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FARMING AND FIGHTING AS PRACTICE AND PEDAGOGY: A PROCEDURAL FIELD ANALYSIS OF DIGITAL GAMES

Alexis Pulos

Alexis Pulos
Candidate

Communication & Journalism
Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

Janice Ellen Schuetz, Chairperson

Karen Foss

Richard Schaefer

Nick Flor

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ALEXIS PULOS

B.A., Speech Communication, Colorado State University, 2006
M.A., Communication Studies, Colorado State University, 2009

DISSERTATION

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ABSTRACT

Video games are currently one of the leading entertainment mediums across the globe, with games like *Call of Duty: Black Ops* (Activision) selling 4.3 million dollars in the first week of sales and adding to the parent company *Activision Blizzard's* 2011 revenue of 4.9 billion dollars. In 2011 the North American video game industry had a revenue of $25 billion (ESA, 2012), more than twice the film industry establishing video games as a predominant entertainment medium. However, in the fifty-four years that video games have been a medium for meaning making, the majority of research has focused on quantitative analysis and media effects research that has limited the cultural, interpretive and critical analysis of digital games.

Despite some interdisciplinary research conducted on digital games, few scholars take into account what is being communicated through digital game design and how electronic games function as a medium of learning and meaning making in contemporary society. Utilizing two case studies of *FarmVille 2* and *Elder Scrolls V: Skyrim*, the goal

of this study is to understand the ways that digital games work as a cultural medium and to analyze how the constructed messages in game design create and enforce modes of action and forms of knowledge. The following research questions guide this study:

- RQ 1: What is the relationship between game design and the processes of meaning making?
- RQ 2: How does game design enable and constrain player agency?
- RQ 3: What intertextual structures are present within the cultural production of digital games?

Sub Question: What forms of social learning occur in games as a result of these structures?

The purpose of this study then, is to understand how the medium of electronic games functions as a field of cultural production by analyzing the ways game structures communicate forms of acting and knowing within the game and the broader social contexts. To accomplish this goal, I first explored the ways that games orient players to their field or environment; second, I investigated how objects and their related capital present in the design of digital games influence the choices, outcomes and performances of players; third, I dissected the interfaces present in games to look at how game design enables and constrains player agency; fourth, I analyzed the ways in which rules guide and create player *habitus* with game units; and finally, I situated this exploration through the ways that digital games create meaning in and out of the game. In doing this dissertation expands upon existing theories of video game analysis, medium theory, *habitus*, field and capital by using an innovative method that establishes a new communicative approach to the textual analysis of electronic games.

Keywords: Digital games, games, habitus, capital, field, cultural production, medium theory.

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CHAPTER 1: INTRODUCTION

In 1958 Willy Higinbotham created *Tennis for Two* on a modified oscilloscope, an abstract version of tennis with which people could interact, a simulation that would spur the video game industry (Malliet & de Meyer, 2005, p. 24). Fifty-four years later video games are one of the leading entertainment mediums across the globe, with games like *Call of Duty: Black Ops* (Activision) selling 4.3 million dollars in the first week of sales and adding to the parent company *Activision Blizzard's* 2011 revenue of 4.9 billion dollars (statement of operations). In 2011 the North American video game industry had a revenue of $25 billion (ESA, 2012), more than twice the film industry establishing video games as a predominant entertainment medium.

The development of electronic games is connected to the rise in communication technologies. The development of the Internet and the World Wide Web in the 1970s simplified information sharing and developed a new communication medium. During this same time Multi User Domains (MUD) developed text based role-playing games similar to classic *Dungeon & Dragon* games, and players began to create software and codes for these games that became a motivating factor in the development of home computing. Game systems, such as the Playstation, Game Cube, and Sega CD, played a major role in establishing the Compact Disc as a dominant medium, and the Playstation 3 established the stability of Blue-Ray. Today, Computer Mediated Communication (CMC) technologies such as Skype and Google hangouts allow individuals to talk across the globe, and games programs, such as Steam, Ventrillo or XBOX Live, provide a platform to implement similar technologies. The communication technologies available within games can connect disparate cultures and communities through the shared experiences of

games. Within a game, communities are formed and new cultures are being developed, and even when players log out they are connected to the larger social structure of a game through player produced wikis, social networks, and community forums. Games and the rise in electronic communication technologies have spurred an industry and added to the interconnections among people across the globe, making digital games a dynamic medium to study.

The influence of electronic technology on games provides a rich intersection of analysis for communication scholars. The goal of this study is to understand how the medium of electronic games functions as a field of cultural production by analyzing the ways game structures communicate forms of acting and knowing within the game and the broader social contexts. To accomplish this goal, I will first explore the ways that games orient players to their field or environment; second, I investigate how objects and their related capital present in the design of digital games influence the choices, outcomes and performances of players; third, by dissecting the interfaces present in games, I look at how game design enables and constrains player agency; fourth, I analyze the ways in which rules guide and create player *habitus* with game units; and finally, I situate this exploration through the ways in which digital games create meaning in and out of the game. In doing so my dissertation expands upon existing theories of video game analysis, medium theory, *habitus*, field and capital by using an innovative method that establishes a new communicative approach to the textual analysis of electronic games.

Chapter 1 provides an introduction and framework of electronic games to situate the above mentioned goals. This introduction demonstrates the significance of electronic games in technological environments, shows how games are utilized as institutional

models for education and explains how games are integrated into social systems. Positioning games through these perspectives creates a rationale for this research project, provides the research questions, defines key constructs for this study, previews my method and summarizes the dissertation project.

Before I begin, I will briefly address the concerns of violence in games. Paralleling the rise of other media industries such as the film industry, with the increase in popularity and sales of video games, concerns over their content have followed closely behind. News coverage of videogames often focuses on their dangerous and violent elements, blaming events such as Columbine or Sandy Hook on them (Dill & Dill, 1998; Griffiths, 1998, Deselms & Altman, 2003). While numerous studies on violence in the media and on games exist, there is no direct correlation with violence and video games (Sherry, 2006). It is important to understand the impact of the content or narrative for any medium (Juul, 2005); however, this project does not seek to explore this issue. Rather, as Gee (2007) notes, while violent content is an important issue, "there are lots and lots of other topics about games worth discussing," and this project focuses on some of these topics (p. 4). To establish my focus, I turn to the growing use of games as educational tools and learning environments, their ability to construct environments for social problem solving and their development as labor systems. These examples further contextualize and develop my research questions.

Background and Rationale

Games as Educational Tools

The development of digital technology and its integration into schools promotes the education of individuals across varying distances and engages students in a variety of

new ways. For example, the Open University in England has offered open courses to distance students since 1971, and in 1988 required game use in several computer classes. Currently, this university offers courses online through iTunesU and in *Second Life*. While the Open University was one of the first schools to follow this trajectory, thousands of colleges and universities now host courses via YouTube and iTunes. In the Fall of 2011, Stanford hosted the largest free class about artificial intelligence allowing 160,000 students from 190 countries to take the class in forty-four different languages (Leckart, 2012). Additionally, the Khan Academy made available 3,200 different lessons, ranging from STEM courses to Art History free of charge. In an increasingly technological world, new media are transforming the foundations of educational systems by moving the traditional in-person classroom to a teacherless digital space. School systems are also using iPads to replace textbooks and note pads, allowing texting in class, bringing online classes to high schools, and relying on smart boards to reach students in dynamic ways. As noted earlier, the rise in technological advancements is influenced by its connection to games; particular to this project then, is the ways in which electronic games are integrated into educational systems.

Electronic games, much like distance learning, are not new developments in education but are now utilized at an increasing rate. For example, I learned multiplication in 1990 on the program *Number Munchers*, a simple game where players identify the appropriate equations to equal a given number; if a student chose a wrong answer a monster attacks the player. Today, classrooms employ geography, language, typing and science-based games to engage students in class material. Rather than utilizing games as supplemental methods for learning, teachers and professors are now using games as

primary teaching tools and as homework activities for students. For example, Dr. Travis of Connecticut University required students to play the game *Operation Lapis* as the primary way to learn Latin (Maton, 2012). To further clarify the utilization and implementation of games in education, I turn to the game *Portal*.

