Yeah, they could. Yeah, they come back and they can destroy you.” True violence does not work this way (Thompson, 2009). Josh said, “I mean, like they try to kill you but they can’t kill you because you’re too good.” creating places a clear emphasis on being talented and being better than others. Freedom to fail is a level of participation that was both engaging and meaningful for boys. The fantasy space gave special affordances because real world consequences are lowered (Gee, 2007); thus boys were able to fail as many times as needed to experience success. CoD allowed for a more visceral and engaging violent fantasy experience. As Blake and the others said, “It’s a function of us liking them and it’s the most of fun to play. (Cody: Yeah!) Josh: Yeah! It’s the most exciting and fun.” Boys have the ability to feel “awesome” because their skills and talents can be on display within an acceptable, exciting and fun play space.

The members of the community shaped the character of the environment and also provide a place of warmth (Steinkuehler, 2005). The mood within CoD was, above all else, playful in nature (Steinkuehler, 2005) as aggressive play builds bonds with the community members. Culturally, we see a socially acceptable form of play (Huizinga, 1949) include competitions of challenging socially acceptable content and violent fantasy. As Cody enthusiastically mentioned in the context of camaraderie, “It's just cool! It was fun. Tons of people playing and tons of people getting better and shooting each other. Nothing much better than that” (Cody, Interview #1, 7-14-15). Contrary to popular belief, engaging in this form of violent fantasy produced closer bonds for the boys in the study. Play spaces offer escape from reality and are apart from ordinary life (Huizinga, 1949). Likewise, the boys spent time with other peers who were just as enthusiastic in their desire to escape reality. Cody further expressed his thoughts on engaging in
violent fantasy when asked if he felt any pressure from society about how he should feel about playing such a violent game:

Um. Mm. Not really any pressure. Obviously there are like some external influences. Like people maybe not liking the game in general if the game isn’t fun and in that sense. But also some people kinda, maybe might look at it like it’s childish, but to each his own. I think that it has some benefits. Especially when we would talk earlier about relieving stress and stuff and I think that it’s good for like kids, in different ways. I just think there are a lot of benefits to different people. Some people might look down on it, some people might praise it. Either way people get the benefits they want out of it. I think it’s fun to kinda play with your friends. I think it’s a bonding experience and other people might think that it’s not. But, I don’t let it affect me. I don’t know if others let it affect them. (Cody, Interview #3, 11-10-15)

Cody understood that people have their own views, acknowledging, “some people might look down on it.” Nonetheless, he understood that people can make their own decisions and he enjoyed the ability to be with peers. Much like games based work on violent games, the players in this study emphasized engagement that centered on fun with peers (DeVane & Squire, 2008; Wright, Bouria, & Breidenbach, 2002). Cody chose to participate in a community that accepted him. These findings may suggest that violent fantasy play can be viewed as a fundamental cultural current within the magic circles of boy play. The outcomes of engaging in competing in CoD was fun, enjoyment, understanding social boundaries, peer bonding, improved self-esteem, sense of belonging and improved quality of life.

**Parental involvement.** Parental guidance is key when adolescent boys are involved in violent video games. Scholars suggest that father engagements in aggressive play habits helps boys develop healthy boundaries and have implications for emotional development (Barth & Parke, 1993; Carson & Parke, 1996; Flander et al 2012). My findings show that father involvement in virtual play also develops strong boundaries. I have had several informal conversations with three of the fathers of the boy participants. The fathers were all married with multiple children and served as both football coaches and teachers. Coach Brent was the father of
three participants. These boys had been involved in the study for the past three years. Coach Hassan was the father of two of the participants involved in the study for the past three years. The third father, Coach Wally, was the head coach and teacher who was the father of a 12-year-old boy for whom he would not purchase the *CoD* game. Coach Wally would not buy the game for his son because he believed that his son was too young to engage in the violent game. This father chose to follow the suggested censorship guidelines. Despite this, Coach Wally admitted that his son did play *CoD* on occasion at friends’ houses and that he did not mind. Coach Wally trusted his son and had incredible confidence that he raised his son right and that his son knew right from wrong. Despite this minor discrepancy among the three dads, they all reported the same message that it is imperative to ensure that adolescent boys are raised in a caring home that teaches compassion. All three said that their boys needed to be mature and understand right from wrong. The fathers also reported that they would play with their sons. Flander’s and colleagues suggest that this is a critical component of healthy development in aggressive play (Flander et al, 2009). Lastly all three fathers were adamant about moderation and balance for their sons: it was imperative that the boys understood their priorities. All three parents were fully aware of and engaged in how their sons engaged with video game play.

A conversation with Coach Brent illustrates how boundaries were established for his three sons. Coach Brent talked about the aggression and violence in the game space and did not allow his sons to play until he believed they were mature enough to handle and interpret the violence. During an informal conversation on the violent nature of *CoD* and adolescent boys, Coach Brent also spoke to his views on *CoD* play as parent.

**Interviewer:** When did you let the boys play?
**Coach Brent:** I waited until they were older and more mature.
Interviewer: How do you justify allowing young impressionable minds engage in these violent games?
Coach Brent: There’s violence everywhere. They’re boys and they’re interested in violent play. I prefer them to play in this virtual world. We talk about the violence in the game all the time and I correct them on incorrect assumptions. I also made sure they were mature enough to handle it first. They are not allowed to use too much foul language and I monitor them.

Interviewer: What would you say to parents that think the games are too violent and kids should never play them?
Coach Brent: Just talk to your kids about it and be open and honest. They learn a lot about technology and it’s fun to play with them. Competition is good for them. Communication is key. Communicate with them and make sure that they can have mature conversations. They need to know what’s right and what’s wrong. Don’t hide violence from them, because it will make them want to do it more. They also make lots of friends on the game systems.

(Coach Brent, Informal Conversation, 12-8-15)

For Coach Brent and his wife it was important to ensure that the dialogue around gameplay was mature and responsible. They curtailed the language their sons used while playing the game. As Coach Brent played with his boys, he challenged them in a space that allows various tactical and psychomotor skills. Coach Brent liked that the game forces his sons to think and problem solve at high levels. He also understood that the game allows the kids to loosen up and enjoy time together as family activity. Coach Brent acknowledged that his boys were innately drawn to aggressive activity. As a result CoD allowed for individual exploration in naturally aggressive behaviors. Healthy boundaries within social play spaces were a critical part of how these boys were able to internalize violent fantasy play apart from actual violence. These findings support scholars on the impact that play has on developing healthy social boundaries and internalizing violent behavior from play (Brown, 1998; Flander et al, 2009; Thompson, 2009).

**Tensions Towards Expansive Learning**

Active psychomotor engagements acted as both a mediating instrument and rule (Engestrom, 2001) for Competing in CoD. Secondary tensions emerged between tools and rules
and the motive-object of exercising power. Players did not always begin play with the appropriate sets of rules and mediating artifacts. The players’ tools and rules form, at times, unresolved tensions within the central activity (See Figure 4.9). The players’ rules, tools and divisions of labor are localized to the individual in order for individuals to develop and build their skills and talents, which speaks to the multi-voicedness of the system. Through competition players learned which mediating instruments worked best for their styles of play. This also depended on the particular game modes that players were in. One’s desire to exercise power does not always align with his ability to do so. Players’ rules, tools and divisions of labor that are within the control of a player had to be in harmony with the player’s individual abilities. Therefore, quaternary tensions emerge between rules, tools and divisions of labor within the central activity. At times this led to improvements and added tools and rules for CoD gameplay. At other times these tensions remained unresolved as players began to more clearly identify and accept their boundaries within the game space. Luckily boys embraced competition as not only a necessary process but also an enjoyable one. These aforementioned concepts add to the complexity of the activity system as they represent a community of multiple viewpoints, traditions and interest.

**Expansive Learning: Leapfrog Learning towards Critical Thinking**

In order to be successful in CoD, players must first build an intuitive connection between the controller and their mediating instruments to command the virtual avatars. This may cause players to buy custom controllers and may have some impact on the console system they prefer (PS, Xbox, or PC). The players in this study compete with others to build their expertise. While boys compete, tertiary tensions rise as the boys desired to prove CoD Gamesmanship/Win validated the successful use of rules and tools, ultimately proving CoD gamesmanship to the
community. During gameplay the rules and mediating instruments are in constant flux when players are competing against each other. In order to win, players use environmental factors, team dynamics and individual skill. Particularly, CoD players frequently change classes or perks, choose different maps to play, and even change lobbies to gain a competitive advantage to optimize their team play. Additionally, the CoD game, console, and play mode contribute to success. These order making events may lead to expansive learning about mediating artifacts and rules for winning the game. Figure 4.8 and Figure 4.9 illustrate the tensions within Competing in CoD.

Figure 4.8. Competing in CoD Activity System (Website: https://webbrain.com/u/19MD)

Figure 4.9. Secondary and Tertiary Tension in Competing in CoD

Figure 4.10 is a screen capture of the video of Christopher’s third interview. Notice the game play on the laptop in the image as I administer the interview in one of the coaches’ locker rooms. During this video Christopher reflected and elaborated on his in-game decision making while watching his Think Aloud gameplay. The Think Aloud helped Christopher explain his thought processes by giving meaning to his inner thoughts and private speech. Inner thoughts
and private speech represented “thinking in pure meaning” (Frauenglass & Diaz, 1985; Vygotsky, 1962) and revealed thought processes while solving complex problems. This description provided a metacognitive picture of Christopher’s order making as it was recreated in real time.

Figure 4.10. Christopher’s Reflective Interview

Christopher: So at this point, I switched to long range because I noticed like everyone’s been across the map except that person of course (just got killed by short range) and that’s just my luck, right? (Laughs) And since I switched from a medium range riffle to a long range riffle, everyone is like up close or near my body and I’m like, “yea I’m just gonna keep using this because,… why not?” That is the reason why I picked the class. And, yes, at this point I’m not too happy because I’m like, “Wow, that’s perfect time for a change” (because he was just killed). And I pull out my pistol which is used for a little bit of shorter range as you can tell right there. And then I just changed back to my sniper. If I’m going through a house, which is close range, I’m going to switch to a pistol because that’s easier to maneuver around the house, easier to aim.

Interviewer: Are you changing your class right now, mid-game?
Christopher: Yea, mid-game because it depends on where the enemies scattered to. If they’re all on one side of the map, you’re gonna use a sniper. And you’re going to stay back or you could use a shotgun and go up close and just charge, Kamikaze style. But an assault riffle is more mid range. But I can also use it at long range, cause with a fore grip attachment it makes it so it doesn’t kick as much and it’s easier to like keep your sight on the enemy. And like here I switch to a shotgun because they’re all on that one particular part of the map. If you look at the red dots, you saw like five up there, and there’s like one right there and I end up killing them.
(Christopher, Interview #3, 11-10-15)
Christopher was demonstrating the ability to use the digital and visual data within the game to model a new solution and form newer models. This finding aligns with Madill and Sanford’s (2007) work on Operational Literacy. Christopher demonstrated an ability to read visual and print instructions, use and adapt semiotic systems to meet their needs and create icons to communicate with future players of the developing game. Based on his opponent’s distance, Christopher manipulated his main collection of tools including perks, sniper rifle, shotgun assault rifles and pistols: “…I pull out my pistol which is used for a little bit of shorter range as you can tell right there. And then I just changed back to my sniper. If I’m going through a house, which is close range, I’m going to switch to a pistol because that’s easier to maneuver around the house, easier to aim.” Within this transcript there are noticeably several conditional statements, which may indicate that Christopher had already cycled through the various conditions with experience and now utilizes thoughtful actions. It also captures the processing of many iterations of play (order making). Towards expansive learning, (Engestrom, 2001; Foot, 2001) Christopher implemented the model through practical applications, enrichments and conceptual extensions. Christopher demonstrates when he describes, “… here I switch to a shotgun because they’re all on that one particular part of the map. If you look at the red dots, you saw like five up there, and there’s like one right there and I end up killing them.” Christopher demonstrates a manipulation of the rules and tools as he uses different combinations of tools toward team wins.

In his description, Christopher also mentions several objectives that players try to achieve simultaneously which suggest the ability to develop multitasking skills. Christopher mentioned mobility, damage count, information processing with the UI (map) and personal play style. In addition to understanding the situation and actively building expertise, objectives must be followed based on particular game modes. This significantly altered the schema from which
Christopher drew:

Christopher: Well for Team Deathmatch, everyone can have their own different tactic. I use a Run and Gun, which is you use a lot of sprinting perks so your guy is faster but you also use a gun that’s easier like to maneuver and it’s okay range. It doesn’t have to be high in damage. It’s just something like help maneuver around the map faster and get a quick kill. And then when once you’re done with killing the person, you can get out of that area as fast as possible because you know you could scope (them). Where as like a sniper class, you’re going to want to sit back not get discovered so you’re gonna use a lot of stealth perks. You can sit back and not want to get discovered and try to like maintain that spot for a while until you move spots because it’s a slower mobility weapon. It’s not easy at close range. So you don’t want to be moving too much.

…. Christopher: At first I thought it was Team Deathmatch so I was like, okay, I could just rush in and forget about being killed because they’re all just going to scatter around the map trying to get set up. But then I remembered, “Oh crap, I’m in Search and Destroy”. And I do that a lot because,… what you call it? If you try to switch -- or if you try to use the same tactics in Team Deathmatch as in Search and Destroy, it’s not going to work because there’s two completely different objectives.

… Depending on which objective it is. If it’s an actual object, unlike Team Deathmatch, Team Deathmatch I just go for KD that’s just strictly what it is. But for Search and Destroy I’d like planning the objective with what my team wants to do overall. Like plant the bomb, draw the other people towards that area so you could -- either take them or if they don’t kill you in time, you still have that bomb to rely on- to go off,… in a certain amount of time. (Christopher, Interview #3, 11-10-15)
Christopher illustrated a wealth of knowledge based on game and objectives as he stated, “Depending on which objective it is. If it’s an actual object, unlike Team Deathmatch, Team Deathmatch I just go for KD that’s just strictly what it is. But for Search and Destroy I’d like planning the objective with what my team wants to do overall”. Figure 4.11 illustrates where the tertiary and quaternary tensions may exist for Christopher in this example. Christopher’s example demonstrates reflecting on and evaluating the process as well as consolidating outcomes into new forms of practice (Engestrom, 2001; Foot, 2001). New practices are iteratively formed and broken, while providing opportunities to evaluate tactics. Players were then forced to alter and retry their approaches through playful engagements (order). Christopher demonstrated how he was rapidly and constantly cycles through expansive learning. Christopher illustrated an advanced level of strategic problem solving skills as he spoke to his operational abilities. The
findings of this study showed that outcomes included gained unintended skills such as strategic thinking, critical thinking, and development of grit. Intentional outcomes included leapfrog learning, multitasking development, new digital literacies, teamwork development and improved quality of life (fun, enjoyment, happiness) among others. Table 4.4 shows the expanded learning matrix for strategic thinking in CoD.

Table 4.4

*Expansive Learning Matrix for Strategic Thinking*

<table>
<thead>
<tr>
<th>Activity system as unit of analysis</th>
<th>Multi-Voicedness</th>
<th>Historicity</th>
<th>Contradictions</th>
<th>Expansive Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who are learning?</td>
<td>Male adolescent CoD gamers, Gamer community</td>
<td>Voices of Adolescent members of CoD Community</td>
<td>Historically boys are drawn to themes of power and dominance through aggressive activities. Historically they are also seeking out recognition-notoriety for efforts.</td>
<td>Tensions emerge between the new objects and available tools and rules in the 4 emerging activity systems.</td>
</tr>
<tr>
<td>Why do they learn?</td>
<td>New combinations of digital resources develops a deep levels of computational thinking. How to think critically and apply strategies to situational problems. How to develop talents through grit.</td>
<td>Historically they are retaining strategies and building digital literacy libraries. They are absorbing and refining tactics to be able to draw from them at will over time. (Information literacy).</td>
<td>Tensions between current skills and tactics and opposing strategies.</td>
<td>Expansion of rules and tools and comprehension of team dynamics</td>
</tr>
<tr>
<td>What do they learn?</td>
<td>Towards a joint object of winning or proving CoD gamesmanship, community</td>
<td>Players historically build off of previous knowledge and skills developed.</td>
<td>Tensions converted from implementing new models to reflecting on</td>
<td></td>
</tr>
<tr>
<td>How do they learn?</td>
<td></td>
<td></td>
<td>Learning actions throughout the expansive cycle from questioning to analysis,</td>
<td></td>
</tr>
<tr>
<td>members debate positions with tactics through telepresence</td>
<td>New strategies and skills are built to succeed in game space. Players learn through retaining and adapting from past failures experience.</td>
<td>process to consolidating the new practice</td>
<td>modeling, examining, implementing and feedback.</td>
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**Theme 3: Identity Formation through Playographies**

The current theme elaborates on how game choices reflected personality traits and may give insight into identity formations. Much like adolescent maturation, gameplay is dynamic, organic, and evolves (Steinberg, 2005). Although gamers have preferences, they typically play a host of games. Over the course of three years, the participant population listed over 25 games they played. There were variations of gaming genres; however, the population primarily tended to play similar game types. Participants mostly played action, first-person shooters and first-person sports games. The central activity for this theme is Enacting Personas. The motive-object of Enacting Personas was *agency in self-awareness*. At times the boys in this study attempted to satisfy their curiosity about their identity through playful explorations. Because *CoD* is a fantasy world, the boys were free to explore various roles that informed them of their real world identities (Gee, 2007; Huizinga, 1949). Boys were captivated by the autonomy/neutrality they could exercise within culturally bounded fantasy contexts. These cultural mediating instruments included: life experiences and maturity, along with the online gaming console; *CoD* game and mode of choice; play style; in-game environments; (maps), guns, perks, and telecommunications; UI, information literacy; and the game controller. The rules and regulations included: appropriately challenging, informing, reflecting, critiquing, confirming, and reinforcing gaming rules and values. Divisions of Labor include peer playmates.
(online and geographically proximal), CoD community, family members, teachers, coaches, and visual media. See Figure 4.12 for the Enacting Personas activity system.