Developed in 2007 by Valve Corporation, *Portal* illustrates how digital games can function as problem solving tools rather than an entertainment medium. The game follows the player, Chell, through a series of increasingly difficult mazes; in order to navigate this space players utilize a handheld device that opens a portal to a corresponding one located elsewhere in the maze. The portals serve as gateways for players to move across gaps in the game environment or to move objects to new locations; the portals also serve as the primary means of movement and puzzle solution. The player is directed through the game and the challenges created by a mechanical voice called GLaDOS (Genetic Lifeform and Disc Operating System) (Espositio, 2011). The formal structures of *Portal* are designed as a puzzle game to engage players in situations that require problem solving skills. Schiller (2008) extends the use of *Portal* by framing the design of challenges as a means to teach information and literacy tasks. He argues that the game utilizes three elements: 1) scaffold instruction and layered lessons that provide assistance when necessary and then remove it to allow players to stand on their own; 2) assessment data allows player-designer feedback; and 3) gating keeps players from advancing beyond their skill level (p. 351). Utilizing this three part insight, Schiller presents research problems that require students to develop a literacy of database structures in order to acquire the necessary information to solve the challenges, and in the process students learn how to search more efficiently for library information. This model

was retooled by *Steam*, the designers of *Portal*, at the 2012 Games for Change Conference where they released a version of the game that allows schools and teachers to utilize *Portal* as a physics and geometry based learning game. The structural design and use of *Portal* for teaching student's library sciences, information literacy and physics points to the ways digital games are used as foundational educational tools.

Portal is used not only to push the ability of players to engage in formal educational processes, but also teaches critical thinking skills. Through the game's narrative, player interaction is complicated by the promotion and deterrence of GLaDOS's instructions. When players start the game, the rules encourage them to succeed, but as players' progress—and due to a computer malfunction—GLaDOS shows concern about players' failure, rather than success. According to Johnson (2009), the discourses in the game function much like Goffman's front and back stage performances. He argues that "through the use of both language and its required context, a performance is created and maintained by the antagonist, and used to tell a metaphoric tale of a power struggle of identity roles within an institution" (As cited in Johnson, n.a., 2011). The game's representation of front and back stage is utilized to inform students about concepts from Goffman's work (Goldman, n.a., 2010). While *Portal* overtly functions as a process of puzzle solving, the game simultaneously encourages players to recognize the social discourses outside of the game that often function to maintain and establish power dynamics. Rather than just asking what a games narrative, like *Portal*, gets a player to think through or about, research needs to ask what game structures are teaching players in the process engaging with them. This project seeks to understand how game systems create forms of knowledge and modes of acting.

Games as Learning Environments

Electronic games are not only utilized as tools for learning, but they create environments for learning. In September 2009, *Quest to Learn* started with its first class of sixth graders. Funded by the MacArthur Foundation, the *Quest to Learn* school teaches students "entirely through videogame-inspired activities" and engages them in "five courses during the day: Codeworlds (math/English), Being, Space and Place (social studies/English), The Way Things Work (math/science), Sports for the Mind (game design), and Wellness (health/PE)" (Locke, n.a., 2010). This school's educational model is based on the understanding that games hold players' attention, even while they are failing, and that players learn best when they are in a social context that encourages them to put their knowledge to use. Games are also able to create social environments, such as in Massively Multiplayer Online Games (MMOG), which simulate classroom environments. Steinkuehler (2005) argues that MMOGs "are rich problem solving environments, capable of sustaining successful communities," that "allow individuals to engage in discussions about broader social issues such as violence," aggression and sexism (p. 6). Games construct social environments for teachers, students and individuals to learn in much the same way that classrooms once provided a space for learning and social engagement. While these examples point to an educational framing through games, manufactured games, such as *Mass Effect*, illustrate the scale in which games engage learners in collective problem solving practices.

In 2007, the Canadian company BioWare released a science fiction trilogy entitled *Mass Effect* for the XBOX 360 and Windows-based platforms. Known for their ability to tell compelling stories, BioWare provides "a unique take on the chase-the-bad-

guy-across-the-universe plot" through the construction of "a politically charged universe with an exhaustive back story" filled with interesting, multifaceted characters (VanOrd, 2007). Unique to the narrative development of this game is the impact that player choice has in the trilogy. Choices in the first game—the development of a romantic relationship or the death of an ally—carry through to the narrative experience of the final installment. The majority of the actions, conversations and quests completed in each game create new narratives for the players. With the third game, players and fan communities expected the conclusion of the game to vary significantly depending on the accumulation of these varied choices.

Days after the release of the third game, player reactions flooded forums, blogs, the BioWare website and YouTube expressing their discontent with the game's conclusion. A total of three primary endings (good, bad and neutral) were offered to players, and with only slight variations a total of six possible conclusions were available. The accumulated choices of the *Mass Effect* trilogy and the required seventy-five hours of game play produced a negative response by players. Kain (2012) explains that player reactions to "Mass Effect 3 have provoked a bigger fan reaction than any other videogame's conclusion in the medium's history" (para. 1). The reactions pushed BioWare to develop a downloadable ending that would allow more diversity of conclusions. It is compelling that a collective movement, developed around individual experiences of game players, can address and demand an institutional change for a shared problem. The focus on this narrative problem is an example of the ways that games address larger communal issues.

McGonigal (2011) notes that games today are a perfect medium to build social connections and bonds with strangers, and the connections they built can resolve large scale problems quickly. Many games, such as *World of Warcraft* and *Mass Effect*, have built massive wikis—an information resource that is developed by the collective work of individuals—that allows players to understand increasingly difficult challenges and to collectively overcome them. What McGonagall, Steinkuehler and the *Mass Effect* games point to is how games can address social exigencies through collective problem solving. As a result, games encourage the "global village" to connect people from diverse communities and allow them to work together on specific problems; a process that McGonigal (2011) argues should be used to address large scale social issues. Digital games create environments of social meaning making, encouraging players to work together, to solve problems and to actively engage in this process. By turning to these environments as learning contexts, research should begin to ask how ways of interacting are regulated or what normative practices games encourage? Cultural theorists such as Bourdieu, Gramsci, and Althusser have questioned the role of education in the maintenance and regulation of knowledge and ways of acting, questions that should be extended to the educational environments of digital games.

Games and Social Systems

Games are not only tools for learning, but they are frameworks for understanding one's experiences within technological and social frameworks. According to Turkle (2005) games are an evocative object "to think with, for thinking about a range of philosophical and psychological questions, including questions about knowing, [and] selfhood" (p. 267). Simulations and interactive experiences enable individuals to think

about who they are, to cultivate an understanding of relationships, and to learn about the world around them. Games like *Second Life*, or *EVE Online* allow individuals to try on different avatars and roles, offering players the ability to learn about themselves through the performative online interactions they have with others. Games interpellate individuals into the socially constructed environment of the game, teaching players appropriate norms and ways of socializing with other players (Williams, Kennedy & Moore, 2010).

Within an increasingly complicated and complex world, digital environments and games serve as a resource for game players to understand and negotiate social interactions. Turkle (2005) notes that electronic games are a material resource that new generations understand as a part of themselves because they teach players something about who they are and are "a primary source for developing" an understanding of who we are and how we should act toward others (p. 89). Electronic games enable individuals think about themselves in new ways and reveal how the worlds they live in are constructed. According to Murray (2004), "everyday experiences [are]… increasingly gamelike, and we are aware of the constructed nature of all of our narratives. The ordinary categories of experience, such as parent, child or student are understood as 'roles' that are perpetually deconstructed into their "culturally invented components" (p. 3). The construction of identity, once understood through the protocols of human relationships, is now composed of intersecting arrangements of a collective story-game, "an aggregation of overlapping, conflicting, constantly morphing structures that make up the rules by which we act and interpret our experiences" (Murray, 2004, p. 3). The stories, games and experiences of individuals blend together as lived activities that influence each other. If one agrees that lived experience is becoming increasingly game

like, then it follows that digital games can teach us how to manage these interactions and digital games are the nexus for engaging with the complex interrelations of a postmodern life.

Digital games not only serve as a point of negotiation for the self, but as an allegory of life itself. Wark (2007) argues that life is a gamespace that pretends to be a *fair fight* or *a level playing field*, but in reality it is a rule based system, an allegorical cave from which individuals can never escape. Gamespace can turn war into a military industrial complex of beeps, buttons and blinks, and global positioning can turn the earth into a grid, putting time and space into play. Gameplay has therefore extended into "every aspect of everyday life" (section. 016). He elaborates this claim in the following:

> The old class antagonisms have not gone away but are hidden beneath levels of rank, where each agonizes over their worth against each others as measured by the size of their house and the price of their vehicle and where, perversely, working longer and longer hours is a sign of victory…you have to be a *team player*. Your work has to be creative, inventive, playful—ludic, but not ludicrous. Work becomes a gamespace, but no games are freely chosen anymore. (Wark, 2007, section. 011)

Reality is an ideological gamespace, where individuals willingly support and participate in social games that have impossible odds and that pit individuals against each other. Games structures have so inundated society that they structure the ways individuals think. For example, the gamespace of life teaches students to apply to the best schools. "Prove your abilities. Get yourself published. Get some grants…. Keep your nose clean and get tenure. You won" (section. 018)! In order to confront the game space, Wark (2007) also

notes that games help players to understand and think through everyday life. Following Wark's line of inquiry, research should ask how player actions intersect with knowledge structures, what is the relationship between the internal and external social structures of the game, and the ways that players are directed to act in them?

Games as Economic Systems

While Wark utilizes several examples of games as nationalistic, or as systems of control to clarify this process, I turn to *Diablo III* as an example of a game that promotes capitalistic systems. In May of 2012 Blizzard Entertainment released the third installment of their franchise series Diablo. Sixteen years after the original *Diablo III* sold more than 3.5 million copies the first day and paired with the online presales, 4.7 million people played the game in the opening day making this the "fastest selling PC-game" of all time (Blizzard, 2012). Even after the production of this game was delayed for various reasons, players became so dedicated to the game that one individual, Jonathan Bradley Smith, played the game for forty-three hours straight—sleeping fifteen minutes for every four hours he played—in order to reach the highest level possible (PRWEB, 2012). While the gross sales of this game, as well as the time dedication by the players point to the popularity of this game, it is one of the first games to allow players to directly earn real money in the game.

Games, like *Diablo III* and *World of Warcraft* (*WOW*), are loot oriented systems that allow individuals to sell in-game items for real money. In WOW this feature is known as gold farming, an allegory for those who work in gold mines in other countries. Often living in China, the laborers work the digital environment for gold; an average of $100 dollars in gold is worth 10 Yuan or $1.25, an earning of thirty cents an hour

(Dibbel, 2007). Although this practice is not sanctioned by Blizzard, the producers of the game, have little ability to stop this global labor practice. However, *Diablo III* attempts to subvert this process by offering an in-game exchange system that allows players to trade digital goods for money through a sanctioned auction house—rather than having players trade goods through Ebay. What is compelling about this case is that games no longer serve as a front for digital labor, but now are direct locations for the exchange of goods and services. *Diablo III* is the allegory of the capitalist gamespace, where people all have the opportunity to win and to participate in earning a living. According to Castronova (2005), synthetic worlds like *Diablo III* present economies that parallel real world economies and can gross above $1 billion GDP, exceeding the sales of many countries (p. 13). Games and the worlds that they create are being influenced by the norms and expectations, not of play, but of contemporary society and human affairs such as trade, governance and conflict (Castronova, 2005). Video games are not simply entertainment or escapist media, but they function as market systems in their own right. Thus, research should recognize this fact and take seriously the implication that games are a type of commodity of a post-fordist information-capitalism structured through the capital of commodity-signs (Kline, Dyer-Witheford & De Peuter, 2003). Electronic games are playing larger roles in contemporary society; it is therefore important that scholarship ask how games are informing, creating, and reproducing forms of capital?

Justification

This introduction describes the ways in which games are utilized as tools for learning, how game models create environments of meaning making and social interaction and how games function as systems of labor and capital. However, research

does not fully explain the ways digital game structures work as a medium to create and enforce cultural meaning(s). My study is unique in that it takes digital games as a medium on their own right and seeks to understand their broader significance in contemporary society. In addition to these contributions to the research on medium theory and game theory, several other factors justify the need for this study: 1) the overly heavy focus on alternative digital game production; 2) the need to extend traditional game research to digital games; 3) previous research has focused on quantitative measures rather than interpretive methods; and 4) the need to situate game studies within the communication discipline.

Focus on Alternative Video Game Production

The new developments in digital games, their integration into society and their function as social systems in their own right marks this medium as a compelling form of study, but games are still understudied texts. While games are being used for their social utility, research needs to reflect on the implication of this integration. McGonigal (2011) is using games to combat injuries, to address issues of global warming, and to confront geopolitical tensions. Other systems, such as the Wii and the XBOX Kinnect, have been integrated into retirement homes as a way to get elderly individuals to exercise. Bogost (2010) creates games to address the changes in Journalism and has designed games for understanding political campaigns. Through these serious or persuasive games, designers have sought to inform players about social processes or events. These games move away from the capitalist model of profit in favor of producing new forms of civic engagement.

The interest in serious games and their potential to motivate individuals has spurred an interest in gamification, "the process of applying game-design thinking to

non-game applications to make them more fun and engaging" (gamification.org). While economic game theory had been around for roughly ninety years, gamification has recently become so popular that seventy percent of global organizations will have at least one gamified application by 2014 (Gartner.com, 2011). According to Zicherman (2012), companies have started to apply game concepts to voting practices, where individuals receive points for accomplishing their civic duty and allow them to compete with their Facebook friends. While serious games and gamification are a new practice individuals are so apt to produce new or "better" games that research, as well as the game producers, have yet to seriously reflect on the normative cultural implications of game design.

Limitations of Traditional Game Research

With the increasing integration of videogames into the various elements of one's lived experience, it is important to understand the ways that games work as communicative and cultural processes. In analyzing cultures around the world, Huizinga (1938) argued that games and play function as a cultural activity to order and create society. McLuhan (1964) asserts that games are a reflection of culture; they are able to illustrate core values of a society and serve as a psychological model. For theorist Sutton-Smith (1997), games are a reflection of social evolution, so that the more complex a social system, the more complex the games of that society will be. Breaking social interaction down to the formative experiences of social learning, Mead (1934) notes that social activity is a process of communication where individuals share systems of symbols, and games, as a symbol system, are a clear precursor to this process. Murray (2006) extends Mead's insights by asserting that "games are a means of coevolving our minds and our media, of assimilating new technologies of inscription through exploration

of their capacity for symbolic representation, and of preserving and expanding symbolic expression by making symbol systems the explicit focus of activity" (p. 197). These scholars connect games to the formations of both cultural and social development and the formation and expansion of human communication practices and processes. While Murray begins to point to the ways in which electronic games are expanding our ways of representing the world, little research has been done to analyze digital games as a cultural medium.

The contemporary research that does address the ways in which games function as a cultural medium focuses on the uses of games as a physical skill or the cultures around games. Objective analyses of games often emphasize the physical interactions that players have while playing them. Research here has addressed skill building, memory formation, and the ways that games "might build behaviors that will ultimately be expressed in the real world" through a focus on hand-eye coordination or image response (Penny, 2004). The research on games as a cognitive tool positions games as a developmental product that addresses psychological symptoms such as posttraumatic stress disorder, or blames them for cultural stigmas such as attention deficit disorder. Further studies around game culture stress player interactions within games and address issues of identity, game experience and community development. At the center of this research is a focus on the ways that people negotiate "levels of self-disclosure and performance, multiple forms of embodiment, the integrations of dual (or multiple) communities, webs of technology, and the importing of meaningful offline issues and values into online spaces" (Taylor, 2006, p. 152). While this research acknowledges the ways games create community and addresses important interpersonal and identity issues,

it does not take into account the systemic or cultural structures present in games that perpetuate normative constructs of the aforementioned issues. My research will address this gap and work to identify the ways meaning is made and reproduced in digital games through an interpretive framework that emphasizes communication practices in digital game design.

Utilizing an Interpretive Perspective

While video game research is developing, there is still a dearth of information on this topic from an interpretive or critical perspective since much of the previous research has focused on quantitative research. While *Tennis for Two* was developed in 1958, commercial games did not fully enter into production until coin-operated arcade games, such as *Computer Space* (1971) and *Pong* (1972) were introduced, and home console systems, such as the Magnavox Odyssey (1972) and Atari VCS (1974), were released (Malliet & de Meyer, 2005). However, it was not until Japan entered the video game market in the early 1980s, with games like *Pac-Man* (1980) and *Donkey Kong* (1981) and home consoles like the Famcom (1983), which would become the Nintendo Entertainment System (1986) or NES, that video games became a prevalent medium in society (Malliet & de Meyer, 2005). It was not until the mid-1980s that scholars began to analyze digital games as an important phenomenon. Much of the research, however, focused on digital games using quantitative research methods to study games according to traditional media effects theories.

As a result, research about digital games often emphasizes violence, social behavior, and effects of game play. Research in the early 1980s focused on the effects of video game violence on children's aggression levels (Dominick, 1984; Graybill, Kirsch,

& Esselman, 1985; Schutte, Malouff, Post-Gorden, & Rodasta, 1988), but it was not until the release of *Mortal Kombat* (1992) and *Doom* (1993) that public concern over violence reached a tipping point. In 1994, at the bequest of Senators Joe Lieberman and Herb Kohl, the Entertainment Software Ratings Board (ESRB) was established to regulate game content. With the establishment of this advisory board, research about games increased, and these studies continued to look at the role of aggression in adolescent boys (Irwin & Gross, 1995) and stressed games as promoting hostile associations (Kirsh, 1998; Sherry, 2001; Kirsh, 2003). During the 1990s research began to address issues, such as gender socialization (Funk & Buchman, 1996; Dietz, 1998), the construction of self-concept (Funk, 1996), the use of games to promote cognitive skills (White, 1992; Greenfield, 1994; Basak, Boot, Voss & Kramer, 2008), and the role of games as a learning tool (Din & Calao, 2001). A large portion of the research conducted from the 1990s to today focused on the effects that games had on players, and this research utilized positivist research methods that left a gap in the scholarship which this dissertation seeks to close.