**Figure 4.12. Enacting Personas Activity System**

**Playographies Through CoD**

Playographies (Mitgutsch, 2011; Rice, 2014) were a critical aspect of the current narrative of this study. The boys’ playographies ultimately gave insight into their developments. During interviews my participants had deep and meaningful learning experiences captured as social moments (Mitgutsch, 2011). In addition, players had unique playful biographies dependent upon context and had developed different meaningful learning patterns in relation to their context (Mitgutsch, 2011). The boys sought to make sense of the experiences and decision-making that took place within these social learning environments. Described playographies informed the boys’ identity formations as players metacognitively unpacked participatory motives towards self-awareness. After combing the data I extracted inquiries that I interpret represented a
metacognitive pathway of self-reflection based on playographies and adolescent development (Mitgutsch, 2011; Rice, 2014; Steinberg, 2011). I believe the boy participants traversed through first person reflective inquiries during play. To unpack the adolescent playographies, I have outlined these reflective questions to illustrate how CoD players may traverse through playographical stages.

**What am I capable of?** Blake said, “… it’s what I grew up on. That’s why I play it. It’s definitely helped me develop a new medium to build friends. I don’t have a set group of friends. I have nerds, I have athletes and it helps me expand my horizons of what I can do.” (Blake, Interview #1, 6-16-15) CoD has formed significant bond with this boy population. At the time of the study there was an innate bond created with CoD itself. According to this finding, boys have created deep and meaningful playful experiences as early childhood play shows to create a significant mark (Mitgutsch, 2011). Historically my participants grew up along side the temporal development of the game. Along the boys’ playing timelines, CoD evolved simultaneously with their adolescent maturation. During their younger ages, the boys reported having gaming parties or going over to each other’s houses to play. Then headsets enhanced the online experience. As the boys in this study grew older it became less necessary to physically be in each other’s houses. Instead a just-in-time online social community took hold. The new systems continued to evolve to include online components along with improved features that allowed the play experience to be more open and inclusive aligning with the notion of a New Third Space (Steinkuehler, 2005). Effectively, these enhancements altered the boys’ playographies and CoD gaming trajectories.

CoD provided critical literacy while players utilize skills as models to adopt techniques towards creating effective learning environments (Sanford & Madill, 2007). The boys constantly compared their gameplay to other social spaces to articulate meaning. Within this central activity
(Enacting Personas) there was a tertiary tension in proving CoD gamesmanship. My participants showed great interest in transferring game skills between games as they sought to prove CoD gamesmanship. Expanding Mitgutsch’s (2011) work on playographies, I found that adolescent boys also transferred patterns from game spaces into real world activities as well. Experienced gamers provided more robust perspectives on the impacts that gaming has on their lives. For example, Brad said that he felt CoD helped players, like himself, find their talents and gave kids self-esteem that could transfer to the real world:

I feel like most people when they’re good, when they become good at something, they do not just want to stop and be good at that one thing. Most people want to be good in other things and I feel like Call of Duty could be one of these things that could like start you in that direction; and once you are good at that, you are like, “Oh, well if I can be good at Call of Duty I could be good at this other game. If I could be good at all these other games, I can be good at other stuff like playing a musical instrument or like math, or chemistry”. I do not know, or anything. It just becomes a motivator if you use it the right way. (Brad, Interview #3, 8-30-15)

We see life lessons transferred beyond the game space. For instance, Brad gained understanding about the value of hard work and optimism. As a result, Brad’s description illustrates an ability to extend this work ethic to other areas of his life. Brad said, “… if I can be good at Call of Duty I could be good at this other game. If I could be good at all these other games, I can be good at other stuff like playing a musical instrument or like math, or chemistry”. Brad expresses his willingness to also take appropriate risk with confidence. Brad’s new confidence connects with a Blake’s earlier statement of “expanding his horizons of what he can do”. Reflective questions can emerge from gaming experiences that Brad and Blake illustrates such as, “What are my boundaries; What is in/out of bounds; What am I capable of; How do I become good at something; Where are my natural gifts and talents, and What do I need to work on?” Likewise, Brad also gave a possible blueprint for how games help him work through such inquiries.
Social Development speaks to human transformation through social engagements (Vygotsky, 1978). Identity formation is an individual process, however it takes place through a social peer interactions (Steinberg, 2005). The digital space was a significant part of the participants’ social ecosystem. Regulars shaped the character of CoD’s multiplayer online environments (Steinkuehler, 2005). Players contributed to creating desirable environments based on their own values and beliefs. The game space acted as a hub or incubator that could reinforce, transform or acculturate particular characteristics. Blake talked about why he played with random people (Randos) and enjoyed creating a particular type of environment:

I love when I have kids that don’t know how to play on the party with us. Like new kids cuz everyone was there, but kids forget they were there, when they get good. I used to hate when people used to make fun of you for going 1 and 20 or 1 and 18. You have to learn how to play. And I think that my thing is, it should be welcoming. When I’m in the lobby I want us to have a good time. Like we’re talking about sports, this, that, we’re kinda just laughing. And there’s this occasion, (in the game) “oh yeah by the way there’s this guy in that door.” You know what I mean? It’s not like, “You’re an idiot. Get out of my chat. I hate you”. Stuff like that. I don’t know,… I think that my thing is, I like to be pretty positive, joking around attitude in the community so it feels like everyone’s welcome…and as long as you talk to people, usually they talk back. Unless I didn’t have a mic or something. Its only negative when you have these guys who, this is their life. You know what I mean? They don’t go on to have fun. And I get out of those lobbies pretty quick.

Interviewer: So it’s a community. And you’ve contributed by teaching much like an apprenticeship?
Blake: (nodding) Yea! I mean it’s kinda funny because people that don’t usually play games don’t understand that, that’s how it is. But, I mean when, you’re enveloped in that world, it’s like you are learning a new trade. You’re learning how to game and I like to help even in football. I’ve always taught. You know coach. I’ve always taught the linemen what to do, like to help. And in the virtual world you can still give a pointer like, “Yeah you missed that cause you did this...” Cuz you get to see the replays and stuff that you did. But yea just being happy is why you buy the game. You don’t buy it to be miserable. So if you keep a positive attitude it’s a good time to just talk to new people and have a good time. (Blake, Interview #3, 7-16-15)

Blake desired to create an environment that replicated the real world values that he brought to the game space as rules and tools. Blake has a mentoring personality, where he enacts the persona of
a guide or teacher. Blake enjoyed teaching people and creating a welcoming play space as he competed against negative influences in the community. His narrative was expressed through his personality and characteristic of being mentor figure within CoD. Even further, his personal beliefs not only manifested themselves through his gameplay but they were also reinforced. I’ve observed Blake as not only a leader within the game but also a leader on the classroom as well as the football team. Blake was always engaged in helping his position players improve and motivate the team to do better in weight room, during practices and on the sidelines (Personal Observation, August 2009-2015). Blake’s teacher and coach, Coach Hassan, also confirmed that he was a leader and a teacher in his classroom (Coach Hassan, Informal Conversation, 12-8-15).

Much like Blake, many of the comparisons would be from their individual positions in football—“I’ve always taught. You know coach. I’ve always taught the linemen what to do, like to help”. The boys compared games to games and game styles to game styles based on their identities on the field. The boy participants seemed to reconcile their identities through their social play spaces, and spoke through innate areas of expertise. Christopher says, “Like I still think of football is a fun activity and like that, but like gaming is also part of my life.”

Christopher captures a sentiment that all the boys felt with an intimate connection with these social spaces. These findings clearly align with Madill and Sanford’s (2007) work on cultural literacy as players made connections to ideas at their own level as they shared social capital. The present findings align with playographies on the notion that they differ based on individual experiences and are bound within social constructs (Mitgutsch, 2011; Rice, 2014). Particularly, my findings emphasized identity formation towards agency in self-awareness for this population of CoD gamers. It follows that for these boys gameplay meaning making might have been intricately linked to their present identities within their well-known social play spaces. My
findings may suggest that the boys’ identities were so tightly woven into the game spaces that meaning making was not possible apart from their social identities.

**How do I navigate between games?** The neutrality of virtual games spaces makes it easy for player to come and go freely (Steinkuehler, 2005). Likewise, boys are drawn to games based on their real world social groups and utilize semiotic resources to create digital reproductions (Eshet-Alkalai, 2012; Steinkuehler, 2010). Often, local peer groups determine game choices and system choices as they migrate between digital play spaces. Virtual peer groupings also dispersed and congregated based on individual selections, much like in real-world adolescent friendships (Steinberg, 2005). The players exhibited these same sentiments. Brad described how he evolved as a gamer.

**Brad:** I think because *Call of Duty* continues to evolve with me I feel like- since I have gotten like moderately descent at the game- I’ve kinda planed out. Because as *Call of Duty* gets more intricate and a little more realistic, I would say. A little bit but not so much because it is *Call of Duty*. But I’ve kinda planed out on my skill level. I’m probably not going to be an elite *Call of Duty* player, but I am up there with some of my better friends. I am not so bad that nobody wants to play with me. So that’s the important part.

**Interviewer:** So this idea of *plateauing* out of the game, is that one of the main reasons why you evolved to another game or moved on to another game?

**Brad:** Yes! Because once you have kind of maxed out how good you are going to be at the game, you have to move on to a different game, or else you are just going to be sitting there and doing the same thing and it’s gonna get,… It gets kind of boring. That’s the whole thing. I went from playing *Call of Duty* all the time and then I played a lot of story-based games. And played some pretty good games. I played *Destiny* a lot, then *NBA* and *Madden*; and now I have kind of gotten back to *Destiny* and *Call of Duty* because the new *Black Ops 3* is coming out soon and I always play *Call of Duty* and I cannot really not get the game. For *Destiny* there’s a new expansion coming out and I’ll get that too. *Need for Speed*, which is also probably one of my favorite games I’ve ever played. I mean you kind of have to find a way to continue to get better at games in general after one game has kind of worn itself out, and then eventually you go back to it.

_(Brad, Interview #3, 8-30-15)_

Brad mentioned *plateauing*, which lead him to move on and search for new gaming experiences. This example demonstrated a search for individual securities as adolescents resolve their identity.
crisis through exploration (Steinberg, 2005). Brad was searching for new experiences where he could explore the limits of his own skills but also acquire talents. Based on these results I interpret through my CHAT lens that the boys sought out new communities, divisions of labor, mediating instruments as well as rules and regulations. In line with the other participants, Blake and Brad continued to juggle the context of the conversation between the CoD game space and other types of gaming spaces.

**As I navigate game spaces, what am I searching for?** To expound upon this question, Blake and Brad gave insight into what they were searching for. The following examples demonstrated how players metacognitively reflected on their playographies.

**Blake:** If you wanna have a story game you buy an RPG. That’s my thing. You know what I mean? They have a story and stuff and (CoD) Ghost is really fun to play. But I like to play, it for the competition. It’s a great mix between a kinda MMO and you have that huge competition because you always play someone new. You can pick it up for 2 mins or you can play for two hours. You know what I mean? So you can quit in 2 seconds and that’s what’s nice about it. So other games like WOW, if you’re in a Raid you gotta clear an hour and half out of your schedule. And with high school and stuff and football, you don’t really have that much time in your schedule, so. That’s why it’s (CoD) always something that was easy. You kinda just play a couple of rounds of CoD.  
(Blake, (Interview #3, 7-16-15)

Blake mentioned how he enjoyed the autonomous nature of the first-person experience in comparison to RPG’s. Blake also enjoyed the nuances of playing different players and learning new ways to compete: “It’s a great mix between a kinda MMO and you have that huge competition because you always play someone new.” Brad then described how he navigates between games based on his internal states:

**Brad:** I think as I have gotten older I am always looking for something that’s like different. Like I am looking for games that are like the normal kind of games like for PlayStation every month. If you are a PlayStation Plus member you have to play online, you get a couple of free games; and as of lately, they have been releasing a lot of Indie games, a lot of independent games. Those are the kind of games I like to play now, especially when they’re free, because it was like free stuff. But independent games are always very interesting because they don’t really follow the conventional rules of the
game that is made by big company like Activision makes Call of Duty, and Bungie makes Destiny. They don’t really follow those concrete rules. Like I played a game where it is turn-based combat, but the story is so like weaved into it. Then you forget that you are playing a turn-based combat. I like games that the story really comes out and you can really like enjoy that aspect of the game.

(Brad, Interview #3, 8-30-15)

Both, Brad and Blake’s views reflected a common thread amongst all participants, which was the allure of new and creative environments. The adolescent boys were free to explore within a safe space where risks are significantly reduced in alignment with the notion of a Psychosocial Moratorium (Erikson, 1994; Gee, 2007; Steinberg, 2005). Blake used CoD for it’s easy onramp and flexibility in time commitment-“You can pick it up for 2 mins or you can play for two hours”. Brad spoke to the diversity in the gaming experience as he was engaged by nuances in game styles. In both cases creativity was an essential component that maintains engagement through curiosity. For the boy participants there was a strong desire for the boys to autonomously explore new content. Autonomous exploration is a normal attribute of young adolescents as they traverse through their identity formation stages (Steinberg, 2005). There was a strong desire to explore new content, which allowed boys to learn new content about the gaming environment and about themselves as well as test and challenge their abilities. The boys enjoyed exploring new talents and skills in games; in addition, they also enjoyed the ability to explore and operate outside of the boundaries of scripted procedures.

CoD is a space that does not attract a high volume of strangers or newbs because of its long history. In this sense, it is homely or does have a low profile (Oldenberg, 1999; Steinkuehler, 2005). CoD has evolved over the years improving storylines, perks, classes, maps, guns along with player curiosity and enjoyment. Likewise the boys continue to enjoy the evolutions of CoD and return to their familiar up bringing’s. Brad mentioned earlier that he was excited to return to playing a new version of CoD. Gamers returned to familiar contexts to
explore their growth under familiar settings: “…and now I have kind of gotten back to Destiny and Call of Duty because the new Black Ops 3 is coming out soon and I always play Call of Duty and I cannot really not get the game. And Destiny there’s a new expansion coming out and I’ll get that too” (Brad). The boys collectively felt that the new features in games were incredibly appealing. If evolving and novelty (curiosity) is so prevalent, what kept these players coming back to CoD? For the boys in this study, there was a sense of loyalty to the games that helped to develop their gaming skills. Brad articulated this further as he communicated why he returned to CoD and expressed the life lesson of accepting one’s limitations:

Pretty much every year is another one. So if I am not good at this strategy I can always try another one or eventually, I’ll figure out something else. You cannot really quit Call of Duty especially once you have started playing and playing. It is like “Wow”, this game is fun and it is engaging in terms of like the multiplayer and you just kind of learn to deal with not being good at certain things. Like I am not very good at using a sniper rifle. I’ve kinda dealt with that. I’m pretty okay in everything else and I am okay with that. There is always going to be something you’re not good at in life and in video games and for me you just kinda gotta learn that. (Brad, Interview #3, 8-30-15)

The boys were drawn to CoD as a developmental marker of their gaming identity. Brad was drawn to the game that helped develop his gaming skills. He desired to test his own talents--“I’ll figure out something else,”--within the familiar environment and explore the added features and novelties within the familiar play space. Brad had identified his strengths and weaknesses in the game. This led Brad to an actualization of his own abilities, as he understood his talents as well as his weaknesses. CoD provided a psychosocial environment that encouraged exploration (Erikson, 1994; Gee, 2007). Further, we see that gamer identities can directly impact real-world identities, because Brad said, “There is always going to be something you’re not good at in life and in video games and for me you just kinda gotta learn that.”

**What is it like to play various roles within the team?** Role-play is used to autonomously explore identities (Steinberg, 2005) and was viewed as a mediating instrument
within the central activity of Enacting Personas. Boys love to autonomously explore possibilities and create their own destinies within violent fantasy worlds. The players freely explored within a specialized fantasy world. As boys role-played, they seek to engage in autonomous identity practices. CoD roles were organic as each position had value for the team (given the mode and game situation). Players found themselves having an affinity to particular game modes and roles. The boys were drawn by the desire to engage in a level of fantasy where they can explore their independence. In agreement with the notion of a psychosocial moratorium (Erikson, 1994) work, the boys often engaged in fantasy play experiences to escape the high stakes external pressures of reality.

Zane: I think there is a lot of pressure on kids. Like school, work, relationships, social, or sports. It puts a lot of pressure on kids. I think when kids go and play video games, it kinda gives them a place to their own. As in a place to escape school, work, relationships, you know. I think it’s a place to just get away. (Zane, Interview #3, 12-7-15)

Zane spoke of “getting away”. Play is separate from real life (Huizinga, 1949) and we see that an important part of the CoD experience was separation from reality. Culturally the CoD roles were socially acceptable (perceived as cool) and boys can self-govern the roles within the community. Figure 4.13 captured an in game instance while I played in a party with Kevin, Christopher and Coach Brent. In the top left hand corner is our digital map. Below the digital map, two of our teammates are talking to me. Notice two of my teammates are also leading me through the game as we play Search and Destroy. The green arrow represented the direction of the escort and the red arrow underneath it represented our goal target A. The other red arrow located target B. Team roles are outlined below Figure 4.13, according to the CoD community language:
Primary Team Roles

Run and Gunner: A person who seeks and destroys. They find enemy locations and identity opponent strategies, generally at the expense of dying off first.
Kamikaze Scout: This person draws a lot of the enemy fire in his direction but is generally quite reckless. Not interested in KDR at all.
Ninja: Quiet and slow moving with intentionally. This is a person who tries to minimize risky behaviors and lurks in the shadows. Guerilla warfare style at times.
Sniper: Long range shooter. Usually picks a hidden spot and picks opponents off with calculated and precise shots.
Camper: A person who lies in wait for opponents to come into their sights. Low risk, low reward.

Secondary Roles

Teacher/mentor: A person who likes to teach others nuanced strategies of the game.
Leader: There are vocal leaders and non-vocal leaders. Both must be incredibly skilled to have credibility amongst the group. Teammates may silently follow a less vocal leader.
Free Lancer: Independent of group goals or team objectives. Only after improving KDR or feel out the map.
Hacker: A person who uses special codes to have an unfair advantage during gameplay.
Jerk: This player is only there to cause trouble or goof around, whether it is vocally or through his game play. During game play this person may just shoot in the air or distract
his own teammates. He has no intention of contributing anything useful to the team win. All players have enacted this role at some point.
(Observation, September 10, 2015)

The boys shifted play genres and games to match their autonomous agendas. Each genre and game afforded a different level and type of desirable role. For example, some of the participants preferred realistic roles like sports figures or graphics with more realistic aesthetics. In light of this, all admitted to being drawn to an experience that allowed them to engage in roles that were not available to them in the real world.

Interviewer: Why would you want to participate in that type of activity in the virtual world, if you didn’t want to join the military?
Brad: More so than anything, I think, it’s just entertaining. It is the same reason you watch horror movies, “like scary, crazy, bloody stuff is going to happen. It’s going to be awesome!” It is entertaining more than anything. It’s also that you’re doing something that you cannot do in real life like. Most people, I mean I know people that are in the military who play Call of Duty, that are like, “it kinda reminds me of it”. But it is not really the same thing. It is more about experiencing something that you would never experience in real life; and that’s what video games in general I think are like trying to touch with people. You are never going to fight a dragon in real life. You are never going to jump off a building and swing on a web. It gives you an experience that you would never get otherwise and it kind of immerses you in this world, but isn’t this world that you leave in for a little bit. It kind of gives you a break.
(Brad, Interview #3, 8-30-15)

Role-playing could be viewed as a self-expressive act considering that the boys were driven to obtain agency in self-awareness. So, while role playing the boys may have become actively engaged in identity formation processes. As boys explore, virtual play allowed them to engage in mischievous behaviors within a safe space. Scholars suggest that players are able to control their role identity in the fantasy space where risks are significantly reduced (Erikson, 1994; Gee, 2007). CoD certainly demonstrated an environment that significantly reduced external pressures for development. As mentioned earlier, this was the very reason that boys escaped to them. The captivating environments of the virtual worlds have boundless identities and rules. Adolescent boys unapologetically “play” with identities and personalities (roles) through the game play.
Findings may indicate that role-play facilitated maturation and contributed to identity formation (Steinberg, 2005).

**Who am I as a result of playing various team roles?** Boys traversed from exploration of role-playing to making intentional choices within the gaming environment through autonomous activities. Autonomy is defined as, “the psychosocial domain convening the development and expression of independence” (Steinberg, 2005). Boys use self-expressions in order to gain self-awareness, which is defined as the capacity conscious knowledge of one's own character, feelings, motives and desires (Self-Awareness, 2016). The participants’ exercised self-expressive tools towards gaining self-awareness. Players understood that they had the power to make their own decisions and reflect on and take ownership of their decisions. Blake distinguished how he liked to play, in comparison to others:

Interviewer: Do you think other players think about it the way that you do?
Blake: I wish a lot of people would but a lot of people, a lot of men, don’t see it that way. A lot of adults. They take it really, really serious, I wish they felt more that way, because I would have a lot more fun when people are happy than when people are like, “ah you suck. I hate that you can’t get this. This is BS”. And like I’d rather have fun.
(Blake, Interview #3, 7-16-15)

Blake was describing himself as an individual whose values sharply contrasted with what he viewed as poor adult behavior within the community. He was not afraid to express himself and articulate how he impacted the community. The boys felt empowered during gaming experiences recognizing that, as Squire (2006) suggests, they can design their environments. In fact, boys actively sought out like-minded peers throughout the online community. As a result, players sharpened their perceptions of themselves as individuals. Cody is comfortable owning his view of how games impact individual gamers. As mentioned earlier, Cody stated, “I think it’s fun to kinda play with your friends. I think it’s a bonding experience and other people might think that
it’s not. But I don’t let it affect me. I don’t know if others let it affect them.” Boys desired to identify their self worth and desired to gain recognition for work that they’ve accomplished. Blake explained how CoD can help players express themselves and find areas where they can find success.

Because the stereotypical gamer, who people call a loser, is the king in his world. They call the number one in the lobby the kingslayer. If you kill the number one in the lobby you’re the kingslayer. So it helps you. I go in and I’m descent, I’m middle of the charts every time. But there are kids that I can destroy in football or the weight room or whatever and then I go in and they’re the best in their world. So again it gives someone a new niche to be good at and help them stay motivated... like stay up about themselves. They don’t get down on themselves because they can get that escape. So if things don’t go right that day or they’re bullied, or whatever it is, they can go to CoD and be the bully or be the best. So I think it gives someone a new niche to be good at and it’s respected... It gives them a new care, a new path to follow where they’re good at what they are. And if it’s the looks they’re worried about, no one can see them. They can do whatever. You know what I mean?

(Blake, Interview #3, 7-16-15)

Blake described what it might be like for a person who finally has found a place to belong. This example demonstrates how boys think about the success they have earned and how they may impact their self-value. When success was earned in the game, it can clearly be linked to self-expression and individual efforts. Boys built self-esteem but also began to gain self-awareness.

A trajectory was observed as players actively sought out opportunities for growth. Like the findings here, playographies provide meaningful ways to draw connections between virtual play spaces and the world in which we live (Mitgutsch, 2011; Rice, 2014). Players explored their identities and used the social constructions within the game space to reinforce or transform these formations. As a result, these findings illustrated signs of maturation and sharpened their identities as social citizens. Intended outcomes were morality, self-awareness, reinforced values and beliefs, and ownership of play style. Unintended outcomes included maturation, identity
formation, (psychosocial transformations), emotional intelligence, digital literacy, and vocabulary acquisition.

**Tensions Towards Expansive Learning**

As players Enact Personas, secondary tensions arise between rules, community and divisions of labor and the motive-object of *agency in self-awareness*. Not only did the boys individually bring personas to this activity but the division of labor in an activity created diverse positions for the participants as the boy participants carried their own histories, and the activity system itself carried multiple layers and strands of history engraved in its artifacts, rules and conventions. In addition, within the central activity of Enacting Personas, boys wanted to transfer awareness and make meaning between the virtual world identities and real world identities as they engaged in *agency in self-awareness*. Tertiary tension rose as boys sometimes migrated between systems. This formed tension as the motive-object of *peer bonding* is introduced into the motive of *agency in self-awareness*. Thus the activity of Socializing with Peers had a tertiary conflict with Enacting Personas. Unintended outcomes included separation from peer groups and fractures in peer bonding. Although the boys remained friends with many of their peer groups their bonding tool was interrupted as they stopped playing with certain peer groups and joined new social circles. Quite often these aforementioned tensions remained unresolved. See Figure 4.13 for tensions within Enacting Personas activity system.

*Figure 4.14. Tensions for Enacting Personas (Website: https://webbrain.com/u/19Bv)*
Expansive Learning: Moving beyond the Console

Bonding with Peers in CoD requires being in the same online space with peers. CoD can be played on a PC, but is far more popular on a console. Because CoD is primarily a console-dependent game, a player’s console dictated who they are able to play with, so it was important that local peer groups have the same console systems and the same game. What happens when your peer group migrates to an upgraded system? Secondary tensions arose ultimately bringing rise to tertiary tensions (Foot, 2014) in the ability to bond with local peers. As Blake noted, “But unfortunately, not a lot of people can afford the new system or they don’t want the new game or they don’t like it. It’s hard to find, in this small area, like my friends who I can play with everyday” (Blake, Interview #1, 6-16-15). Blake demonstrated that tensions could cause separation between close friends as they leave friends behind in the virtual space. The participants made choices between differing communities (local peer groups) and at times slightly sacrifice bonding experiences with friends.

Christopher and his brother David used to play with about five friends all the time on the PS3 system until his playmates migrated to the PS4 system. Christopher was pretty “bummed” about it but was content with his choice to stay on the PS3 system. During his self-recorded Think Alouds Christopher revealed that he was recording and playing with a friend. Christopher later mentioned that his name was Mike. We see tertiary tensions as his motive of exploring his agency in self-awareness practices has tension with creating peer bonds with his former playmates. Adolescents’ finances can become a major factor in the decision not to advance to a newer system. Although this is a reasonable cause, it was not the case with Christopher. Christopher had hopes of being a military sniper. Particularly, Christopher enjoyed the game as training grounds to prepare for the next phase of his life in the military.
Me and him (Mike) always talk about the game. Like when we’re playing Call of Duty, when we’re sniping……against, like, with each other because me and him just sit side-by-side, we’re like picking off people from far. Like, ″Wouldn’t it be awesome if we go into the army and we’re both like each others sniper and sniper spotter.″ Well I’m going to be a marine sniper.  
(Christopher, Interview #1, 7-16-15)

Me and my friend, we’re always talking about if we both go in military and end up being marine snipers, if he would be my spotter a I would be his sniper or it would be the other way around, that would be cool….But even though it’s just like basic Army infantry sniper, I wouldn’t mind that at all either. They still go on like kinda the same missions. I guess you could say, they both have the same objective to protect this country.  
(Christopher, Interview #2, 11-10-15)

I wondered why Christopher did not change systems with his dear playmates. During a conversation at a summer football practice, Christopher mentioned to me, “I think we’re ready to move on to PS4” (Christopher, Informal Conversation, 8-3-15). I was confused that Christopher referenced “we” instead of himself as an individual. Christopher revealed that he and Mike “were ready to move together”, as a unit, to the new platform. Christopher’s motivation to action was influenced by the tertiary tension of peer bonding and being cool with peers. This tension persuaded Christopher to realign his community with his tool. Christopher and Mike were excited to rejoin his previous friends. As Christopher acted on the motive object of agency in self-awareness the tensions between his motive-object of social peer bonding aligned with that of his closest friend. Together, they changed tools and now were able to join old friends in the same social space once again. Tensions led to the use of new tools as they migrated to the new system, and Christopher’s best friend played a major role in this intervention that lead to an epic change. Christopher and Mike determine that peer bonding with their social group was worth breaking the tension between tool and community group. The boys missed the bonding experience with their peers and understood that they could achieve both the goals of group peer bonding and training. This finding on expansive learning may indicate identity formation as
Christopher and Mike prioritize their value systems. See Table 4.5 for expansive learning matrix for identity formation.

Table 4.5

*Expansive Learning Matrix for Identity Formation*

<table>
<thead>
<tr>
<th>Who are learning?</th>
<th>Multi-Voicedness</th>
<th>Historicity</th>
<th>Contradictions</th>
<th>Expansive Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male adolescent CoD gamers, Gamer community</td>
<td>Voices of adolescent boy members of CoD Community</td>
<td>The boys grew up with CoD. Adolescent. The culture feedback informs their decisions which is based on a historical development. They play and explore their own values and beliefs through a history of play. These represented their agency in self-awareness activities.</td>
<td>Tertiary tensions between peer bonding and autonomously forming identity. Quaternary tensions between rules, mediating instruments, DoL and community transform how each individual views himself. The motives can be affected as they relate to Socializing with Peers activity.</td>
<td></td>
</tr>
<tr>
<td>Why do they learn?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys seek to solidify their own identities through self-expression (agency in self-awareness) as they align experience with life lessons and real world events. They utilize their social ecosystem, which heavily includes play through entertainment venue with violent fantasy that has social significance. fun exploration/“messing around in social circle”,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What do they learn?</td>
<td>Boys determine Which historical values and beliefs they hold onto. What type of</td>
<td>Moral conflicts may arise and they are diffused or rejected. Identity crisis</td>
<td>Change tools, change group of playmates or solidify values, change games, Evolution into maturity,</td>
<td></td>
</tr>
<tr>
<td>Who they are as individuals through a playography. They build Self-awareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
towards understanding themselves as individuals within a social body. Who they are as a male, as an individual, as a friend, as a social citizen.

| How do they learn? | Enhancement of psychosocial development for real world applications. | Individual identities are challenged interactions and rely on metacognitive processing, demanding actions of translation and negotiation of self awareness with the community. | Historical engagement in a participatory culture and social norms. Identity formation is based on historical development. | Playographies may differ from desired peer groups, but individual preferences either dominate or morph to fit social peer pressure or individual beliefs and values | Evolving into deeper metacognitive and self-conscious decisions about identity. |

Theme 4: Showcasing Expertise through The Flow State (Finding “The Zone”)

This final theme speaks to the boy participants’ desire to be consumed by the Play Experience. In it’s ultimate form play absorbs the player intensely and utterly (Huizinga, 1949). Although the majority of time spent in CoD is full of jovial socialization, boys have an intense desire to be in sync with the environment. As the boy participants’ Pursued The Flow State they were able to showcase their earned expertise for the CoD community of peers (See Figure 4.15). The Play Experience fosters the Flow State (Czikszentmihalyi, 1976; Stevens, 1980). However, within this study access to Flow was dependent upon the previously mentioned systems. The interaction between the population and the CoD environment can be seen as a default condition. In other word, the notions of telepresence between the population and the CoD environment are
assumed. Taken together then, these three conditions provided comfort, expertise, and self-awareness necessary for players to experience Flow. According to my findings, Flow was achieved when the following collective conditions were satisfied:

- Social connectivity through camaraderie
- Expertise built through aggressive competitive play
- Self-awareness through autonomous role-play

Figure 4.15. Pursuing The Flow State Activity System

The Play Experience Inside and Outside of CoD

Huijinga argued that play stands consciously outside of the real world and absorbs the player intensely and utterly (1949). Players yearned to separate themselves from the real world and fully immerse into the playful experience. Experiences of Flow in games have colloquially been referred to as “The Zone” (Chen, 2007). Likewise the boys referred to this experience as
“being in The Zone.” Christopher explained what “The Zone” was like within CoD as he escaped reality to become the avatar.

Usually I start off by just listening to music or talking to my friends on the headset and then I’ll just kinda go silent and I’ll start focusing more and more on the game. Then when I’m in it, I’m pretty much like in the game myself and I’m not making any communications with my friend on the mic. I’ll be talking to my team without knowing it, but it’s just like instant time during that mode. And the music, if you’re listening to any you’ll, just zone out. You won’t hear it unless you’re actually thinking about it, like, “Oh I was just listening to music” and you’re kinda like in the zone. You’re kinda like the actual character. It’s like you’re,… playing the game. You are the game. It’s just really nice cuz it distracts you from everything around you. It kinda get’s your head off stressful things or anything like that.

Interviewer: Would you say that this is the reason why you play the game to try and get into that zone as much as you can?
Christopher: Probably. Yea! To help escape reality. It’s like a natural high (Laughs). You can describe it as that. Yea! Because you’re not worried about anything. It’s like you’re relieved. You can get like mad about something in the game but you won’t really get mad. You’ll just like get like mellowed out…. (Christopher, Follow-up Interview, 12-8-15)

Christopher describes fully escaping reality and released his real world identity to put on the avatar role. He said, “if you’re listening to any you’ll, just zone out. You won’t hear it unless you’re actually thinking about it, like, ‘Oh I was just listening to music,’ and you’re kinda like in the zone”. Christopher’s description of “zoning out” resonates with Csikszentmihalyi’ (2013) sentiments of Flow as a disappearance of self-consciousness and a distortion of sense of time and the activity becoming autotelic. The boy participants intentionally desired to travel deeper into their play experiences towards absolute immersion. While in Flow, Christopher described losing touch with reality and his actions became intuitive and reflexive. Flow enables the player to rely on instinctual movements through intense focus and concentration while his actions merge with his awareness (Nakamura & Csikszentmihalyi, 2009). Christopher not only played the character on screen, he was the character on screen—“You are the game”. Flow provides players freedom and relief from real world pressures to intrinsically enjoy their play experiences.
Christopher says, “It’s just really nice cuz it distracts you from everything around you. It kinda get’s your head off stressful things or anything like that”. Flow is known to be an experience full of captivity, aesthetics and addictive in nature (Csikszentmihalyi, 1976; Stevens, 1980). Christopher’s responses would agree with this description as he described Flow as “a natural high”.