Game Studies in the Communication Field

Specific to my approach is the recognized lack of research on video games within the communication field. The National Communication Association has no recognized interest group for gaming, while the International Communication Association only added a game studies interest group in 2011. While journals accept research on video games, there is no recognized game studies journal in the field; yet there are many journals dedicated to radio, film, mass communication and television. While games have been utilized to discuss ways of thinking through theories such as language games

(Wittgenstein, 1953), researchers still do not focus on games as a text for study. This dissertation makes a step forward by showing the importance of games to the communication field by addressing video games as a communicative medium that can be studied in its own right and by explicating the structure, interactions and social practices embedded in games.

Research Questions

Despite some interdisciplinary research conducted on digital games, few scholars take into account what is being communicated through digital game design and how electronic games function as a medium of learning and meaning making in contemporary society. The goal of this study is to understand the ways that digital games work as a cultural medium and to analyze how the constructed messages in game design create and enforce modes of action and forms of knowledge. The following research questions guide this study:

- RQ 1: What is the relationship between game design and the processes of meaning making?
- RQ 2: How does game design enable and constrain player agency?
- RQ 3: What intertextual structures are present within the cultural production of digital games?
    - Sub Question: What forms of social learning occur in games as a result of these structures?

Constructs

The following section provides definitions of key constructs: 1) games, 2) digital games, 3) game design, and 4) cultural production. Defining these key terms establishes a specific set of parameters from which to conduct this study.

Games

Because scholars, such as Wittgenstein (1953) and Sutton-Smith (1971), have noted the difficulty in defining what a game is, I will rely on Juul's (2005) formal parameters for a game. While various scholars define games, Parlett (1999) warns that the word "game" is utilized to describe so many things that it has become a slippery lexicon with a wide ranging application to various fields. To ground this research and to limit the slippery nature of the definitions of games, I base my definition of games on Juul's (2005) game model. Formulated from six features (italicized in the definition), he states:

> A game is a *rule*-based system with a *variable and quantifiable outcome*, where different *outcomes* are assigned different values, the player *exerts effort* in order to influence the outcome, the player feels *emotionally attached to the outcome*, and the *consequences of the activity are negotiable*.

This classic game model describes what a game is through the form of the game, the players' relation to the game, and the relationship "between the playing of the game and the rest of the world" (Juul, 2005, p. 197). These traits define the parameters of classic games that account for games like *Manacala* and poker as well as *Magic the Gathering* and *Dungeons & Dragons*. Juul (2005) argues that the vast majority of things called games can be found in his six features, Salen and Zimmerman (2004) further claim that the properties that "define games in one media also define it in another" (p. 86).

However, while the properties that define games remain the same, digital technologies modify the definition by adding to game experiences through design.

Digital Games

While the previous definition outlines games, digital games offer new experiences for players. Unlike traditional games, computers now manage the rules of a game, and "this gives video games more flexibility, allowing for rules more complex than humans can handle; freeing the player(s) from having to enforce the rules" (Juul, 2005, pp. 53-53). Digital games allow players to interact with the game without knowing the rules from the outset, allowing players to explore the environment and discover how the game operates along the way. Juul (2005) argues that "the non-physical nature of video games means that player effort can work in new ways" (p. 54). Players now control numerous elements of a game not possible in traditional games that allow for vast areas of a game map to be explored and stored in the game rather than retained in the player's head. Salen and Zimmerman (2004) place these two activities under the title of information manipulation, in which digital game design makes use of data and player manipulation in ways that differ from traditional games.

Digital games also manage the outcomes and consequences of play and create a larger network of players that traditional games are unable to do. Traditional games rely on the observation of players or referees to determine the outcomes of a situation, for digital games computers manage these at levels not directly observable by humans. For example, in professional sports, there are multiple time and score keepers, referees, etc.; however, Salen and Zimmerman (2004) assert that digital formats automate these complex systems and therefore facilitate intricate systems for the player. Additionally,

the outcomes in digital games have changed, a win or lose outcome is not always presented. By not describing elements and strategies as better than others, the game player can valorize and attach meaning to different outcomes. For example, *The Sims* illustrates how players valorize a game relationship or a new couch and strive to attain these rather than the defeat of an opponent. Finally, while traditional games are often bound in time and space, digital games can often exist for years and span multiple continents, a process that is encouraged by communication technologies (Salen & Zimmerman, 2004). The addition of these new experiences pushes researchers to understand the ways that game design, or the medium of digital games, have not only changed, but how they now influence players.

Game Design

To situate and explain game design for this dissertation, I utilize Juul (2005) to explain the fundamentals of rule structures and rely on Sicart (2008) to show how the ontological position of rules and mechanics function, and integrate Salen and Zimmermans' (2005) insights to show how meaning evolves from game design. Juul (2005) locates the design of games within the formal elements of rules. According to Juul (2005), "rules describe what players can and cannot do, and what should happen in response to player action" (p. 54-56). Rules dictate what a player can do in a game at a given context; they guide the input of players and direct the feedback from the game system. The actions players take produce a varying state machine within the game. State machines are models of action in which an initial state is acted upon through input; that is, through this input, the initial state is changed and an output is formed. A game state is the current context, the structure of the game and the way that the player is currently

positioned within the makeup of the game. The varying changes that can occur in a state machine produce a game tree, that is, the possible variations that an initial state offers. For example, in a game of tic-tac-toe, a player starts with a possibility of nine moves, which produces nine new potential game states for the second player and where each new state is representative of all nine possible locations of an X. The changes in game states produce the challenges for the player to overcome; the placement of the X will present a location challenge for the O player. Challenges are "the situations in which the outcome desired by the player requires an effort to accomplish" (Sicart, 2008, n.a.). Through the engagement with rule structures, players are able to develop a varying set of skills to overcome challenges and are able to engage with games to varying degrees. While rules place constraints on player interactions, game mechanics establish parameters under which players engage rules.

Sicart (2008) argues that game mechanics are the "methods invoked by agents, designed for interaction with the game state" (Para. 6). An example of game mechanics is the process of jumping over a Koopa in *Mario Brothers* or the throwing of a football in *Tecmo Bowl*. Situating this definition within object oriented ontology, he asserts that an analysis of games does not rely on humans to understand agency within games because mechanics are available to both artificial and human agents. Methods in this definition refer to "the mechanisms an object has for accessing data within another object," while a mechanic is the interaction invoked by or the way that an agent engages with a game state as constrained by rules (Sicart, 2008, n.a.). A mechanic is a verb in the game, to run or jump, and the method is the way a player takes action. Game mechanics are thus "discreet units that can be… analyzed and put in relation to others," and the mapping

between game mechanics and input procedures can inform scholars about player agency (Sicart, 2008, n.a.). The rules and mechanics, or what I will call the structure of a game, constrain the meaning of games through what is allowed and how players are directed to engage with this rule-constructed world.

Video games construct complex worlds that host a variety of unseen rules and programming codes that most players will never encounter or think about; however, this information must be communicated to players in meaningful ways. According to Salen and Zimmerman (2005), "design is the process by which a designer creates a context to be encountered by a participant, from which meaning emerges" (p. 62). Games are designed for the various contexts that "players can inhabit or explore, and manipulate these contexts through their play" (Salen & Zimmerman, 2005, p. 62). In order for players to understand the contexts that they are in, players' actions must have a perceivable outcome that can be communicated to them, and they must be able to observe their interactions with the game. In other words, there needs to be a system of feedback in games, so that actions and progress are meaningful and perceivable for players in the game (McGonigal, 2011). If a player presses down on a control pad to avoid an object, s/he must be able to see the character duck. Additionally, the relationship of these actions and outcomes must have an impact within the context to the game; specifically, the actions of the player must mean something within the larger game structure. The act of ducking creates a player understand that they can continue progressing in the game if they avoid the object. Games are designed as a system, "a group of interacting, interrelated, or interdependent elements," of multiple interactions that form a complex whole (Sale & Zimmerman, 2005, p. 66). Utilizing the aforementioned scholars, I define

game design as the context in which players encounter rule structures, and meaning emerges from the structures of interaction and feedback that players receive within that system.