For my participants Flow was not isolated to the virtual world, but also occurred in real world social settings. Christopher related Flow to other intimate social play spaces as he paralleled Flow in CoD to his experiences as a football player:

Interviewer: Have you experienced that anywhere else in life?
Christopher: During football games a lot actually. Like I’m not really focused on the sidelines or anything or the stands. I’m focused on where the ball is or what the play is, in order to get that job that I have done.
(Christopher, Follow-up Interview, 12-8-15)

Historically athletes often reported experiencing Flow during competition (Csikszentmihalyi, 1976; Nakamura & Csikszentmihalyi, 2009). Christopher reflects these points as he paralleled Flow in CoD to his experiences as a football player: “I’m focused on where the ball is or what the play is, in order to get that job that I have done.” My population represented a group of male athletes who played football, basketball, wrestling and baseball. All of the participants were intimately familiar with Flow as an experience that afforded great success. I have observed that the boys often expressed Flow as relating to athletics with which they were innately familiar (Observation, 2009-Present).

**Traveling into the CoD Flow State**

For the boys, one of the primary conditions to enter Flow in CoD was comfort within their social peer settings as social connectivity significantly reduced imposed external pressures. Social connectivity, within this study, minimized external pressures by reducing real world
consequences. Connecting to the literature (Csikszentmihalyi, 1997; Rufi, Javaloy, Batista-Foguet, Solanas, & Páez, 2014), Flow was facilitated within social interactions as the social community shared joint goals and was also driven by intrinsic interest. For example, Avery and Troy described how congregating with friends helped facilitate a relaxed state:

Troy: When you play video games, I usually play with my friends so I have the option to talk to them and I guess that makes me feel more comfortable.
Avery: I was going to say that you could get stressful from school, but when you’re playing video games, I don’t think of anything else except for talking to my friends and playing the actual game. So it kinda relieves a lot of stress because your focused on it and nothing else, trying to achieve whatever you’re trying to achieve in the game.  
(Avery & Troy, Follow-up Interview, 12-8-15)

Avery and Troy demonstrate how playful engagements facilitated light hearted and jovial atmospheres for the boys in this study. The interactive nature of CoD made problem solving a social event and players enjoyed working through socially acceptable problem spaces.

Flow is an illusive experience and requires control and attention within an intrinsically interesting activity. More specifically, Flow requires that the player has a sense of control and knows how to respond to any give situation within the activity (Csikszentmihalyi, 1997). Likewise, control was a significant part of the immersive experience in CoD, while players desired to control outcomes. As the players focused and created order, they self reflected and worked to learn the optimal conditions to engage in Flow. Several boys had difficulty intentionally accessing Flow, however they learned some basic features they could utilize, like Avery and Troy who often play CoD together:

Interviewer: What do you do to get into that mode?
Avery: Focus!
Troy: Yea. Lots and lots of focus. Sometimes it comes out of luck.
Avery: Sometimes it just happens. Like randomly you just start doing really well. It’s nice!  
(Avery & Troy, Follow-up Interview, 12-8-15)
Troy and Avery’s response demonstrated the illusive nature of flow (“Sometimes it just happens”) but acknowledges the need for intense concentration. Self-awareness dictated the ease with which he entered and the depth to which players experienced Flow. Instead of relying on blind luck, players could go through great lengths to transform their physical environments in their pursuit of Flow.

Players tuned out their physical spaces and attempted to transport themselves into the first person role. Changing the physical environment required metacognitive processing towards deeper levels of self-awareness. Some players needed headphones, like Christopher mentioned earlier, to be able to listen to all of the activity in the game space. Yet others needed silence because noises were too distracting. For these boys, talking during game play was minimal, instead they preferred to socialize between matches. Kevin was able to access Flow with greater ease and remained in the state longer than most participants. “Yea! Once I get one winning game I tend to keep winning and that’s about it. That’s all I got to really do is win” (Kevin, Interview #3, 7-16-15). In light of the ease Kevin was able to access Flow, he also had a more elaborate preparation process:

First of all I have to eat. I can’t have any breaks. I can’t have to use the bathroom. You can’t get bored, you can’t get hungry. So I eat, I use the bathroom and everything before I get on. Then I get on, get the music going on Spotify. Then I start jamming out and then that’s it. Once all that’s on, once that’s going I do a couple warm-up rounds, then after that I’m in it.

( Kevin, Follow-up Interview, 12-8-15)

Like Kevin, all players used a conscious effort to understand the physical adaptations needed to become fully immersed in *CoD*. Although not mentioned here, Kevin usually plays with his best friend Zane. Therefore, Kevin’s process for social connectivity (comfort) normally included talking with Zane and eating, which helped him, focus and achieve Flow. Nakamura and Csikszentmihalyi (2009), reference an experiential landscape as a part of the Experience Sample
Method (ESM), which differentiates eight challenge/skill terrains and has implications on flow (2009). ESM studies suggest that relaxation has strong ties to socializing and eating (Nakamura & Csikszentmihalyi, 2009). Nakamura and Csikszentmihalyi’s (2009) notion of relaxation being a function of socializing and eating would accurately align with boys’ feelings of comfort and relaxation within their CoD community.

Beyond the common features of attention, focus, curiosity and intrinsic interest (Csikszentmihalyi, 1974), Flow was found to be a rhythmic experience in this study. Huizinga, also mentions that play allow the player to perceive things in rhythm and harmony (1949). The findings connect with these ideas of Flow since players accessed the “flow” of the game and articulated the experience as “riding a wave”. When asked to describe the feeling of being in “the zone” Coach Brent responded, “Usually you just keep winning and you just wanna keep on riding it out, like a wave you keep riding it and riding it” (Coach Brent, Follow-up Interview, 12-8-15). In essence, players tried to sync with the game’s environmental and interactive rhythm. As mentioned earlier, some players needed to listen to music, which allowed them to relax and eliminated distractions but it may have also allowed players to tune in to the game rhythm. Kevin was one of the better, more veteran and more talented CoD players. He was able to reach Flow with greater ease than the other players and may have correlated directly with Kevin’s greater success in the space. Kevin described the level of focus and intensity of being in Flow.

In the zone is like rapid, it’s fast and it’s just happening like in the blink of an eye. One minute you’re killing one guy and someone is shooting you and you just end up shooting them. It’s like you can’t die. Like honestly, when I’m in the zone my eyes don’t come of the screen. I don’t think I blink. I don’t’ hear anything but the TV or the headset, if I’m wearing it. And I’m just in. And I see every little thing, every little movement. Whatever it is, if it’s my teammate or not I’m shootin’ at it, just to make sure I get the kill. Like one time I was using the sniper and there was a bunch of guys hanging around. I shot like two of ‘em, then there was a bird in the background and I tried shootin the bird, just cuz I saw somethin’ that moved. It’s just so fast and you’re so into it. You don’t even realize what
you’re doing. You just end up getting... you end up with like 12 kills in a minute and a half. Then you feel like you’re the man!
(KEVIN, FOLLOW-UP INTERVIEW, 12-8-15)

According to Kevin, his perceptive awareness was magnified during Flow. Active psychomotor movements were also amplified in Kevin’s example. A bird is a minute object within the fast paced environment of CoD. Given this, Kevin’s ability to recognize and fire on a bird in CoD is telling of an acute sense of awareness. The Flow State intensified Kevin’s perceptions such that Kevin may have been in rhythm with the environment itself. Kevin said, “you don’t even realize what you’re doing”, which could denote that to some extent and at certain depths of Flow the player experiences a sense of shared control. Play and culture scholars such as Steven’s (1980) endorse the notion that we can only gain insight into the depths and levels of Flow after inquiring where the player has been. Given the collective findings here, this may suggest that an influential gaming rhythm exists and at certain depths this rhythm may share control over the play experience. Even more one may say that the game’s rhythm was predictable and once players accessed the rhythm, they perceive an off loading of cognitive barriers and are transported onto current.

**Leveraging Teaming towards Winning**

Individuals developed expertise as outcomes Flow experiences, however the team atmosphere and CoD community practices dictated the possibilities for Flow. During gameplay teams operate as the sums of parts and rely on each other’s movements and communication to bring order to the gaming environment. Brad played with his brothers Bryan and Ben frequently. They often play as a team and have developed an intuitive style of play. While observing CoD play it is clear that teams try to develop a rhythm with their teammates, however it was difficult to distinguish how they thought about role selection, by simply observing the boys (Brad,
Observation, 8-30-15). A Think Aloud session with Brad gave an added level of insight into how players fit into roles during free forming team play.

**Interviewer**: How do you know or choose which part you’ll play or which role you’ll play and it’s importance?

**Brad**: (Ben: Oh somebody’s taking A). It’s pretty much who you see doing what, as opposed to what you are doing. Cuz if you see there’s two people on your team using sniper rifles, you’re not going to use a sniper rifles. If you see, more than two people doing the thing that I am doing which is running around with a high powered, it’s like a faster weapon to use and you see more than one person doing that. You generally assume that you’re not going to do that. So you try to fall somewhere in the middle, but strategically if you don’t see someone taking a point, there’s usually a reason for it. Because it’s usually heavily guarded or somebody is camping far away and trying to snipe you. (Bryan: Are we all sitting here?). Cuz I thought it would be funny. Us all sitting there. Uhm.. Oh God. (Bryan: Yea be careful. Sniper guy) I’m running around cuz, nobody’s at B. I’m trying to stay away from that drone--Whelp! I didn’t. (Bryan: Oh this is a nice spot). I kinda wanna capture C, but I’m pretty sure it’s,(Bryan: I’m at A right now, nobody’s trying to capture it) Whelp oh that’s why I’m not gonna capture C, because the drone’s right there (Ben: The drone’s gone). No it’s still there (Ben: I don’t like the drones. Oh it’s a sniper drone. I was talking ‘bout the aircraft). You mean the Warbird. (Bryan: I’m taking C). I’m also taking C. (Ben: Oh man!). There’s somebody... my guts. I’ve got a care package comin’ down.

(Brad, Interview #2, 8-30-15)

The communication during this match was deeply intertwined-“(Ben: The drone’s gone). No it’s still there (Ben: I don’t like the drones. Oh it’s a sniper drone. I was talking ‘bout the aircraft). You mean the Warbird.” We can see that Brad, Bryan and Ben operated as a cohesive unit and tried to establish a flow within the game space. Based on match objectives, the players organically fit into the flow of a team dynamic—“It’s pretty much who you see doing what, as opposed to what you are doing”. In alignment with the notion of Co-Active Social Flow (Walker, 2010) the boys were extremely versatile and fluid in their approaches, seamlessly adapting and maneuvering through perks, classes and Exo abilities. Native players understood the team dynamics to such an extent that they could leverage the normal rhythm of teams to their advantage. More than Flow’s ability to occur in social setting through social interactions (Csikszentmihalyi, 1974), for CoD gamers leveraging team dynamics was an inseparable
component of Flow. Therefore, Flow required a deep understanding of team movements and was
predicated on syncing with team dynamics. Co-Active Social Flow occurs through collective
and complimentary group activity (Rufi, Javaloy, Batista-Foguet, Solanas, & Páez, 2014;
Walker, 2010). This study supports these scholars as Flow occurred through teaming activities.
More specifically, players in this study understood the rhythms of their team chemistry and
predicted actions and their outcomes. In fact, the findings suggest that the boys understood CoD
teamwork to such depth that they were able to manipulate the team chemistry towards team
objectives:

Josh: I usually like use the team, sometimes like a distraction. You know, sneak around
the enemies, shoot them in the back. Or I can be the distraction. Tell people where they
should go what's going to happen, where the enemies are. It’s easier for me like playing
with a team is than by myself because you don't know what's going to happen while
you're playing. It could be like six people on you and you don't know what to do.

There is nothing like working with a team. If you see a team that's not working,
functionally together,.. like a team that’s just messing around and is not organized and
has no order. That’s not really fun to play with. But if you see a team that’s organized,
able to put a sniper in one area, like two ninja reckoners, or whatever, in another area.
Like a demolition team. They all know what to do together.

Josh was able to use the team dynamics within particular modes for his own purposes. Self-
awareness enabled players to understand themselves and their acquired talents thoroughly. Josh
understood the game as well as his own abilities to provide maximum efficiency towards team
objectives. Even further, Josh demonstrated a high level of expertise as well as metacognition.
He was able to show his expertise of semiotic resources and development of cultural literacy
(Madill & Sanford, 2007; Steinkuehler, 2005).

**Showcasing Expertise**

In addition to comfort and focus CoD players required talent to draw from in order to be
successful in the Flow state. A player’s CoD expertise depended on the acquisition of talents and
tactics built through competition and self-awareness. Flow is well known for its ability to provide favorable outcomes as athletes and gamers demonstrate successful actions (Schwartzman, 1980). Players with mediocre levels of expertise did not experience the same level of success in Flow as more masterful players. Kevin described what was necessary to have maximum success even in Flow:

Yea! You get into the zone and then you’re not only focused on like one thing you’re doing multitasking. You got to be able to kill, play the objective. I’m killing, playing the objective and I’m destroying aircrafts and stuff, I’m blowing up UAV’s and killing people right away. You gotta be able to use more than one gun. So once one’s out you either have to pick one up one and you gotta be able to use it. There was a couple of times where I picked up guns and I just couldn’t use em. I didn’t like em either the recoil is too much or something. You’ve got to practice with both guns, whatever guns you have. I always keep a gun an extended mag so I don’t have to reload as much and a rocket launcher. Knock down any UAV and no one can see me and I don’t have to waste a perk, use other perks and stuff or other EXO equipment.

(Kevin, Follow-up Interview, 12-8-15)

Success in the Flow state required players to have developed an extensive amount of skills and talents through incredible hard work and practice. Given that this game has been around for over 10 years, the community includes few novices (newbs). So, culturally speaking the CoD community has a stable population that has built deep expectations of expertise for its players. Like New Third Spaces (Steinkuehler, 2005) CoD are low profile, as players remained loyal to their niche game sustaining the CoD sub community. Kevin acknowledged the demand for a high caliber of gamesmanship as he reported; “You have to already know how to use the guns in order to be effective within the zone.” Players understood the game intuitively and desired a level of engagement that was just as intuitive throughout their play experience.

Connecting with Nakamura and Csikszenmtihalyi (2009), Flow allows players to use their skills to seize great opportunity within the play experience. Flow ultimately afforded players with the ability to put their expertise on full display for the CoD community. The boys in
this study enjoyed seeing the fruits of their labor and being recognized for earned talents. Josh spoke about his expertise and goals for playing CoD. “My goal is to become one of the best you know. Like show people that you’re one of the best. Don’t use hacks or anything. Don’t use shields. Become great” (Josh, Interview #3, 7-30-15). Like Josh, all of the participants desired to showcase their talents for all to see. Unfortunately this is where a tertiary tension created difficulties with the motive object syncing with the environment. The familiarity with the game also brought the motive object of proving CoD gaming. Often times proving CoD gaming distracted players from full immersion of CoD. Outcomes of Flow included enhanced problem solving, strategic thinking, critical thinking, perseverance/ grit, built social capital towards enhancing notoriety and ultimately validated gamesmanship.

The Flow State in Action

During a Think Aloud interview, Ben, the middle brother, experiences Flow and went on a 13:4 KDR run. In CoD, historically KDR is known as the ultimate measurement that indicates how good a player is. It represents the kill-to-death ratio or how many times you kill your opponents compared to how many times you die. When this number is higher, it generally indicated a higher player value within the CoD community. The CoD community is widespread across approximately 4 consoles, the PC and includes 10+ games. Despite these various modes of play, my observations over the span of the research determined that there was general consensus about what your KDR indicates about your skills level (Observation, June-December, 2015). With much controversy this CoD community as well as online players indicated that the average player has a KDR of about 0.8-1.0 (Observations, June-December, 2015). The average KDR indicates that players die just a little more than they kill their opponents. A 13:4 KDR was
more than triple the *CoD* community average. Having a KDR of 3.25 shows the incredible amount of success that can occur during Flow.

Entering Flow occurred in quick spurts as matches typically last less than 10 minutes. Ben was in Flow for approximately 00:02:40. When Ben thought aloud, he gave real time insight into his inner thoughts while in Flow, Ben purposefully moves throughout the match. While running around the map, Ben simultaneously reloaded, switches guns, or uses his Exo abilities. Ben reloaded after each burst of rounds (approximately 15 times throughout the match). I have included pictures of game avatar in action as well as his family room dedicated to gameplay (See *Figures 4.16-4.18*). The photos show Ben using one of his favorite guns doing one of his favorite moves- “quick scoping.” The array of picture demonstrated a skill that Ben prides himself on and was able to showcase mastery of during his run. The whole family was captured as Ben, his brothers and his father enjoyed playing together in the living room.