Cultural Production

For the purpose of this dissertation project, I adapt the concepts found in Bourdieu's (1993) discussion on cultural production. Cultural production is a form of intertextuality that takes into consideration a work—forms of art or literature—and the producers of this work; it is thus an understanding of culture and its related products. The broad articulation of this concept serves as a framework for Bourdieu to analyze "the set of social conditions of the production, circulation and consumption of symbolic goods" (Johnson, 1993, p. 9). Bourdieu developed this approach to anthropological and sociological research as a way to break away from the limitations of purely phenomenological or social scientific projects as a way to study how forms of power are simultaneously inscribed by social contexts and reinscribed by the agents within the context. Power in this research refers to the relationships between cultural power as associated to economic wealth, and economic and political power associated with cultural wealth that helps to create ruling classes (Bourdieu, 1993, p. 101). Bourdieu (1993) states that "the network of objective relations between positions subtends and orients the strategies which the occupants of the different positions implement in their struggle to defend or improve their positions (i.e. their position-taking), strategies which depend for their force and form on the position each agent occupies in the power relations" (p. 30). The larger analysis of cultural production is broken down into *field*, *habitus* and *capital* as a way to address the networks, orientations and forces that he is interested in studying.

The concepts of field, *habitus* and capital help me to examine the ways structures, agents and actions work together to position forms of power in society and in games as well. The field is a relatively autonomous social formation that is structurally homologus to other fields and its structures are "determined by the relations between the positions agents occupy in the field" (Johnson, 1993, p. 6). It is the multi-dimensional space of agents and their position that hosts the interplay of *habitus* and the distributed forms of capital; it is the context in which individuals interact in and articulate forms of social knowledge. My dissertation research situates the agents of analysis as the players of a game for each of the selected games. Fields are thus sites of symbolic struggle, where individuals strategize to produce cultural goods, the value of goods depends on the relevant institutions and cultural communities that construct a value, a process that gives the producer "the right to impose one's symbolic goods on the social field and entails the complicity of the subjects" in that field (Lash, 1993, p. 198). For the purpose of this project the field of interests is the environments of the analyzed games.

In social life as well as in games, values are articulated in forms of capital which consists of monetary or economic capital; the forms of capital that are not reducible to economic worth such as accumulated prestige, academic knowledge or recognition are called symbolic capital and competencies, that is learned dispositions or cultural knowledge situated as cultural capital. I examine the forms of capital as developing from within the games and speculate about how they might extend outside of them. The interplay of these forms of capital and the struggle to accumulate more of these creates distinctions between the institutions and individuals who produce these forms of capital that is a resource that "consistently yields power" for those who play the game (Calhoun,

1993, p. 69). The final term, *habitus*, is the durable "set of dispositions which generate practices and perceptions," that are transposable to a range of fields, including games, and that incorporate the social conditions of a game field (Johnson, 1993, p.5).

Habitus is the learned understanding of social interactions and the encouraged modes of actions that players have access to within a game field. These three concepts interrelate and recognize that an agent's or a player's capital is itself the product of the *habitus.* Additionally " the "field embodies the *habitus* of the agents who have operated in that field," and locates the relationship of capital and *habitus* within the specific logic of a given field (Postone, LiPuma & Calhoun, 1993, p. 6). For Bourdieu, power is always used to constitute the intertextual relationships of these three concepts, it is a fundamental component of his theory and is "understood as a steering mechanism and a general social capacity" for analysis (Calhoun, 1993, p. 64). Following this process, I analyze the guiding logics of a game, and the intersecting relationships of power in which a game's construction is embedded in order to understand that ways dominant modes of meaning making occur for game players.

Method of Analysis

To research digital games, I utilized Bourdieu's (1977) theory of practice to produce a textual analysis of video games. The theory of practice considers the structural elements of a field, as well as the socially constructed forms of knowledge and action within the field. Bourdieu's concepts of *habitus*, field, and capital ground this approach and enable my analysis of their developed and intersecting relationships. In order to explicate and uncover these concepts within electronic games, I identify the ways that games teach players to play them through Gee's (2007) concept of sandbox tutorials and

Frasca's (2007) notion of game play. This initial analysis situates the entrance of the game player into the chosen game fields. While Bourdieu analyzed media texts such as TV and Journalism, he did not address electronic games; this project will extend his theory to the medium of electronic games and examine these games as a text.

My textual analysis approaches a game as a material product of a culture, an object that individuals (game players) utilize to understand and make sense of the world. Game texts are communication processes and products from which individuals make meaning, and they provide "traces of a socially constructed reality, which may be understood by considering the… issues that reside in texts as they are considered within a particular cultural context" (Brennen, 2013, p. 193). Textual analysis of games thus asks researchers to conduct a deep reading of the visible elements of a text as well as the hidden messages that lay beneath the text's surface. Through this process researchers can uncover the systems of power and normative modes of meaning making in games that reinforce dominant positions about social knowledge. Because this dissertation project is an interpretive-critical analysis, textual approaches constitute my approach to this study. Although textual analysis is applied to the narrative elements of games, my dissertation incorporates other lenses for analyzing games as outlined in chapter 3.

To situate the study on video games, I integrate Bogost's concept of unit operations into textual analysis. Bogost (2006) argues for a method of criticism through the discovery and exploration of unit operations at work in texts, what he calls unit analysis. For Bogost (2006), "unit operations are modes of meaning-making that privilege discrete, disconnected actions over deterministic, progressive systems" (p. 3). He breaks away from the notion of system operations, asserting that there is a shift away

from the static form of systems as a whole and a move toward the discrete, referential and dynamic units that make up systems like games. A unit is the building block that constructs the system and may range from people or businesses to symbols and emotions. Finally, he describes operations as a "process that takes one or more inputs and performs a transformation on it;" this is the means by which something executes a purposeful action (p. 7). Unit operations thus articulate the ways in which players' interactions with game design are connected and experienced as a system of interrelated actions.

My analysis integrates the previous theories to form a five-part analysis of the chosen video games. I utilize Gee and Frasca to situate my analysis and my experiences with the games by playing thorough each game several times. I then code the ways meaning making occurs within the game through Consalvo and Dunttons' (2006) discussion of game objects. Following this I analyze players' orientations to gameplay through a coding of the designed interfaces that structure ways of playing. Next I utilize unit operations to show how players come to understand what is valued in the game though their use of objects and interfaces in order to analyze the important modes of interaction that lead to players' progress or their significant movements in the game. Finally, I code the ways in which intertextual meanings overlap across the game and relate to the social context outside of the game field.

Overview of Dissertation

This dissertation is divided into six chapters. Chapter 1 provides the rationale, the research questions, and the framework for this study. Chapter 2 develops the relevant literature related to the topics of: play, games, medium theory, culture production and learning. Chapter 3 integrates unit analysis and procedural rhetoric with structuration

theory as a lens to study the digital games. Chapter 4 analyzes the game *FarmVille 2*. Chapter 5 analyzes the game *Elder Scrolls IV: Skyrim*. Chapter 6 brings the study to a close with a summary of the findings, discussion of the contributions and summarizes the theoretical and methodological implications of the dissertation.

CHAPTER 2: LITERATURE REVIEW

In this literature review, I locate games as a process of communication within symbolic interactionism. Ontologically symbolic interactionists (myself included), understand that there is no objective or inherent meaning embedded in texts, but that meanings are socially constructed through interaction. From this perspective, the development of human culture and knowledge occurs through the development of symbolic systems as processes of meaning making. According to Blumer (1986), this process rests on three assumptions. First, individuals act toward things on the basis of the meaning that the thing has for them; individuals thus ascribe meaning to things. Individuals define what they should pay attention to and how they should act toward these symbolic elements, allowing them to focus on and isolate the salient aspects of the world (Wood, 1992). Second, the meaning of things derives from the social interactions that one has with other individuals; meaning creation comes from the symbols and social systems that shape the ways people act toward things. To discover the ways in which meaning is created with symbols, it is both important to understand that individuals and their social structures depend on one another. Third, meanings are developed and modified through interpretive processes; meaning is not set in stone or predetermined, but it is continually adjusted. Because there are multiple interacting perspectives in a society, there will be multiple reference groups with whom one identifies. Therefore meanings change from social group to social group (Shibutani, 1955). From this perspective, meaning is a socially constructed product of the definitions we ascribe to things, the social interactions and changing structures that create these meaning, and the symbolic processes that guide one's actions toward these things.

The construction of meaning through symbolic interaction is a formative process in human development, a process that also occurs in games. According to Burke (2002), humans are the symbol using and misusing animal; the utilization of symbols and the ability to understand what those symbols mean is what separates humans from other animals. Tomasello (2000) argues that foundational to this symbol using is the joint attentional scene or the ability of humans to understand members of a similar species as intentional agents, to share sensory experiences, and to create social orientations. Summarizing these insights on human interaction and paralleling Blumer's three features, Murray (2006) describes the process of a joint attentional scene as a formative element of human history that is foundational in the development of symbolic communication (p. 188). First, there is a shared focus on external objects, individuals are aware of them and learn how to act toward them; second, there is a witnessed intentionality among participants within a context; and third, there is a symbolic communication among participants, allowing them to adjust to the interaction. Utilizing infants as an example, Murray (2006) explains that when a child and an adult have a common interest, such as eating, they may exchange sounds or looks that each recognizes their intent and connection to the activity of eating. The symbolic imitations that develop from these interactions are preverbal activities that lead to the acquisition of language. The development of the joint attentional scene is a forerunner to social and cognitive development, a process that bridges symbolic action with language use and games.