**Ben:** Oh my God! That guy scared me (1) (Brad: There’s another guy over there) Done! (2) That guy’s dead too (3) [jumps away] Oh God! Grenade! (4-Avenger) [switches to scope. Scopes- switch back to assault rifle] Grenade! Grenade right there! (5) (Die) Oh there’s two guys in that, yea, that room! (6) Huh that guys was jumping up in the air (Bryan: Oh man on that side. We’re dead, dead, dead, dead. Oh no we’re not)[throws grenade] Someone just (Die) (Bryan: Oh man I just got filled with bullets)[cloaks self] (7-Payback/Avenger) (8-Avenger) I see you invisible man! (9-Savior) (10-Avenger) (Die) Wow! I just went on a crazy killing spree right there. (11-Kingslayer/Payback)[exo jump] (Bryan - They kill me right as I go around the corner, so it’s like,.unreal, it’s like how do they do this?)

**Ben:** Yea sometimes people are faster, just a little bit. I think there’s a guy right above you. Let me go check. I like this map. It’s a very campy map, but I like it. [cloaks himself and walks into room](12-Headshot)

(Bryan: Ho ho that was awesome) What the invisible thing. (Die) (Bryan: Yea you just walked in and he didn’t even see you) It’s really,. in this map it’s really hard to see invisible people because it’s snowy. Guys we can catch up, we can catch up. We just can’t die. We’re actually doing pretty good. (13) (Ben, Interview #2, 8-30-15)
Figure 4.16. Bryan in-game Avatar

Figure 4.17. Bryan Scoping Enemy
Ben clearly recognized that something special was happening halfway through his run. He racked up 5 kills in a row. Ben didn’t notice, but he actually did this twice. Ben shouted, “I just went on a crazy killing spree.” He sought acknowledgement for his display of talent as he traversed between different layers of the play experience while the badges recorded Brad’s success (Payback, Avenger, etc.). Notice how his brother Bryan complimented him towards the end of his run and he immediately died. This indicates that Ben’s focus was obstructed in that instant and his Flow level was affected. Ben was not perfect during Flow and he died four times during his experience. Expertise impacted the level of success players obtain during the Flow experience. Players’ instinctual actions are built on their individual level of expertise. During Flow, all mediating artifacts, rules and regulations as well as the Community and Divisions of Labor are working together. In essence, Flow occurred when players had minimal obstructions to access their acquired mental resources. Free from restrictions, players can now push their expertise towards mastery (being and elite level of expertise) for a worldwide audience. The
allure of Flow results as the play experience ultimately allows all motive-objects to harmonize for its duration.

**Tensions Towards Expansive Learning**

Players often transferred their gamesmanship skills and desired to *prove gamesmanship* as they migrated between games. Players constantly utilized other gaming experiences and sought to transfer their skills from one gaming community to another. The desire to *prove CoD gamesmanship* formed a tertiary tension as the boys also sought to come in *sync with the environment*. The tensions became evident as players, in a sense, performed for one another to gain acknowledgment of earned skills. The player’s focus turned from immersive experiences that require relaxation and internal skills to applying external pressures of impressing friends. Players felt the need to *prove CoD gamesmanship* while seeking notoriety within peer groups. Although this was an outcome of Flow, players are known to put an emphasis on being perceived as cool by their peers. This tension distracted players from gaining depth in the Flow experience. Quaternary tensions arose between rules, community, tools and DoL of the activity system within the network (See *Figure 4.19*). In other words all of the activity systems in the network experience tensions between their nodes.
Players tried to find balance to optimize success. As players engaged in competition, the tools and rules were in constant tension along with divisions of labor. Community members were in constant flux as well while player’s changed lobbies to suite their needs and play styles. Specifically, the tools that players used and rules formed tensions with the motive of harmonizing with the environment. It is clear to see that multi-voicedness of the activity system impacts the experience of Flow as the experience is dependent upon the divisions of labor. Flow is experienced as a result of social engagement, which required players to rely heavily on diverse histories of artifact use, rules and team chemistry for success. The most prevalent unintended outcomes towards pursuing Flow included learning to fail, patience grit because of the need to learn by through iterative acts of failure.
Expansive Learning: Leadership through Teamwork

Within the context of Flow within *CoD*, leadership is strongly aligned with team play. As players engage in teaming activities, the boys gravitated towards those at the top of the leaderboards. As players sought Flow, they also relied on their community members and manipulated the divisions of labor on demand. As mentioned earlier, Kevin and Blake were playing with a user named Wadefaze. Wadefaze happened to constantly be at the top of the leaderboard. In order to win, Kevin leveraged Wadefaze’s skills and manipulated his talents towards winning matches. The notion of levelers suggests that the virtual world provided an environment free from social hierarchy (Steinkuehler & King, 2009; Steinkuehler & Williams, 2006). Likewise, *CoD* was a leveler and allowed mastery and expertise to determine position rather than credentials. As such, there was a heterarchial structure for leadership, where leaders emerge based on talent opposed to hierarchical (Aime, Humphrey, DeRue, & Paul, 2013).

Wadefaze was on top of the leaderboard for many of the matches and was perceived to be in”The Zone,” with a KDR of 10:3. Throughout the game Wadefaze became a mentor and Kevin and Blake began to follow his activities. *Figure 4.20* illustrates Kevin and Blake playing with Wadefaze.
Wadefaze helped elevate their game play and learn new tactics as he maintained a high KDR (example 10:3). Both Blake and Kevin began to follow Wadefaze and allow him to lead the team much like a mentorship. Figure 4.8 provides a video screen capture, where Kevin demonstrated explaining what he gained from Wadefaze. During Kevin’s third interview, he watched gameplay and interpreted movements in real time. Kevin gave insight into where tensions arise as players leverage team dynamics towards accessing the Flow state:
Interviewer: How are leaders formed in Call of Duty?
Kevin: Usually once you start racking up kills and you start getting into “that zone”, then people start following. They’ll be like – “alright he knows where to go to get these kills, let me follow him. And steal his kills”. Cuz that's what I would do. If he was leading, especially like if like he's winning you the game. If he's winning you the game, you’re going to try to defend him. Especially if he’s doing what he can. Like planting the bomb, defusing the bomb, and you're just dying. You’re going to go follow him. So, he can kinda like protect you in a way. You know what I mean?

Interviewer: So, you start literally following this person that is at the top of the leaderboard?
Kevin: Like this is gonna sound really weird but in this game here, me and Blake were playing with some kid called Wadefaze. And like we played with him like four games before this one and he was like the best, consistently in each lobby. So, me and Blake just started going where he was going, doing what he was doing. And it was winning us the game. I mean we're up 3-nothing right now because we're doing what that other kid was doing. It's like your role model. In that specific game.

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Interviewer: What things did you pick up from Wadefaze here, in this game?
Kenny: I don't know if you just seen his stats but he's 10 and 3. And he has some plants on there. So, take the bomb pretty much. I think he's escort right now, too. And he goes right to the bomb. He plants it. Now, if you see they’re using that certain shotgun and start racking up kills, and then Blake was like, "All right." Then Blake pulled out that shotgun. You want to follow them and do what they want. And then for Wadefaze, I just ran around, doing what he was doing. He was constantly moving. He wasn't standing still. Like if someone was shooting at him, he’d jump up in the air. Cuz you have that Exo suit where you jump up in the air and they're like.. – They’re aiming here and then all of a sudden I’m up there. So like that's how you like you cheat death in a way

( Kevin, Interview#3, 11-10-15)

While Kevin played, he leveraged his teammates’ abilities and learned Wadefaze’s tactics based on his gaming style and the game atmosphere—“ once you start racking up kills and you start getting into ‘that zone’, then people start following. They’ll be like – ‘alright he knows where to go to get these kills, let me follow him.’” Kevin led Blake on the majority of the matches and demonstrated great success. A tertiary tension arises as Kevin’s desire to prove CoD gamesmanship emerges from the overall motive-object of syncing with gaming environment.

Kevin was influenced by the motive-object of proving CoD gamesmanship, which encouraged him to defer his role as a leader on the team. Kevin considered the process a “mentorship,” and
his account demonstrates how gamers gravitate towards talented players and evolve with them toward team wins. As Kevin blindly follows Wazefade to some extent he has to relinquish some of his rules and tools to acquire Wazefade’s new rules and tools for success. These tools particularly included running to the bomb, using the Exo suit to avoid being shot, and using a particular shotgun among others. In alignment with CHAT theorist (Engestrom, 2001; Foot, 2001), Kevin then began to implement the new model as Kevin followed Wazefade adamantly “So, me and Blake just started going where he was going, doing what he was doing.” Within the tertiary tension Kevin was implementing a new model and also evaluating the process (Foot, 2014, 2001). Kevin goes on to say, “Now, if you see they’re using that certain shotgun and start racking up kills, and then Blake was like, "All right." Then Blake pulled out that shotgun.” The evaluation was aided by the immediate feedback of CoD as Kevin says, “And then once it stops working you go to do something else. And usually you pick up on what someone else is doing”.

As a result Kevin is better able to consolidate its outcomes into a new stable form of practice (Engestrom, 2001; Foot, 2014). For Kevin these new CoD practices came from following Wadefaze as he stated, “He was constantly moving. He wasn’t standing still. Like if someone was shooting at him, he’d jump up in the air. Cuz you have that Exo suit where you jump up in the air and they’re like,… – They’re aiming here and then all of a sudden I’m up there. So like that's how you cheat death in a way.” Kevin’s example demonstrated expansive learning through leadership and Kevin continued to improve during this gaming session and demonstrate growth.

Lastly, Kevin’s account gave insight into how leaders were formed based on displays of expertise. Flow primarily facilitates a full display of acquired talents. We know this because his actions are reflexive and instinctual. There is no tension between any of the components in the activity system. Instead, players are completely immersed and at harmony with the gaming
environment. Talent and successful results earn respect, gains notoriety and forms leaders.

Outcomes included strategic thinking skills, problem solving, perseverance, understanding of team dynamics, gamesmanship and experience fun, enjoyment and improved quality of life.

Expansive learning may have been demonstrated through the development of leadership through teamwork. (See Table 4.6)

Table 4.6

_Expansive Learning Matrix for Leadership_

<table>
<thead>
<tr>
<th>Activity system as unit of analysis</th>
<th>Multi-Voicedness</th>
<th>Historicity</th>
<th>Contradictions</th>
<th>Expansive Cycles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Who are learning?</strong></td>
<td>Male adolescent CoD gamers, Gamer community</td>
<td>Voices of adolescent boy members of CoD Community.</td>
<td>Historically there is a cultural expectation of excellence, improvement and expertise through competitive means. They are socially acceptable skills that boys find, and have found admirable within aggressive play engagements.</td>
<td></td>
</tr>
<tr>
<td><strong>Why do they learn?</strong></td>
<td>Desires to showcase expertise and knows that this occurs through the flow channel with peers. “Getting the feel for it”--the controller and the graphics. This is on his way to success through violent fantasy entertainment.</td>
<td>Historically there is a cultural expectation of excellence, improvement and expertise through competitive means. They are socially acceptable skills that boys find, and have found admirable within aggressive play engagements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Theme 5: The CoD Playcology

The current theme will explore the complex and interrelated CAN (See Figure: 4.22). The figure illustrates tensions within the nodes and activity systems as well as unresolved tensions. Activities are complex interrelated systems, where networks help to more cohesively describe the relationships between the interactive components (Foot, 2014; Kuuti, 1996). In agreement with several scholars (Caillios, 1958; Erikson, 1994; Huizinga, 1949; Lastowka, 2009; Piaget,
1962), play took on many functions and forms throughout the findings of this study. Play was not only desired as the collective motive-object in “owning the zone” (See Figure: 4.23), but at the same time took on operational elements within each respective theme. Towards articulating the complexity of the activity network, and in combination with the critical role that play had on this study, I articulate a playcology. The playcology is thematically narrated (Braun & Clark, 2006) through my CHAT lens (Engestrom, 1987) illuminating the most prominent elements of play within each theme.

Figure 4.22. The CoD Activity Network for an Adolescent Boy Population
**Figure 4.22.** Collective Motive of the CoD Activity Network for an Adolescent Boy Population

**Defining a Playcology**

I interpret a playcology as a significant theme that illuminated the intersections of playful engagement between the boy population and CoD environment as viewed throughout the CAN. Within this playcology I have a specified unit of boy actors and specified game (CoD) with culturally driven activities. Both of whom must be characterized as a playcology seeks to identify attractors to the play space and then describe and explain the results of those interactions through playful engagement. Narrated through the CAN as a whole, a playcology more accurately describes the relationship between the boy participants and the CoD community they form. In this way the, the playcology helped streamline the multifaceted play findings. Specifically, through the boy perspectives and activities (Questions 1) in the CAN, the playcology describes the meanings and value of participating (Question 2) and both describes and explains how social and material practices are developed (Question 3).

The origin of the term, playcology, can be articulated across two main facets. A playcology first characterized the pervasive saturation of play throughout this study and clearly
articulates its role within the study. Playcology began with the concept of “playographies”, which addressed play biographies (Rice, 2014) for the group of adolescent boy CoD gamers. Playographies were particularly used to help describe the identity formation processes within the central activity of Enacting Personas. The term represented a historical view of player experiences at a local level. However, playographies do not capture the social and cultural interrelated structures of influence within a collective and interactive play experience. A playcology is first of all a specified playground characterized by cultural boundaries and defined by a specified group of players and their play environment. Throughout this study play was found as a cultural function in support of Huizinga’s (1949) definition of play with it’s own unique sociocultural characteristics for the boy players. Player agency was central to playcologies as players must be free to come, go and make decisions at will. The risk-free and autonomous nature of CoD gaming (play is freedom) may have allowed boys to develop authentic meaning-making practices. Secondly, characteristics were culturally situated but occurred isolated and bound by time and space (magic circle). There was a distinction between playful environments and real life. Thirdly, CoD gaming was rooted in violent fantasy play (escape real life). Fourth, new learning was formed based on purposeful adaption (play is order). Alongside these characteristics, playcologies are formed through the ability to draw from historically accumulated expertise. Historically, players accumulated lessons within designated social play spaces. Over time players develop a reservoir of expertise. Towards the development of digital gamesmanship, players in this study iteratively transferred game mechanics from other digital arenas, but also drew from real world play domains. Acts of transfer filled out the playcology and extended the network beyond the primary permeable boundary of the digital game space into a broader range of social play spaces. The social play spaces included the sports
they played which may be considered alternate Third Spaces (Oldenburg, 1999; Steinkhueler, 2005).

The second major facet conceptualized the playful gaming ecosystem towards an ecology. When looking through the CAN, a network is formed that embodies a, “complex community of organisms and its environment functioning as an ecological unit” (“Ecosystem”, 2016). The wealth of data collected and embodied through a CHAT lens (Engestrom, 1999), provided mediating artifacts with rich descriptive and explanatory data for this ecosystem. Advancing the CAN, along the requirements of CHAT, called for scientifically investigating the, “interrelationship of organisms and their environments” (“Ecology”, 2016). An ecology formed, as a result of the investigation and represented the culminating process within and throughout the study. Like all ecosystems a playcology has boundaries for which the CHAT framework helped to define. The CHAT approach (Roth & Lee, 2007; Foot, 2014) facilitated the systemic analysis and highlighted boundaries through the identifying mediating artifacts.

Considering the mediating instruments, rules and regulations, community and divisions of labor, a playcology is social in nature and may involve both human and non-human, actors. Throughout the findings there was an emphasis on the community of organisms (human actors), however the environment (non-human actor) was ever present, critical and influential throughout the findings. Although this playcology was influenced by several play spaces (e.g. football, wrestling, basketball, etc.), it was narrated through a primary permeable boundary. The current playcology emphasized the digitally mediated CoD environment (gaming system), which represented its primary permeable boundary. This non-human component of a playcology lead me to conceptualize a playcology along actor-network theory (ANT), in which I acknowledged that non-humans can be actors or participants within networks and systems (Callon & Blackwell,
particularly, the non-human mediating instruments used were situated within an online environment, utilized gaming consoles, user interfaces (UI), controllers, CoD game choices and gaming modes. According to ANT the non-human actor within a network can have a significant presence and impact on what is possible within the network and its outcomes (Callon & Blackwell, 2007; Latour, 1996). This is certainly true of this study’s current playcology whilst the non-human components of the digital medium dictated the tactile, visual and temporal experiences in the game. Consoles determine which games can be played as well as the teammate and opponent combinations within a lobby. Lobby participants ultimately influenced the chemistry of the gameplay. Also the consoles dictated the style of controllers that were used and the UI system. The UI determines the visual appeal of the game in terms of aesthetics but also gives feedback information from the maps, the guns, the perks, the classes and the in game tactile and telepresent experiences. Feedback is imperative for success in the CoD game space as players rely on the ability to comprehend visual information and their reaction times to compete. Collectively these environmental traits contributed to the overall immersive experience of the game.