Games and the joint attentional scene share the processes of organizing behavior and providing a context for practice by using language to synchronize expectations and performance. Extending Tomasello (2000), the formation of the joint attentional scene

parallels the core aspects of games, "to treat abstract representations consistently, behave according to negotiated rules, and limits one's actions and attentions to" game activities (Murray, 2006, p. 190). Part of the pleasure of games is the ability of players to match language to action and to be able to organize the matching of action to language, making games as much about communication as they are about action (Murray, 2006). Games are participatory in the development of language; they are a means of "coevolving our minds and our media, of assimilating new technologies of inscription through exploration of their capacity for symbolic representation, and of preserving and expanding symbolic expression by making symbolic systems the explicit focus of activity" (Murray, 2006, p. 197). Language is both developed through games as a linguistic practice, allowing for individuals to acquire language, and is a game itself, where rules delineate an appropriate use of words and individuals must participate in the activity of exchange if they are to create meaning (Wittgenstein, 2009). The dual position of games as a medium of linguistic and cultural development, as well as a producer of cultural elements itself marks games as important textual artifacts for communication analysis.

McLuhan positions games as an extension of the social being, as forms or models of a culture. In both ancient and literate societies "games are dramatic models of our psychological lives....They are collective and popular art forms with strict conventions" (McLuhan, 1964, p. 237). Games are an extension of the social organization, they teach individuals how to adjust to social demands, and what rules to follow because "when cultures change, so do games" (McLuhan, 1964, p. 239). Because games are a prominent communication medium in society as a whole, they reveal a great deal about the people that play them and express cultural values through the way games are played. For

example, baseball served as an image of industrial society with its fixed positions and specialized tasks, while football represents contemporary society with its non-positional play and fragmented tasks (McLuhan, 1964). Games are a reflection of the dominant culture and serve as cultural and textual artifacts that embody the larger shifts in a society.

To understand the influence of digital games within a culture, the next section will cover the literature on electronic games and position their significance within contemporary society. To accomplish this, I first review the literature of play and games in order to formalize my definition of them and to ground the focus of this research. Following this, I integrate the research on medium theory and cultural production to add Bourdieu's concepts of capital, field, and *habitus*. This literature review thus provides theoretical and methodological grounding for explaining the structures and implications of digital games as significant cultural and textual artifacts that are constituted through communication.

Definition of Play

Play is a formative element in games, and as research indicates, there are significant connections between human interactions and how the activity of play influences culture. Anthropologist Johan Huizinga (1950) conceptualized the study of play and culture by showing how the acts of play separate real activities into a sanctioned space that he deems the "magic circle." According to this process, play is sacred, much like religion. According to Huizinga (1950), play "adorns life, amplifies it and to that extent is necessary both for the individual—as a life function—and for society by reason of the meaning it contains, its significance, its expressive value, its spiritual and social

associations" (p. 9). Play holds a considerable role in the development of a culture. Play theorist Brian Sutton-Smith (1997) expands Huizinga's analysis through an examination of the ways play functions across cultures, splitting play into seven rhetoric's of progress, fate, power, identity, imaginary, the self and frivolity. For Sutton-Smith, play is not limited to a magic circle but is capable of socializing individuals, providing insights into the self and even actualizing brain activity. Play is a formative activity in the construction of the individual, language, society, and culture. To understand how play functions, Frasca (2007) offers a synthesis of the term.

Utilizing the key theorists in field of play research, Ludologist Gonzalo Frasca (2007) articulates a concise definition of play. He asserts:

> Play is to somebody an engaging activity in which the player believes to have active participation and interprets it as constraining her immediate future to a set of probable scenarios, all of which she is willing to tolerate. (p. 50)

To clarify this definition, Frasca breaks it down into six parts and identifies the functions of each element. Four of these clarify, but, I argue, two limit his definition. First, Frasca asserts that play is a subjective experience; it is a state of mind that frames an activity and cannot be studied through objective means. He utilizes the game of golf to illustrate how a professional player may engage this sport as a means to an end, as work; whereas other individuals label this activity as play. Second, play is engaging. Rather than utilizing the term *fun*, since play can often be boring, play is a source of pleasure; "it holds the player's attention…the player is focused on the activity and they care about it" (pp. 252-53). Third, play engages individuals with material objects and immaterial concepts as an activity; play involves a participant and an orientation to something. In this sense "play is

interesting because of the player's ability to affect the system through her performance," and thus individuals believe that they are active agents and their participation is a reflection of this (Frasca, p. 52). Gamblers can have special rituals or processes of throwing dice in Craps. While probability theory suggests that there is only a chance of rolling specific numbers, players behave as though they have some control over these outcomes; it is thus sufficient for individuals to believe that they are in control of their participation.

The fourth element of this definition illustrates the transference of play activity to interactions outside moments of play. Utilizing Salen and Zimmerman's (2004) interdisciplinary concept that players behave with a varying amount of freedom within a set of rigid structures, Frasca (2007) claims that "players are willing to tolerate all of the probable consequences" of one's activity or inactivity as they play (p. 53). The central point here is that intended and unintended outcomes exist for players; while some of these may be material, the missing of the ball, others might be cognitive, learning to catch the ball better. This argument challenges Huizinga's claim that play only occurs in a "Magic Circle," that play is contained within a sacred circle where few elements transfer outside of this safe space. Frasca's claim, much like Sutton-Smith (1997) and Juul (2005), is that players understand their situation and the potential scenarios that might arise from play, and they are aware that play has consequences in and outside of the activity. On a cognitive level, Frasca (2007) notes that "while players cannot predict what will happen…she can create a mental model of the possible consequences that she can foresee," allowing her to limit the consequences of her actions between the boundaries she is willing to tolerate (p. 56). The activity of play promotes transference of

consequences as well as physical and mental skills outside of the moment, an attribute that is important to the use of schema and configurative learning. The final aspect is a limitation to the definition of play.

The final element of Frasca's (2007) definition emphasizes that play limits the player's future. According to Frasca (2007), a "player's pleasure is not based on enjoying the complete freedom rather the constrained future scenarios offered by play" (p. 58). The reliance on games to define play presents a structural context that limits players' options. I argue, following Sutton-Smith, that play is open rather than constraining, and that openness allows for the freedom of individuals to play different roles and to unlock new future scenarios. Play allows for unpredictability within a session and can produce pleasurable experiences that are both probable and unforeseen. It is Sutton-Smith's (1997) "view that variability is the key to play, and that structurally play is characterized by quirkiness, redundancy, and flexibility" (p. 229). Play can actualize brain connections and behavior; it can form unrealistic optimism/egocentricity/reactivity; it can occasionally transfer skills from play to everyday; it promotes adaptability; and it acts as feedback to reinforce players' adaption in the real world. Beyond these biological analogies, play has metacommunicative characteristics, performance stylizations, intensifications, enactive subjectivity and structural dialectics that give play a heteroglossia of possible meanings. Play, for Sutton-Smith (1997), is a fluid process that is "a part of the multiple broad symbolic systems—political, religious, social, and educational—through which we construct the meaning of the cultures in which we live" (p. 9).While Frasca (2007) asserts that there are more characteristics of play than a definition can provide, his definition locates play as "part of a controlled reality" (Frasca,

2007, p. 57), I argue that play does not facilitate a controlled reality, rather it constructs meaning in a variety of ways that are important to understanding the experiences of play. In sum, play allows for a variability of interactions to occur during a play session, all interactions have implications in and outside of the session, and by participating the players tolerate the consequences of their interactions.

Play is therefore an engaging activity in which the player believes s/he is an active/ adaptive participant who can interpret and tolerate a heteroglossia of meanings within scenarios that can open her/his immediate future to new experiences. This modification emphasizes that play is not a limiting process, but opens new experiences that allow for the unseen or hidden to become present to players. This definition adapts a Derridian perspective where play makes use of a non-center to create new meanings that are not obvious in the text. Play is the activity used by players to engage and interact, while games are the formal elements and structures that guide play.

Definition of Games

To address the formal elements of games as separate from play, I present various definitions of games, clarify several definitions and then propose the construction of a game framework to delineate a set of parameters for games that are useful for this project. According to Callois (1961), games are essentially a free or voluntary activity, separate from time and space, uncertain, unproductive and governed by rules (p. 10-11). For Suits (1978), to play a game is to participate in an activity that elicits a specific state of affairs through utilizing permitted rules, that allow for specific means that make such an activity possible (p. 34). According to Sutton-Smith (1971) games are an exercise of voluntary control systems between opposing forces and are confined by the rules and procedures

that produce a disequilibrial outcome (p. 7). Salen and Zimmerman (2004) describe games as rule defined systems in which players engage in an artificial conflict that results in quantifiable outcomes (p. 96). Central to these definitions are rules, outcomes, voluntary activities, goals/conflicts and systems/procedures.