When players traveled deeper into the telepresent experience they were driven by their pursuit of Flow. In fact this motive drove the activities within the playcology. As such the non-human digital environment especially impacted the Flow experience as players acted on the collective motive-object of “Owning the Zone”. The Flow experience occurred between the individual and the environment within the play ecosystem. The players were able to intentionally tune out their surroundings in order to unify with the virtual environment through telepresence. Games based Flow scholars view Flow in games as players being in sync with the digital game space (Chen, 2007). As such, it can be said that during Flow the boys in this study were syncing
with the non-human actor within the CHAT network. It can further be said that within the Flow state a rhythm took hold in which players and the actor shared control of the gaming experience. The players had a unified testimony on describing a loss of control. Kevin explains that, “It’s just so fast and you’re so into it. You don’t even realize what you’re doing.” Like Kevin, all of the players experienced the most control during the Flow state. The data analysis lead to an interpretation that the boys maximized their control during Flow but also, to some extent, were being controlled by the gaming environment. The occurrence of Flow happened at random sometimes and during various moments during game play. This aligns with ANT’s conception of indeterminacy about the non-human actor. Indeterminacy within ANT refers to the concept that the non-human actors can be ill defined and represent an indiscernible entity (Callon, 2007). Despite indeterminacy, like Callon (2007), I have articulated the non-human actors’ competencies by deductively articulating its role within this study. Because the development of the playcology uncovered that play was formed within an ecosystem and was an ecology, it could be articulated as a learning ecology of play. The cultural norms and enablers are narrated throughout the playcology as reported below.

**Playfully socialize with peers.** In alignment with Huizinga (1948), socializing with peers was an act of freedom in CoD as boys had a motive object of peer bonding. Players exercised agency in choosing their peer groups based on similar interest. In addition, CoD’s online social spaces allowed boys to create their own rules, tools and even divisions of labor. Players migrated autonomously in niche subcultures of the larger CoD community based on peer involvement. Hence, the community organically formed subcultural groups based on play styles and interest. CoD represented a culturally exclusive practice in connection with Huizinga’s notion of a play being secluded by time and place. The online CoD spaces were also specialized play space that
include a designated location within specific times. The CoD community had far reaching influence, which maintained curiosity, because of its long history, online presence and multi-platform access points. In alignment with historical adolescent development (Steinberg, 2005) gaming groupings were as distinct as real-world peer cliques. In light of these social cliques, CoD included further subcultures between console systems as well as local peer groups. Christopher described an example of this when he migrated between PS3 to PS4 with his best friends to rejoin his former peer group (Christopher, Informal Conversation, 8-3-15).

Subcultural components may include language use (like various forms of Trash Talking), time, modes, console systems, controls and team style (aggressive, tactical, etc.).

**Playfully compete in CoD.** The central activity of Competing in CoD was a primary driving force for order making in CoD. My findings supported the notion that play demands order and is order (Huizinga, 1949). For the boys in this study order was accomplished through controlling the protagonist through aggressively competitive engagements. Historically boys have been drawn to aggressive play habits and controlling their environments (Kammer, 2012; Thompson, 2009). Zane preferred first person games because, “You're controlling your outcome.” Mediating instruments that are attractive are first person experiences that include immediate feedback and controllers for psychomotor engagement. Like Zane, the players in this study desired control of the first person protagonist in exhaustive methods of trial and error. Blake said this about failure:

…when you actually have to think about everything and you fail, it gives you that, like “Holy Crow, this is real”. Like I really need to work on fixing this. That’s when you your mind actually starts running in full gear. I can still pass so if its not challenging, you know, and don’t have that threat of that risk of failing, you’re not gonna wanna succeed. (Blake, Interview #1, 7-16-15)

Blake’s response demonstrated the inherent and cultural competitive drive that existed for this
boy population but also the order making involved in gameplay. He mentioned, “Holy Crow, this is real”. Like I really need to work on fixing this.” Blake’s comments lead us to believe that the challenges in CoD motivated him to continue working through this process as he says, “That’s when you your mind actually starts running in full gear”. Order making was linked to leapfrog learning for the boys in this study.

Besides play being and order making activity, play was also characterized in CoD by violent fantasy play for this boy population. Huizinga (1949) describes play as being distinct from "ordinary" life both as to locality and duration, but more importantly in terms of fantasy. In fact, CoD provided a safe space full of opportunities to succeed (win) and was rooted in violent fantasy play. Violent fantasy play was emphasized since the boy participant’s repeatedly acknowledged the game to be a “good escape for everybody” and “it’s a video game and yes it’s not real life” (Brad).

Playfully develop self-awareness. Processes of identity formation were observed through playographies (Mitgutsch, 2011; Rice, 2014), as the boys’ decision making hinged on self-awareness. Players exercised agency within the fantasy realm towards self-awareness. The boys’ play biographies, which included their play histories, became primary contributions to the analysis and helped narrate the findings through autonomous activities. In fact, Enacting Persona had a motive-object here included autonomously forming identity. The current activity was inherently an order-making event (Huizinga) as the boys enacted various roles towards refining self-awareness. Video games do provide an environment where real world risks are minimized and players are free to fail (Gee, 2007). For players this may be perceived as increased opportunities to win. These order making activities allowed the players to try various combinations of roles with minimized risk of real world consequences. The game provided boys
the experience of success by offering an abundance of opportunities to win. In support of developmental scholars (Erikson, 1994; Steinberg, 2005), the boys developed a coherent sense of self-awareness through autonomous exploration. Boys identified limitations and strengths by exploring their talents through CoD roles. Again this exploration was culturally bound; however, the participants drew from both real-world and social gaming experiences.

**Play and profit (playfully build social capital).** Although I have aligned my findings with Huizinga’s characterization of play, Huizinga’s last characteristic of play seems to be at odds. Huizinga’s final characteristic of play reports that, “Play is connected with no material interest, and no profit can be gained from it” (1949). Play within this cultural setting was driven by success and winning, which boys processes through aggressive competition. Players in this study showed a desire to earn social notoriety through winning in the CoD game. Although monetary/financial profit was not gained, social capital showed to be important and aligned with scholars on the notion of social capital and online gaming (Coleman, 1988; Hsiao & Chiou, 2012) was accumulated through successful play. Therefore social capital could be viewed as a social currency or profit as a result of play. Coleman suggests that social capital is better understood as the function of its exchange value (1988). Social capital is a means to an end and holds within it an exchange value (Coleman, 1988). Social capital endorsed outcomes of notoriety, impacted behavior, relationships, and status because boys may have exchanged their capital for respect from within their peer groups. Austin described it this way, “And it’s kind a like,… spending money. When you buy something, its better to use your own money… I feel like it’s more personal to me and better.” Like Austin, the adolescent boy gamers may be able to exchange their social capital (bragging rights) for the respect of their peers. With lowered risk of real world consequences and freedom to fail, the boys valued the harder challenges as they
provided more prestige. In many ways, social capital may be considered “everything” to these adolescent boys.

**Summary**

The purpose of this study was to investigate the intersection of adolescent boys and the CoD game play experience by unpacking how social and material practices are developed as well as what their meanings and values of participation were. Rooted in Vygotsky’s (1978) Social Development Theory, the investigation utilized the CHAT (Engestrom, 1987; Foot, 2014) as the analytic frame toward Expansive Learning (Engestrom, 2001). Particularly, CHAT called on mediating artifacts to articulate the human activity systems through sociocultural and historical lenses (Engestrom, 1987; Foot, 2001). An ethnographic phenomenology served as a collaborative methodological framework, which sought to draw out the essence of the experience of CoD play for these boy adolescents. Afterwards a thematic analysis (Braun & Clark, 2006) served as the primary analytic tool of analysis and synthesized the data of this study.

The findings of this investigation illustrated that for my population of adolescent boys CoD play centered on Socializing with Peers towards peer bonding, Competing in CoD towards exercising power, Enacting Personas towards agency in self-awareness, and Pursuing the Flow State through being in sync with the environment. The findings of this study suggested that Expansive learning (Engestrom, 2001) might have been illustrated through the development of communication skills, critical thinking skills, identity formation, and leadership through teamwork. My themes represented a cohesive narrative based on sociocultural and historical human activity (Braun & Clark, 2006; Engestrom, 1987, 2001). Also themes and components represent an interrelated phenomenon of the experience of playing CoD. I have demonstrated the intricate connections between the central activities systems and their tensions that lead to
Expansive Learning outcomes. In addition, the collective motive-object for this study was to *Own The Zone*. Taken together a playcology emerged through the CAN towards narrating the relationship between the boys in this study and the *CoD* communities they participate in. The playcology revealed that the magnetizing associations between the human actors (boy adolescents) desires and non-human actors (CoD) affordances reside in social connectivity (autonomous and free activity), aggressive competition (order making through themes of dominance and power), first person active psychomotor engagements (consumed by immersive engagement), violent fantasy play (separate from real life), and opportunities to win (Freedom to Fail). A playcology therefore reports a localized description of the intersection of the boy population and the *CoD* environment (that formed this sub community) based on players' first person experiences.
CHAPTER 5: DISCUSSION & CONCLUSIONS

The research findings of this study provided illustrations for understanding the meaning making and social practices of adolescent boy CoD gamers. As adolescent boys engaged in CoD play, they brought with them desires, hopes and intentional motives that drove newly designed activities (Engestrom, 2001, Roth & Lee, 2007). Subsequently, meaning-making activities may have taken place that may have contributed to Expansive Learning (Engestrom, 2001). For the boy gamers in this study, the cultural function of their play spaces followed a trajectory that included social connectivity, aggressive competition, violent fantasy play, active psychomotor engagement, and opportunities to win. The boys were drawn to the first person experiences of CoD as well as its inherent social benefits, which demonstrated a significantly nuanced relationship between gamers and the games they play. Thus, the results of this study might be useful for educational researchers, learning designers, policy makers, administrators and educators to re-engage boys and possibly improve their learning environments. Therefore, the following chapter will discuss how the findings of this study may connect to play and games based learning literature, and possible suggestions for school systems.

Connections to Play Literature

Connections to play and culture literature. The current study supports Huizinga’s (1949) notions of play being a cultural function. Particularly, the findings showed that play was a free and voluntary activity, was outside of real life, confined by time and space (magic circle) and represented order making activity. However, after all of Caillios’s (1958) critiques of Huizinga’s (1949) work, he may have been correct about play being profitable. Huizinga (1949) argued that play “…is an activity connected with no material interest and no profit can be gained from it“ (p 13). According to my findings play was characterized by gain through social capital
and could be viewed as social currency. During this study significant benefits were observed such as privileges, special treatment, gained respect and increased risk taking, among others. These findings connect with social capital researchers, as they argue that social capital provides an exchange value amongst social groups (Coleman, 1988; Hsiao & Chiou, 2012). Austin was adamant about earning “bragging rights” among his local peer groups because of the notoriety it brought (Austin). Throughout this study and over the seven-year relationship with these boys, I have also observed increases in self-esteem, the ability to take risks, gained respect and realization of self worth as a result of games based achievements (Observation, June 2015-December 2015). In particular this aligns well with Hsiao and Chiou findings that suggested player’s social capital in an online gaming community directly impacted their perceived game value and loyalty to the community (Coleman, 1988; Hsiao & Chiou, 2012). Hence, in contrast to Huizinga’s (1949) final characteristic on play, social capital could be viewed as profitable for adolescent boy gamers.

Another of Huizinga’s (1949) characteristics that aligned with this study was his notion on play requiring order and being order. The findings of this study showed to be an order-making activity that fostered leapfrog learning through competition. Hence, the findings of this study may help to support Brown’s (2009, 1998; Brown & Vaughan, 2009) work on the notion that play is a very powerful tool for human growth and development within a given activity. It is for this very reason that play could be a necessary tool for growth. Scarfe, Miller and Blake’s help to clarify the notion of play as a growth activity through order making processes. Scarfe (1962) claimed that not just children’s play but “All play is associated with intense thought activity and rapid intellectual growth” (p. 120). Others support Scarfe’s sentiments. For example, in a recent TED talk about “What Really Matters at the End of Life”, Miller said,
Here, this gets right at the distinction between a disease-centered and a patient- or human-centered model of care, and here is where caring becomes a creative, generative, even playful act. "Play" may sound like a funny word here. But it is also one of our highest forms of adaptation. (Miller, 2015)

When taken together, Scarfe (1962) and Miller’s (2015) points become valid in describing play as a fundamental element in improving on given tasks. The previous statements directly reside with the findings of this study as it relates to boys and their play spaces. In phase II, Blake talked about learning from failure, which is synonymous with adaptation through competition.

I’ve lost so many games. And without them I wouldn’t have been able to learn how to not do that anymore. And that’s like the game. You fail you fail you fail and that’s how you learn what they want you to do. And that’s how you learn, you know, if you succeed every time what’s the point, you’re not gonna learn you’re not gonna think. You just gonna go through the motions. (Blake, Interview #1, 7-16-15)

Blake’s example may illustrate that rapid adaptations within playful experiences make for meaningful learning outcomes—“You fail you fail you fail and that’s how you learn what they want you to do.” Drawing from Blake’s example, failure could very well be off putting but the social atmosphere and enjoyment in the game community encouraged players to remain in the systems and work through challenges. Even further, the current study suggests that playful engagements in the social communities could act as a powerful support structure for learning. So this study supports that playful engagements can be order-making processes (Huizinga, 1948) towards human transformation within specified activities.

**Connections to the flow literature.** The activity of Pursuing the Flow State suggested that sociocultural and historical factors contribute to the ideals of Flow. According to my findings Huizinga’s (1949) emphasis on play as a cultural function may add to the notions of Flow. Sociocultural components were essential for adolescent boys to access Flow in CoD. In acknowledging cultural impacts, we should recognize the uniqueness of communities and the participants they attract (Huizinga, 1949). After outlining competitive aggressive play and first
person experiences Blake told us, “That’s why I play. I play so we can dominate, because I like to win! Obviously! And those are the surroundings I find myself in.” Much like my other participants, Blake had a clear idea of the environment features and components that he contributed to within his magic circle of CoD play. The boys in this study were drawn to features within the magic circle of the CoD community that included: social connectivity (autonomous and free activity), aggressive competition (order making through themes of dominance and power), violent fantasy play (separate from real life), first person active psychomotor engagements (consumed by immersive engagement), and opportunities to win (Freedom to Fail). These findings may provide additional information of factors that may contribute to Flow for nuanced cultural play spaces of boy adolescents and the digital games they play.

Given the sociocultural and historical ties to play, the findings of this study may have given insight into how Flow is actualized through the CHAT perspective (Engestrom, 1987, 2001) as a result of harmonizing the human activity network. While players worked towards being in sync with their environment, they also began to harmonize the nodes and motive-object of the activity network. CHAT theorist have acknowledged that activity systems are units of analysis for understanding a larger flow of human life and even have been considered “energy flows” (Foot, 2001, 2014; Quinn & Cameron, 1988). Likewise, reports and descriptions of Flow included the following descriptors: “natural high”, “mellow”, “riding a wave”, “awesome”, “fun”, “feeling it”, “in the zone”, and “unstoppable” among others. Further aligning with literature, Huizinga (1949) also describes play as not only “enchanting” and “captivating” but also invested in perceiving rhythm and harmony. This study’s findings would support this since Coach Brent described Flow, “…like a wave you keep riding it and riding it.” The gaming environment consisted of both human and non-human actors. As mentioned before the non-
human actor could be considered the gaming system. ANT suggests that non-human actors can have significant impact on network and should be acknowledged (Callon & Blackwell, 2007; Latour, 1996). Consequently as players sought Flow, they were captivated by the team rhythm and may have begun to share control with the non-human actor. Taken together with the findings of this study, Flow may occur as a result of the human activity network (consisting of both human and non-human actors) operating in harmony, where tensions are significantly reduced or eliminated.