To connect the previous traits together, Juul (2005) offers a new definition of games by clarifying previous definitions. He states:

> A game is a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are negotiable. (p. 36)

The division of the definition of a game separates its formal elements into: rules and variable/ quantifiable outcomes; the player and the game, consisting of the value attached to possible outcomes; player effort and attachment to outcomes; and the game and outside world, consisting of the negotiable consequences. Juul (2005) asserts that a system centric definition relies on the formula of games, and this can be useful for analysis. However, the system centric approach usually focuses on the outcomes of the game, "by doing so, we get a retrospectively, teleological approach to games that can only identify them once they are over, without telling us much about what happens during the game itself" (Frasca, 2007, p. 67). Additionally, this approach does not fully account for the variable experiences that occur in games or games that do not offer a "win" as an outcome. To expand on this definition, Frasca (2007) argues that games are an iterative process where players negotiate between the game and their interactions with it, "between the system and the player. A definition of games should reflect this

relationship too" (p. 67). To integrate Frasca's iterative process and to expand on Juul's definition, I describe six central elements starting with rules.

Rules

A fundamental element in the development and understanding of games structure is the system of *rules,* which can be broken down into five general structures of discussion parameters, state machines, challenges, gameplay and skill development. First, rules are not subject to discussion because they form the parameters of the game and "players accept the rules because they make the game activity possible" (Juul, 2005, p. 38). Rules are the formal design system of the game, working in several ways to construct and constrain or enable a player's engagement and should be sufficiently clear so that players know what they can and cannot do and what happens in response to player action. They not only define the processes of a game but what players can do in the game, how characters can be manipulated or performed or how objects might function in this space; rules thus "define what can be done within the boundaries of a" game space (Frasca, 2007, p. 118). While traditional games abide by rules, the player is charged with enforcing them, but in digital games the computer system manages the rules. The digital management of rules allows for larger flexibility and complexity to rule systems that humans cannot handle, "freeing the player(s) from having to enforce the rules, and allowing for games where the player does not know the rules from the outset" (pp. 53-54). By automating complex rules computers develop intricate systems that promote player interactions which are more formally guided by the system than the player (Salen & Zimmerman, 2004). In games like *Civilization V,* where a player tries to build an empire, players can play horizontally, so that they interact with the system and explore

the rules, or they may play vertically, so that they understand simple rules one at a time and progressively move to complex interactions (Gee, 2007). Digital games therefore allow players to engage the system and to focus on ways of managing their interactions rather than focusing on how and when to enforce rules.

A second element of rules for games is that they resemble a state machine, a system that has an initial state, which accepts a specific amount of input, changes its state in response to the input based on an established function of rules, and then produces an output (Juul, 2005, p. 60). A game permits different states depending on the inputs that it receives. For example, a chess board starts off with an initial set of moves, by moving a pawn the player changes the state of the game and the available future moves. A state machine can be visualized by a game tree of possibilities from moment to moment, a player's input leads to a variety of other states and each state then leads to other game states. When a player makes a move in chess, the board is open to a variety of other moves (states) for the opponent, "to play a game [then] is to interact with the state machine and to explore the game tree" (Juul, 2005, p. 56). In digital games, the state machine and game tree are present, yet they are not always clear. In complex games like *Halo: Combat Evolved*, players understand that if they kill an enemy they may progress, but how they manage that task or how the enemy will respond is not always clear. Formally, rules set the parameters of the game and allow players to explore the various states and possibilities that can come from them.

To engage the player, rules also create a specific set of challenges for them to overcome; challenges should not limit but open up a player's options within the game. In order to reach an outcome, players must expend energy, and a specific or positive

outcome typically requires more expenditure —"it is harder to win than to lose" (Juul, 2005, p. 56). To work toward this outcome players must face and overcome challenges that appear progressively, such as in *Tetris* where the game becomes increasingly difficult because as a player moves through the levels the game becomes progressively harder by increasing the speed of the game. Players also overcome challenges through emergence; emergent games feature a small amount of rules that combine to create a complex game tree with a large number of variations—much like a nonlinear chain reaction—and are the primary structure for most digital games. However, Juul's (2005) focus on the generative effect of emergence by the game structure limits the analysis of interactions between player and game, and "for this reason, one must take great care when assigning value to such systems" (Bogost, 2006, p. 150). Bogost (2006) further argues that a formalist commitment to emergence raises concerns about the degrees of control present in computer systems, one should therefore look to the operations and ways players "choose to execute game functions within the system's constraints," how it is that players overcome the presented challenges (pp. 150-151). An analysis of digital games should emphasize how rules combine to create challenges, how these rule systems constrain and enable interactions, and how players manage their gameplay within the rules to overcome the presented challenges.

Whereas rules provide the various challenges for players, gameplay refers to the ways players overcome the presented challenges and/ or engage in the dynamic aspect of a game design. According to Juul (2005), while it is possible to outline all of the potential choices of a game, it is impossible to prescribe in what ways these choices will be made. Gameplay is the "interaction between the rules and the player's attempt at playing the

game as well as possible" (p. 56). While gameplay is an emergent process that allows flexibility and unpredictability of player interaction, it is nonetheless regulated by the rules and the system rather than the player. Frasca (2007) clarifies gameplay through what he calls "playformance," which consists of the actions and behaviors of the player in a game session. It is both the mental and physical performances of the player and part of how players understand the gameplay by experiencing the interactions and design of the game. Playformance and gameplay therefore account for the ways that one uses or performs in the game and how this performance creates an interpretation or understanding of game design. To understand games, players must play through them and experience their structure, developing a sense of how to perform in this space that is as important as learning to how to overcome challenges.

Juul (2005) further argues that rules create a learning experience in which the player improves her skills or specific repertoire and methods for overcoming the presented challenges. Games involve expanding, refining and improving one's skills by increasing challenges or the construction of specific challenges; that is, the more difficult the challenge the more developed the skills need to be. Games are not passive activities, they actively influence the player, and "this is, I think, a quite overlooked aspect of playing games, that *a game changes the player that plays it*" (Juul, 2005, p. 96). The progression and emergence of challenges throughout gameplay allow simple rules to be become unpredictable and highly complex, "and thus a game can be easy to learn but difficult to master" (Juul, 2005, p. 120). While rules provide the formal parameters of a game, allowing for the development of state machines and game trees and present challenges that may be worked through in a variety of ways, rules are only understood

through a player's performance within them. As such, the relationship between rules and gameplay offer a variety of learning opportunities, means for skill development and contexts for problem solving.

Variable and Quantifiable Outcome

The second element within the formal structure of games involves the variable and quantifiable outcomes that are a result of the players' interactions. The formal rule based structure allows for variable outcomes, "this is straightforward, but for a game to work as a game *activity*, the game must also match the skills of the player(s)" (Juul, 2005, p. 38). While a game may start off as a challenge, such as tic-tac-toe, player(s) eventually learn a perfect strategy that results in a draw every time. Variability is therefore essential in a game to promote activity outside the formal structures of a game; a game must be able to offer different endings or situations if it is to remain challenging. Additionally, games need a goal oriented outcome that is quantifiable. Games offer a clear winner, often through scores, to assert an unambiguous outcome of the activity. These two elements are connected to Frasca's (2007) concepts of grade rules that emphasize how the game system measures play activity through gains and losses and goal rules, the subset of grade rules which prescribes the states that lead to victory and defeat. Juul (2005) and Frasca's (2007) therefore agree that games provide a goal, one that is suitable to player skill, and that the outcome of this goal can be measured.

While the formulaic qualities of the rules present an objective understanding of outcomes, that is, what a win is and that winning is better than losing, digital games persist to a longer extent and complicate "objective outcomes" through multiple feedback

systems. In digital games final outcomes may never be reached, where only temporary outcomes are presented as gameplay continues even when a player logs out.

Games like *Guild Wars* exist though years of game play and do not offer an "end game" or conclusion. Rather, other outcomes such as achievement scores, weapon score or player level enables a social ranking that is constantly changing and higher rankings are perpetually being sought after. *Guild Wars* therefore provides multiple ways "to discretely and objectively quantify its player's performances in a way that they can get standard social recognition similar to the one that they would get in a winning/losing situation" (Frasca, 2007, p.60). Digital games are therefore not reliant on a grand outcome, but they recognize players' success through the measurement of individual performance and then assign a social status to this measurement through feedback systems. Feedback is "a system that tells players how close they are to achieving a goal" and can come "from points, levels, a score or a progress bar;" this provides motivation to keep playing (McGonigal, 2011, p. 21). The measurement and outcome of gameplayare not determined just at the end of the game, but are interconnected to the players' performance throughout the game session as games provide a synchronous form of status building and performance measurement. The variability and outcomes of a digital game are therefore interconnected to the social construction of meaning, through the interactions with the game design and the player, rather than dependent on the quantifiable or objective "end" of the game.