Due to the interactive nature of CoD gaming, the current study found that there may be a team (Co-Active Social) gaming rhythm unique to CoD and it’s players. Flow is often described as a channel between extreme boredom and extreme challenge, where concentration and intrinsic interest are necessary access points Csikszentmihalyi (1976, 1974). Csikszentmihalyi (2013) also added that Flow has several building blocks, which include clear goals, immediate feedback, a balance between challenges and skills, a merging of action and awareness, distraction are excluded from consciousness, no worry of failure, a disappearance of self-consciousness, a distortion of sense of time and the activity becoming autotelic (for it’s own sake). The interactions between CoD and the boy population illustrated all of these characteristics. In addition to the fundamental components of Flow, my findings also indicated Co-Active Social components of Flow (Rufí, Javaloy, Batista-Foguet, Solanas, & Páez, 2014). Teams are notable places where social Flow can occur and to some extent individuals surrender their selves and acquire a collective sense of purpose (Rufí, Javaloy, Batista-Foguet, Solanas, & Páez, 2014; Walker, 2010). This was certainly the case throughout the study as CoD promoted collective interactions and the boy’s preference collaborative gameplay with their peers.
Scholars not only acknowledge the diversity and complexity of digital games but also strongly recognized the role of social and cultural contexts for the gameplay experience (Ermi & Mäyrä, 2005; Voiskounsky, Mitina, & Avetisova, 2004). As a result, games based Flow scholars acknowledge that research should incorporate game-specific models (Ermi & Mäyrä, 2005; Voiskounsky, Mitina, & Avetisova, 2004). The cultural functionality of play may indicate nuances in how video gamers access Flow and also can give insights into the depths to which gamers experience Flow. The design of this study aligned with Steven’s suggestions in relation to Flow, as he suggests that researchers investigate the depth of play with an investigation of the first-person player experience (1980). In addition to Csikszentmihalyi’s (1976, 1974) building blocks on Flow, my findings included conditions unique to these boys and CoD. The default condition acknowledges the non-human actor (Latour, 1996) of the gaming system. For the boys in this study the human conditions that were necessary for experiencing Flow during CoD play were:

- an environment that fostered social connectivity through camaraderie
- expertise developed through aggressive competitive play
- self awareness through autonomous role-play

These concepts were specific to the engagement of this boy population in CoD. The three conditions could be expressed as access keys but also, in combination, may have determined the depth to which a player experiences Flow. The better CoD players in this study were better able to embrace the social experience, capitalize on competitive drives to build expertise and had a keener sense of self-awareness. The current findings can provide a link that discerns the depth of the co-active social games based Flow experiences as having a relationship to the localized sociocultural and historical factors.
Connections to Learning Design

**Games-based research.** The study’s findings can be particularly meaningful for learning designers who focus on games-based learning. As online systems have evolved, online games have come to represent a significant part of boys’ social ecosystems—“*Kind of like social media--Just fun!*” (Kevin). This research illustrated how social spaces can afford lower real-world consequences while simultaneously leading to meaningful social engagements. The current study showed freedom to fail was the norm, as mentioned earlier, while more equitable opportunities were given to participants through fair play. As a result, the boys in the study built talents together through a competitive community with high expectations. Drawing from Erikson’s (1994) work on identity formation, Gee (2007) considered a Psychomotor Moratorium, which empowers players with the ability to autonomously navigate through learning spaces and role-play where real-world consequences are lowered. The outcomes of these environments have shown to be beneficial for 21st Century skills development. In fact, my findings further align directly with the preceding notions and scholars that suggest that within these socially acceptable spaces, video game players have the ability to build important 21st Century skills such as communication, teamwork, grit and leadership through active engagements (Beck & Wade, 2013; Reeves & Read, 2013).

Particularly, the findings of this study suggest that *Call of Duty* represented a specific type of social space as a New Third Space. The New Third Spaces are characterized by: neutrality (the ability to come and go freely), levelers (players rank and status in society is of no importance), conversation being the main activity, easy accessibility and are accommodating, having regulars, being low profile communities, having a playful mood, and reflecting a home away from home (Steinkuehler, 2005). Implications for New Third Spaces are significant for educational
researchers, while outcomes of CoD gameplay shown to include learning linked with social moments, strategic thinking skills, teamwork development and literacy development. Findings for this study connected well with the benefits attributed with those on New Third Spaces (Steinkuehler, 2005) including: rich social environments for complex problem solving, individual and collaborative learning and rich meaning-making among others.

**Playographies for commercial games based learning.** As players traversed through virtual environments, they developed stable patterns such as genre preferences, play style and developed consistent social communities. Researchers can follow gamers’ virtual play habits to unpack the designed experiences of game play (Squire, 2006). Understanding the meaning-making practices of games requires understanding the users’ playography (Rice, 2014). Mitgutsch (2011) declared that a play biography includes diversity based on players, players experiences being deep and meaningful playful learning, meaningful learning taking place in social moments, and players developing different meaningful learning patterns. The findings of this study may help expand upon some key features of a playography towards the notion of a playcology for boy cultures within the CoD community.

Respecting the nuanced nature of games and their gaming communities, my findings aligned with several games based scholars (Becker, 2008; Francis, 2006; Frazer, Recio-Saucedo, Gilbert, & Wills, 2013; Van Eck, 2009) as video games are not all created equally. In fact player and game intentionality, including genre, are important to consider when studying the impacts of learning and expertise from game play (Eichenbaum, Bavelier & Green, 2014). The boys in this study wanted to build upon their social networks with activities that promoted camaraderie --”It’s definitely helped me develop a new medium to build friends. … it helps me expand my horizons of what I can do” (Blake)-- and CoD facilitated this need. There were mutual tenets
between the participant boy culture and the affordances of CoD. Reiterating links between boy desires and the magic circle of CoD this study illustrated the following: social connectivity (autonomous and free activity), aggressive competition (order making through themes of dominance and power), first person active psychomotor engagements (consumed by immersive engagement), violent fantasy play (separate from real life), and opportunities to win (Freedom to Fail).

**From playographies to a CoD playcology.** Considering Huizinga’s (1949) characteristics of play (including it’s historical connotation) and an ecological component, one can describe a playcology as nuanced ecology of play. While play saturated the findings of this study, the notion of a playcology emerged from the CAN and looked to articulate the role that play had throughout the study. By doing so the playcology expressed the links between boy adolescent gamers in this study and the CoD community they engage in and directed them towards the research questions. A playcology may more accurately describe both the synthesis and analysis of the host of biographical play data and play ecosystem upon which this study stands. In the findings section, I narrated the playcology for this study including playfully socializing with peers, playfully competing in CoD, playfully developing self-awareness and playfully gaining social capital. Based on the current study the core tenants of a playcology could be:

First, the signature motive of a playcology is directed towards fulfilling the Flow State. The boys in this study ultimately were driven by the desire to be consumed by their play experience. The activity of Pursuing the Flow State represented a deep desire to engage in an ultimate immersive and captivating play experience, which lead towards the collective motive-object of Owning the Zone. Along the play Huizinga’s (1949) work, the play experience must be
characterized through the cultural functionality of game play. The findings of this study illustrate that the boys primarily helped to shape the CoD environment towards the cultural functionality of engaging in play by “Owning the Zone”.

Second, playcologies are socioculturally and historically defined through human activity. The boy population “grew up” (Blake) with CoD across a defined time period. The physiological development of this boy population was intricately intertwined with the evolution of the CoD online platforms and systems. It is for this reason that the playcology was unique to this boy population through the activity of CoD play, during this snapshot in time. In particular the Expansive Learning Matrix (Engeström, 2001) was embedded and may have demonstrated expansive learning gains throughout this playcology.

Third, playcologies must have a primary permeable boundary. For this study the primary permeable boundary included a non-human actor (Callon & Blackwell, 2007) in the virtual gaming system. Because social networks in playcologies include sociocultural artifacts we must consider the impacts of both human and non-human actors within the social network. At the same time we must acknowledge that playcologies are complex and influenced by social play spaces beyond this primary boundary. Although the current playcology indicated biographical sketches of virtual game play habits, the findings were noticeably influenced by social play spaces such as sports. The boys consistently and actively sought out connections between the virtual play spaces and all other real world social spaces including other virtual games, their athletic experiences, and in and out of school experiences. When talking about the benefits of gameplay Zane mentioned, “You have to react quick. So the better your skills are with that, the better you’ll be able to react to a football or react faster to something.” This example shows Zane aligned his connection to psychomotor engagements across social play spaces. These
connections may have the potential of forming a social play network. A social play network may give a more holistic view of the player and more accurately inform the playcology.

*Fourth*, playcologies must help players illuminate metacognitive reflections towards identity formation. Put another way, playcologies promote self-reflective processes toward enhancing self-awareness. Boys in this study desired to make connections between their real world identity and their virtual identities to articulate meaning. While players seek to engage in meaningful social practices they also sought to understand themselves. For players in this study agency in self-awareness drove activity that may have helped players navigate through and between gaming environments. Ultimately, playclogies afford a psychosocial moratorium (Gee, 2007) that fosters experiential learning and instant feedback, which allows for deep levels of individual reflection and contributes to the maturation of a player’s ability to be self-aware.

According to my findings, the *CoD* playcology was driven by “Owning the Zone”, developed by sociocultural and historical contexts, influenced by various social play spaces and help players develop self-awareness for future decision-making. Based on my reflection of the collective findings in this study, I believe that playcologies have the potential to give significant insight on meaning making processes for boys.

**Caveat:** The current findings were culturally bounded within the boy participant’s social play spheres. Games based scholars like Van Eck (2009) would agree that high-stakes agendas on commercialized games could be counterproductive. According to Van Eck (2009) “In everything you do, you must strive to make the content, classroom activities, and game world seamless and integrated into a meaningful whole. This is not entirely possible of course. But it should guide your design from the start” (p.187). It follows that learning designers, ought to be careful not to impede the free nature of commercial games. Based on my findings it is imperative to keep the
playful and fun nature of commercial games fully intact.

**Connections for Traditional School Systems**

*Local/State policy makers.* After reflecting on the findings of this study, I believe there may be some useful concepts for local and state policy makers, schools districts as well as teachers. However, my position as a Master educator and researcher form the basis of these ideas. Therefore, I acknowledge that these views are as much my own personal reflections, being an educator and researcher, as they are data driven perceptions. Near the end of 2015, President Obama signed the "Every Child Succeeds Act" ESSA, which gave more decision-making responsibilities states and local officials for K-12 education (“Department of Education”, 2016). In particular, ESSA gave state and local officials the ability to set their own performance goals, rate schools and determine how to fix those that fail to meet their objectives. Towards educational improvement, policy makers could use this opportunity to consider gender equity strategies for which this study could give insight for boys. Historically boys tend to be more energetic, physically aggressive and drawn to video game play, among other differences (Engerman & Carr-Chellman, 2014; Kindlon & Thompson, 2009; Parry, 2010; Ragusa, 2014; Sax, 2007; Yan, Mun Engerman, & Carr-Chellman, In Press). Martin reports that a Gender Equity Strategy can help aid schools and teachers implement strategies towards gender equity and address possible inequalities (2002). Martin’s framework, however considers several broad constructs of gender equity including outlining five strategic directions for schools to act and report on, providing key indicators of a gender-inclusive school, and outlining ways schools and individuals can work towards a gender-inclusive school (2002). Based on the findings of this study, state and local officials may benefit from outlining ways schools and individuals can work towards a gender-inclusive school. In particular policy makers might begin with helping school
districts rethink zero-tolerance policies that often penalize for boys. Zero-tolerance policies often penalize boys for natural and normal behaviors and also lead to feelings of disengagement and alienation (Carr-Chellman, 2012; Newkirk, 2002).

In connection with Sanford and Madill’s (2007) work, this study found that interest-driven activities, such as CoD play, could lead to literacy learning across the operational, cultural and critical literacy domains. The newer forms of literacy are well noted by scholars as New Literacies and Digital Literacy (Barton & Hamilton, 2000; Eshet-Alkalai; Gee, 2000; Street, 2003). In the information age these New Literacies are viewed as the baseline for learning and meaning-making, having strong ties to situated meaning (Gee, 2007). Based on my findings of New Literacy gains, policy makers may benefit from reevaluating notions of current objective measurements for statewide standards based testing. Boys in this study demonstrated forms of literacy that are not emphasized in traditional assessments, which included operational, cultural and critical literacies (Sanford & Madill, 2007). These findings align with literacy scholars, which argue that boys have resisted the literacy that has been imposed upon them (Blair & Sandford, 2004; Sanford & Madill, 2006). The boys in this study were drawn to the gaming space because the environment fostered enjoyment and was considered fun. Particularly, intentional outcomes of competitive play (Competing in CoD) within this social environment included fun, happiness and as a result improved quality of life, among others—“It makes you feel awesome!” (Josh). In addition, Christopher demonstrated leap frogging and he admitted to going through great lengths to gain a competitive advantage and improve his skills, “If they’re using the same tactics as someone on your team you also study your team’s tactics. So you’re ready to prevent that… I study a lot actually” (Christopher, Interview #3, 11-10-15). Like Christopher, the boys in this study illustrated the strong motivation that fun provided while they
persevered through challenges and leapfrog learned. Standards based outcomes that feature more favorable (fun) outcomes for boys along these New Literacies (Barton & Hamilton, 2000; Eshet-Alkalai; Gee, 2000; Street, 2003) may contribute in building more inclusive school cultures.

**Districts.** School districts could have the ability to help schools and teachers by fostering an environment that may be more inclusive for boys. The findings within this study illustrated that boys respond to positive male role models. Likewise, the current findings support other scholars who propose that boys benefit from being exposed to positive male presences (Kammer, 2012; Kindlon & Thompson, 2009). School districts may help boys by providing more exposure to male teachers. Coach Wally (Head football coach) stated: “I trust my kid. I trust that we have raised him to know right from wrong. I believe in him and trust in the way we have raised him. And if I had the time I’d play with him.” The preceding statement accurately reflected the responses of all three teacher-coaches who were interviewed. In addition these sentiments were reflected by all of my boy participants, as 13 positive coaches (of which 10 are teachers) surrounded them and took on the roles of teachers, mentors and father figures. The male figures may have played a factor as male guides through the game of football as well as through teaching. Many participants admitted to having to curtail their CoD play based on responsibilities, and most cited football and school. Blake mentioned, “And with high school and stuff and football, you don’t really have that much time in your schedule, so. That’s why it’s (CoD) always something that was easy. You kinda just play a couple of rounds of CoD.” Much like Blake all the boys in this study expressed a balance between their game play, school and football. Coincidentally, all of these locations were places where positive male role models were present (fathers, teachers, coaches).
Three of the boy participants have received or are receiving scholarships to post-secondary institutions to be student athletes (in football), which may be a strong testament to the impact that positive male role models have (Observation, January 30, 2016). The findings of this study may suggest that having positive male influences benefits boys by illustrating and providing healthy boundaries. Likewise, more positive male role models within school districts may help encourage a more inclusive and productive environment for boys and thus reducing the likelihood of feelings of alienation and resistance (Carr-Chellman, 2011; Lakes & Burns, 2001).

In addition to positive male role models boys could benefit from schools being more open to COTS gaming. The major tenants of a playcology include a primary focus of being immersed in your environment, being socioculturally and historically defined by human activity, has a primary permeable boundary, and the promotion of self reflection towards self-awareness. Playcologies are unique to specific social groups that view their work (play ecosystems) as intrinsically engaging; autonomous; bound by time, space and cultural norms; and lastly represent order making activity. These aforementioned characteristics align with Huizinga’s (1949) notions of play as a sociocultural function. Therefore as a professional educator, I believe that one could argue that schools already allow other forms of playcologies in sports clubs, band, theater, certain vocational studies and various school activities. Maybe it is time to expand these existing play ecosystems to consider video gaming clubs as an additional co-curricular activity. These alternate playcologies often find their way into curriculum, are supported by administration and teachers and positively impact the school culture. Teachers often serve as mentors of these playcologies serving as coaches, play directors, and band directors among others. The students of this study continue to ask me to play with them and their social
communities. Teachers could game with students and provide healthy discussion and mutually beneficial boundaries for engaging in COTS games.

Teachers. Game play was not merely an activity that adolescent boys occasionally engage in. Instead, this study found that game play was a fundamental component of how these boys self identify. For these boys, CoD gaming encompassed a significant portion of their academic school career and maybe more importantly their short-lived lives. Blake admits, “… it’s what I grew up on. That’s why I play it.” In fact, the youngest of the boys self reported that he had been gaming “his entire life” (Bryan, Interview #1, 7-30-15). Additionally, because the need for peer bonding is paramount during adolescence, we must understand that children require socialization with peers to develop into social citizens (Steinburg, 2005). Adolescents often retreat to their closest peers at every free available moment, as peer groups support how they make meaning of the world around them (Woolfolk, 2011; Steinberg, 2005). It follows that educators could benefit greatly from the social platforms upon which boys derive understanding. Therefore, denying social identities, as when denying gaming, may largely contribute to the disengagement of boy feel (Carr-Chellman, 2011). Within this study CoD gaming required three chief components for meaning making—social connectivity, aggressive competitive play and self-awareness—all of which provided access keys towards fulfilling the play experience. So, as a current educator, I believe that my fellow colleagues might be able to benefit from utilizing these findings in the following ways.

Allow for social connectivity. Teachers can strive to encourage opportunities for boys to engage in active collaborative work. Essentially, teachers should seek to leverage boys’ social ecosystems for the shared interest of learning. From the findings in this study this may include their New Third Spaces (Steinkuehler, 2005). Because boys seek support from their social
communities for understanding, video games should not be viewed as mere child’s play but as part of boy adolescents’ support team. Drawing from the findings of this study and the notions findings on “morphing literacies” (Blair & Sanford, 2004; Sanford & Madill, 2007, 2006), video games can both be viewed as access points into boy culture and as vehicles to drive the content knowledge between the field of study and the social spaces they dwell. If educators build bridges between the subject knowledge they teach and boys’ preexisting social ecosystems, boy learners may feel more engaged in the content.

*Provide active competitive engagements.* The current study may suggest that competition aids in some boy’s meaning making processes and can help motivate boys to develop skills. The boys in this study perceived that meaning could not be separated from “doing” and occurred through competitive psychomotor engagements. Zane stated, “Yea! Because to me if I don’t hit X quick enough, that’s my fault. I’ll work on that make my fingers move faster” (Zane). Zane’s message communicates the need for active engagement, but also that active engagement may lead to feelings of ownership. In alignment with our previous phases competitive online games have shown to align with national state standards including Common Core as well as the International Society for Educational Technology (Engerman & Carr-Chellman, 2015; Engerman, MacAllan, & Carr-Chellman, 2014; Engerman, Mun, Yan & MacAllan, 2015). Beck and Wade’s work on the links between video game culture and the business world revealed that gamers “See the World Through the Lens of Competition” (2013). Therefore, the findings of this study certainly align with Beck and Wade (2013) as the meaning making process was driven by competition. Outcomes ofCompeting in CoD were critical thinking skills, strategic thinking, leapfrog learning and grit development among others. Teachers could provide opportunities and time for active competitive engagements.
**Autonomy towards self-awareness.** The findings of this study suggest that boys may gain self-awareness through autonomous self-expression. Through the activity of Enacting Personas the boys in this study began to take ownership of their expertise and understand their skill sets and limitations. This finding connects with developmental scholars that would suggest that identity formation requires environments that encourage autonomous self-expressions through role-play (Erikson, 1968; Steinberg, 2009; Woolfolk, 2011). Further, Enacting Personas helped boys to identify their individual abilities within a team dynamic of CoD. As a result of these findings, educators could provide opportunities for boy students to engage in socially acceptable role playing activities and foster deep reflection beyond their identities as a student. Newkirk’s work supports these sentiments as he found that boys transformed their experiences with various media to align with their social identities (2002). Newkirk’s work among others (Blair & Madill, 2004; Steinkuehler, 2010; Abrams, 2009) suggests more interest-driven approaches towards improved literacy gains. These findings and ideas are in line with the aforementioned scholars. Within this study agency allowed the boys to utilize their social peer communities as support structures for deeper meaning-making. As such, educators could benefit from allowing opportunities for boys to take on socially acceptable roles as it aligns with traditional objectives.

**Showcase improvements.** Lopez and Calderon suggest that boys become psychological school dropouts because they are less likely than girls to receive praise or recognition for good schoolwork and do what they do best (Lopez & Calderon, 2013). In line with my findings, when the previous three criteria are met (social connectivity, building expertise through competition and self-awareness) then educators could provide opportunities for boys to broadcast their successes for feedback. In response to these Lopez & Caleron’s (2013) work, the current study
implied that CoD was a place where boys felt they received praise and recognition for demonstrating their earned talents as Josh stated:

I feel like it’s a great place to make a name for yourself on the Call of Duty’s, I guess. Like to show them what you’re capable of. Instead of being a newb and everyone thinking you suck and everything. Yea that’s what I think! Honing yourself to this, getting better at it, progressing to other games of Call of Duty. You’ll become like known for being so great.

…

A bunch of people notice me in Call of Duty when I get on there. They see me like when I try.

Josh’s statement illustrated a deep amount of pride and desire to be acknowledged by the global CoD community for his skills- “I feel like it’s a great place to make a name for yourself on the Call of Duty’s”. Josh’s statement also highlights the benefits of feedback as improves through the CoD series. Educators may consider allowing boys opportunities to demonstrate their socially earned talents and skills.

**Boundaries of the Study and Future Research**

The study was completed with a distinct sub set of boys within the general boy population. Results may be altered based on population, game and time of recording. These boys were all football players within a single school district. In addition, these boys had been a part of their school’s football program from 7th grade until college and in some cases had been around the coaching staff and positive male role models for longer. Boys across the nation may not have this same opportunity to be embedded in community equivalent to the one represented in this study. Personally, I have been with this group of boys for 7 years and represent a part of the inside football and school culture. I report from three relationships and perspectives to the participant population that includes: teacher, coach and researcher. I recognize that these positions could have impacted the overall positive results; however, I discussed and addressed these concern in Researcher Identity, Data Phenomena and Limitations.
Nuances in this study were provided between the boy culture observed and the interaction between the CoD gaming community. These adolescent boys were drawn to CoD as it grew alongside their own temporal development. This formed a unique bond between my participants and how they reported the meaning-making processes within their adolescent development. The notion of a playcology may have wide-reaching implications for boys’ development. The playcology within this study centered on the digital online game of CoD but also incorporated real-world play. Based on this study, Playcologies may have broader reaching implications for understanding adolescent boy development and meaning making processes beyond virtual social spaces. To unpack these implications, researchers could investigate a broader range of boy adolescents. It is difficult to determine how these results will occur for more diverse boy populations in various geographical settings with different genres of games. The profile of a more diverse population of boys may give insights into the broader boy-gender population. Future research could seek varying boy populations and their interactions within specified gaming communities. In addition, a gender study of girls could help to build comparisons between boys and girls. A girl gender study can highlight the comparative and non-comparative components of intentionalities and gaming affordances between the genders. By looking at these two studies, games-based scholars can gain broader insights into the meaning-making designed experiences of commercial gameplay. Also, educators may be able to draw out fundamental learning principles that align with their localized learners.

**Conclusions**

The current study unpacked the interactions between a subculture of boys and the CoD gaming culture they contributed to. At this intersection, my investigation sought to gain understanding into the lived experiences of these boys within the CoD, the meanings and values
of participation and how social and material practices were developed. The meanings and values of participation were vast but centered around social connectivity, engagement in aggressive competition, self-awareness and pursuit of the Flow state. Through Engestrom’s (2001) Expansive Learning Matrix, learning outcomes may have included the development of communication skills, strategic thinking, identity formation, and leadership through teamwork.

The findings of this study may have ultimately illustrated the benefits of playful engagement as a significant component of meaning making processes for boys within their social spaces. For the boys in this study CoD may have represented a New Third Space that helped develop meaningful cultural practices. Even further the current findings suggest that these culturally bounded play spaces could lead to the notion of a playcology. The current playcology could give insight into understanding boy digital ecosystems, and may contribute as guides towards navigating boy adolescent’s development into young adulthood.

The significance of this study is that it could provide an approach to the “boy crisis” (Jha & Kelleher, 2006; Tyre, 2009) that may be beneficial for boy populations. In alignment with previous work, feelings of alienation for boys can be combated through allowing their voices to be heard (Engerman & Carr-Chellman, 2014; Engerman, Mun, Yan, & Carr-Chellman, 2015). The current study provides a possible mechanism for investigating the relationships between boys and their participatory sociotechnical spaces. Empowering boys to express themselves through their strengths may have the potential to be a mutually beneficial method for both boy culture and traditional learning organizations (Engerman, Mun, Yan, & Carr-Chellman, 2015; Engerman & Carr-Chellman, 2014). In conclusion, researchers, learning designers and decision-making stakeholders of educational organizations may benefit from considering various forms of adolescent boy playcologies for designing engaging learning environments.
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Appendix A

Call of Duty Participant Survey

Recruitment survey for adolescent Call of Duty participants or seasoned Call of Duty Player
* Required

Name *

Would you consider yourself a Call of Duty gamer? *

1  2  3  4  5
Not so Much Absolutely

How often do you play Call of Duty during the week? *

1  2  3  4  5
Not at all Everyday

How many hours a week would you say you play Call of Duty? *

o [ ] Less than 2 hours
o [ ] 2-3 hours
o [ ] 3-5 hours
o [ ] 5-7 hours
o [ ] 7-10 hours
o [ ] 10+ hours

Which version(s) of Call of Duty do you play currently? *

Which system do you play on? *

o [ ] Playstation 3
o [ ] Playstation 4
o [ ] Xbox 360
o [ ] Xbox 1
o [ ] Other: Please fill in other system
Who do you play with and when do you usually play together? *

Are you familiar with using Twitch or other game capturing software? *
Please Explain
## Appendix B

### Thematic Analysis 15 Point Checklist

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<th>Process</th>
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<th>Criteria</th>
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<tbody>
<tr>
<td>Transcription</td>
<td>1</td>
<td>The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.</td>
</tr>
<tr>
<td>Coding</td>
<td>2</td>
<td>Each data item has been given equal attention in the coding process.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>All relevant extracts for all each theme have been collated.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Themes have been checked against each other and back to the original data set.</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Themes are internally coherent, consistent, and distinctive.</td>
</tr>
<tr>
<td>Analysis</td>
<td>7</td>
<td>Data have been analysed - interpreted, made sense of - rather than just paraphrased or described.</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Analysis and data match each other - the extracts illustrate the analytic claims.</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Analysis tells a convincing and well-organised story about the data and topic.</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>A good balance between analytic narrative and illustrative extracts is provided.</td>
</tr>
<tr>
<td>Overall</td>
<td>11</td>
<td>Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.</td>
</tr>
<tr>
<td>Written report</td>
<td>12</td>
<td>The assumptions about, and specific approach to, thematic analysis are clearly explicated.</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>There is a good fit between what you claim you do, and what you show you have done - i.e., described method and reported analysis are consistent.</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>The language and concepts used in the report are consistent with the epistemological position of the analysis.</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>The researcher is positioned as active in the research process; themes do not just ‘emerge’.</td>
</tr>
</tbody>
</table>

(Braun & Clark, 2006)
Appendix C

Parental Consent Form

PARENTAL CONSENT FOR RESEARCH
The Pennsylvania State University

Title of Project: Call of Duty for Adolescent Boys: An Ethnographic Phenomenology of the Experience of Gaming Culture/Environment

Principal Investigator: Jason A. Engerman, PhD Candidate Student

Address: 314 Keller Building
University Park, PA 16802
(814) 863-1882; Jaengerman@psu.edu

Telephone Number: (570) 972-4064

Advisor: Alison Carr-Chellman, Learning & Performance Systems Department Head

Advisor Telephone Number: (814) 865-0624

Subject’s Printed Name: ________________________________________

We are asking you to be in a research study. This form gives you information about the research. Whether or not you take part is up to you. You can choose not to take part. You can agree to take part and later change your mind. Your decision will not be held against you. Please ask questions about anything that is unclear to you and take your time to make your choice.

Some of the people who are eligible to take part in this research study may not be able to give consent because they are less than 18 years of age (a minor). Instead we will ask their parent(s)/guardian(s) to give permission for their participation in the study, and we may ask them to agree (give assent) to take part. Throughout the consent form, “you” always refers to the person who takes part in the research study.

1. Why is this research study being done?
We are asking you to be in this research because you are a male adolescent and have demonstrated an interest in playing Call of Duty. The purpose of this study is to explore some of the reasons why the traditional k-12 public school curriculum may remain less than engaging to most boys. This research will seek to find out how adolescent boys feel about games and things that they’re learning from them. We want to understand how Call of Duty
(CoD) may contribute to boys’ learning. Our ongoing work (Engerman, MacAllan, Carr-Chellman) has discovered that learning gains can be accomplished through the use of commercial off the shelf games (COTS). We hope this study will help to justify the educational uses of OTS video games and encourage a change in the culture of schools, which we find to be out of alignment with boy culture. Approximately 15-25 people will take part in this research study locally.

2. **What will happen in this research study?**
   You will be asked to participate in individual interviews, which will be digitally or video tape recorded and transcribed. The video and audiotapes will be used to make sure that our records are accurate and to allow more detailed study of each participant’s explanations and interactions. These interviews will vary in length, but each will last no more than 2 hours. During the first interview you will be asked a series of questions such as, what games do you play? Why do you continue to play? What types of resources do you use? Do you feel you learn from games? The second interview will ask you to describe the actions you take within game play as you think aloud while actively playing Call of Duty. This may take place at the local Wayne Pike Workforce Alliance building located in Hawley PA. A third interview will take about one hour to follow up on any remaining questions or explore ideas that seemed unresolved or conflicting between initial interviews with other respondents.

3. **What are the risks and possible discomforts from being in this research study?**
   The video and audio taping equipment will be made as unobtrusive as possible, however it can take time for participants to feel comfortable being taped. If you feel uncomfortable at any time, you may withdraw from the study. Although real names will not be used in presentations of the research, participants might be identifiable to people who recognize them in videotaped artifacts. There are no risks in participating in this research beyond those experienced in everyday life. The questions require individual thoughts and feelings. There is a risk of loss of confidentiality if your information or your identity is obtained by someone other than the investigators, but precautions will be taken to prevent this from happening.

4. **What are the possible benefits from being in this research study?**
   **4a. What are the possible benefits to you?**
   You may learn more about themselves by participating in this study. Participants might have a better understanding of how they learn best. Furthermore participants may realize that others have had similar experiences.

   **4b. What are the possible benefits to others?**
   This research may provide a better understanding of how video games affect student learning. This information could help encourage a shift towards embracing boy culture in school systems, thus potentially affecting issues such as boy/male dropout rates, referral rates, suspension rates, and other statistically significant differences between boys and girls in their performance data within traditional K-12 public schools. This information may also assist boy students to feel more accepted in academic settings.

5. **What other options are available instead of being in this research study?**
   You may decide not to participate in this research.
6. **How long will you take part in this research study?**
   If you agree to take part, this study will primarily span the length of 2-4 weeks and sporadically throughout 6-9 months as the researcher asks questions to confirm assumptions. This research however will not interfere with normal activities of engagement or schoolwork, as research work will be conducted outside around student schedule. This research study will take 2-4 weeks to participate in all three interview sessions.

7. **How will your privacy and confidentiality be protected if you decide to take part in this research study?**
   Efforts will be made to limit the use and sharing of your personal research information to people who have a need to review this information. The records of this study will be kept private by using the following methods.
   - A list that matches your name with his code number will be kept in a locked file or password protected file
   - Your research records including all transcripts, video archives, and related data will be labeled with Random Identifiers and will be kept in a password protected external hard drive in the office of Jason A. Engerman.
   - A pseudonym to refer to each child in the study, and will not provide any information that might identify your school.

I will do my best to keep your participation in this research study confidential to the extent permitted by law. However, it is possible that other people may find out about your participation in this research study. For example, the following people/groups may check and copy records about this research.
   - The Office for Human Research Protections in the U. S. Department of Health and Human Services
   - The Institutional Review Board (a committee that reviews and approves research studies) and
   - The Office for Research Protections.

Some of these records could contain information that personally identifies you. Reasonable efforts will be made to keep the personal information in your research record private. However, absolute confidentiality cannot be guaranteed.

8. **What are your rights if you take part in this research study?**
   Taking part in this research study is voluntary.
   - You do not have to be in this research.
   - If you choose to be in this research, you have the right to stop at any time.
   - If you decide not to be in this research or if you decide to stop at a later date, there will be no penalty or loss of benefits to which you are entitled.

9. **If you have questions or concerns about this research study, whom should you call?**
   Please call the head of the research study (principal investigator), **Jason A. Engerman** at (570) 972-4064 if you:
   - Have questions, complaints or concerns about the research.
• Believe you may have been harmed by being in the research study.

You may also contact the Office for Research Protections at (814) 865-1775, ORProtections@psu.edu if you:
• Have questions regarding your rights as a person in a research study.
• Have concerns or general questions about the research.
• You may also call this number if you cannot reach the research team or wish to talk to someone else about any concerns related to the research.

INFORMED CONSENT TO TAKE PART IN RESEARCH

Signature of Person Obtaining Informed Consent

Your signature below means that you have explained the research to the subject or subject representative and have answered any questions he/she has about the research.

_____________________________   _____________________   ______________________
Signature of person who explained this research   Date   Printed Name
(Only approved investigators for this research may explain the research and obtain informed consent.)

Signature of Person Giving Informed Consent
Before making the decision about being in this research you should have:
  • Discussed this research study with an investigator,
  • Read the information in this form, and
  • Had the opportunity to ask any questions you may have.

Your signature below means that you have received this information, have asked the questions you currently have about the research and those questions have been answered. You will receive a copy of the signed and dated form to keep for future reference.

Signature of Parent(s)/Guardian for Child
By signing this consent form, you indicate that you permit your child to be in this research and agree to allow his/her information to be used and shared as described above.

___________________________   ___________________   ______________________
Signature of Parent/Guardian   Date   Printed Name
VITA

Jason A. Engerman

Keller Building, University Park PA, 16802 | jaengerman@yahoo.com | jaengerman.weebly.com

EDUCATION

Pennsylvania State University  
Ph.D. Learning, Design, & Technology (Expected Graduation)  
State College, PA  
August 2016

Wilkes University  
M.S. Teaching & Learning in the 21st Century  
Wilkes Barre, PA  
2011

LEARNING DESIGN EXPERIENCE

The Pennsylvania State University  
Learning, Design & Technology (LDT)  
State College, PA  
2012 - Present

- Designed, developed and taught several online courses including a teaching and learning online minor for an international student population
- Established academic researcher and author

Wallenpaupack School District  
Mathematics Instructor  
Hawley, PA  
2008 - Present

- Secondary mathematics instructor within Pennsylvania school district
- Taught academic, technical and inclusion towards a 21st Century agenda

Designers for Learning  
Director  
Chicago, IL  
2013 - Present

- Oversee the vision and direction of an online service-learning MOOC platform for instructional design students
- Integrated online service platform with international graduate student organization within instructional design field

LEADERSHIP EXPERIENCE

Pennsylvania State University  
Principle Investigator of Research  
State College, PA  
2012 - Present

- Lead learning design teams through interactive games based research, proposals, publications and grant applications

Graduate Student Assembly President  
Association for Educational Communications and Technology (GSA)  
Indianapolis, IN  
2014 - Present

- Initiated and lead several initiatives for over 200+ international membership
- Recognized as an innovative leader within field of instructional design