Valorization, Effort and Attachment to Outcome

To clarify the ways that player(s) and the game interact, Juul (2005) describes *valorization of outcome*, player *effort* and player *attachment to the outcome*. Outcomes

vary across games; games like *Scrabble* are determined by points, whereas games such as poker are determined by card ordering. In both instances some outcomes are better than others. In the case of poker, a royal flush is valorized as better than two-pair; players are aware of these differences and valorize specific outcomes over others. Digital open-ended games change this model by removing specific goals, by not describing possible outcomes as better than others they leave outcome assessment in the hands of a community or the individual. In a game like *Little Big Plant*, a player can create a level for other players and the valorization of an outcome results not from finishing the level, but from the number of plays this level receives, or the responses to the level by the player community.

Additionally, players influence the state of the game through an exertion of effort and so they are partly responsible for the final game state. In digital games player effort works in new ways as that can control vast amounts of resources that they would not normally be able to do. The ability to manage the game material and information in new ways allows for a complex and dynamic manipulation of game content that traditional games cannot offer (Salen & Zimmerman, 2004). Again, in *Little Big Plant*, players are able to design their own levels or game challenges and connect gameplay effort to developing a complex level or to the time spent manipulating the game rather than overcoming a rule driven challenge. Finally, attachment to outcome is not always tied to invested energy as a player may feel happy when s/he wins a game of chance, and it is a less formal element of a game as it depends on a player's attitude toward the game. Because digital games offer different outcomes or personally invented states, attachment to outcomes can significantly vary. In sum, digital games extend the possibilities of

valued-laden results through the investments of players' energy, which creates attachments to varied outcomes. While rules and quantifiable outcomes point to the formal boundaries of a game, the value, effort and attachment orient players toward that structure. Games not only provide a structure and player orientation, but they connect players to larger social worlds.

For Juul (2005), games can have *optionally* assigned external factors because they allow players to negotiate certain consequences. For example, Gin Rummy is played as a win or lose card game however it is additionally utilized as a betting game to gain or lose real money. Furthermore, while Boxing has *non-negotiable* consequences, such as physical injury, there is an accepted convention in many games that recognizes consequences as more or less consequential of the game rules. For a game to offer negotiable consequences the "operations or moves need to be harmless as participants should be able to openly or implicitly discuss the range of permissible reactions that a game can elicit" (Juul, 2005, p. 41). In the contextual sphere of the game, players can consciously negotiate additional values to achieve certain outcomes. I agree that one can add external caveats or systems to games, such as betting in a fantasy sports league, but this is not the only way in which game elements transfer to social practices outside of the game.

Games are social and cultural systems that transfer meaning between game and non-game spaces. Turkle (2005) notes that digital games are currently a primary tool for identity development and Bogost (2011) argues that digital games are not simple forms of entertainment, but they are interwoven into daily experiences. Kline, Dyer-Witheford and Peuter (2003) further illustrate how digital games are a significant industry in a global

economy. Games are therefore not played without real world consequences since they are tied into the social fabric of society, even Juul (2005) recognizes that as players play the game, the game changes the player. Games are fundamentally a social process since the concepts of winning and losing a game make no sense to an individual who is not socialized to understanding the social status attached to these concepts. Games are thus "always framed through social concepts" (Frasca, 2007, p. 71) and are a unique communicative spheres that are linked to social and community experience (Salen & Zimmerman, 2004). Digital games are a social system that affects players in expected and unexpected ways, and while players may negotiate further implications, there are larger individual and social functions that should be recognized within its definition.

Digital Games

Juul's (2005) definition is an insightful and productive approach for studying and understanding games as a social medium. Following the previous definitions, I define games as an effort based activity, in which rules provide a set of parameters for player performance that is measured through feedback systems and valued through variable goals, quantified outcomes and social status; and the consequences are not limited to the game but transform the players' lived experiences. Games are thus part of (non)material, social, and cognitive processes that depend on the interactive communication of player(s) within that system. This definition accounts for the structural parameters of a game while addressing communicative process of digital game activities, the interaction between players and digital games, and the valued outcomes that digital games provide in larger social systems. This definition brings together the materiality of "classic" games with the immateriality of digital games. The definition of play and games also allows for an

understanding of play as outside games, games as a structure outside play, and shows how they function together.

Medium Theory and Cultural Production

Videogames are a medium with multiple uses ranging from music production to job training, they pervade contemporary society and are integrated into industrial cultures just as much as writing and images are (Bogost, 2011). Artistic games like *Braid* "say something about how an experience of the world works, how it feels to experience or to be subjected to some sort of situation," while exercise games like *Wario Ware* help people not only burn calories but create social rituals (Bogost, 2011, p. 14). Videogames infuse our daily lives and are a prominent technology of contemporary society. Technology "influences us, of course, changing how we perceive, conceive of, and interact with our world. McLuhan calls a medium an *extension of ourselves* for just this reason: it structures and informs our understanding and behavior" (Bogost, 2011, p. 2). Videogames are a technology that influences society and extends the ways individuals interact with and understand the world around them. Games and digital games are a cultural product, they are developed, produced and consumed within a culture and therefore influence and are influenced by the culture of their production. To situate games as medium of cultural influence, I first discuss the formative ideas of medium ecology, then ground this within symbolic interactionism and finally address issues of learning and games.

Medium Theory

Medium theory notes that the development of written language, as a technology, affects cognition and communication of the individuals, societies and cultures that use

them. The development of literacy from orality had a dramatic function on individual memories, for without writing we would not think as we do, and "more than any other single invention, writing has transformed human consciousness" (Ong, 1993, p. 78). The development of a written language aids in memory and stores knowledge in new ways. Because the written language takes time and training to complete, writing encourages a development of longitudinal and linear thought. Writing is a formalized activity that abides by the socially constructed rules of the context; while contexts may change and with it the rules, it remains an external process that relies on tools and equipment (Lyotard, 1984). However, technologies are not simply exterior aids, but they transform the interior consciousness and enhance human life. By practicing with a technology individuals interiorize it, they make the tool a part of themselves, and they learn to manipulate the tool. The "shaping of a tool to oneself, learning a technological skill…can enrich the human psyche," and because it is an intellectual activity, writing has shaped consciousness (Ong, 1993, p. 83). The written language influences the cognitive abilities of individuals, a process that Ong formalizes in a study of printed text.

Written language and the advancement of a printed text formalized literacy, and in the process structured society (McLuhan, 1962, 1964; Steiner, 1967; Eisenstein, 1980; Ong, 1993). Print transformed writing into a manufactured process of tidy, perfectly regular, justified on the right side, mass produced texts that are guided by ruled borders; formally turning words into units or things and giving prominence to the visual over the oral. The reading of a printed work requires individuals to become adept at decoding the text and to understand a structure of language that was not inherent to oral cultures (Saenger, 2000). Reading demands a "sustained, unbroken attention to a single, static

object," it requires an ability to maintain concentration over long periods of time and develop mental discipline (Carr, 2010, p.64). The formulaic and uniform information within a book encourages and extends individual educational processes and formations of thought by creating formalized learning that can occur outside of a classroom.

The mass production of books also formalized intellectual processes by creating large scale quantifications of knowledge and exhaustive dictionaries that legislate the 'correctness' of language (Carr, 2000; Ong, 1993). McLuhan (1962) calls this the making of the typographic man/woman, where lineal and sequential habits are so thoroughly ingrained in culture, through the visual homogenizing of experience that social interactions and cognition has forever changed. The typographic extension has socially "brought in nationalism, industrialism, mass markets and universal literacy and education" (McLuhan, 1964, p. 172). Every institution is saturated with the influence of print oriented continuity, uniformity, specialization and repeatability that it is perceivable in the ways that individuals think. The book, "as the first teaching machine" and mass produced commodity, emphasized the visual faculty, encouraging a fixed point of view for uniform and continuous thought, thus formalizing learning and cognition (McLuhan, 1964, p. 174). Carr (2010) asserts that the development of the book had a radical change on society's cognitive abilities; it changed the way that people think, how they thought about ideas and how information applied to their experiences outside the book. The visual focus of the book extended the senses of the reader, where the structure and continuity of a book focused the activity of reading on a closed system and created a linear reflection process, books not only encourage a uniform and mass produced set of information but they encourage a uniform way of thinking.

The development of orality, literacy and print created fundamental shifts in social and cognitive developments, the current evolutions in media have produced another shift in what McLuhan called "the electronic age." The electrical age has brought about a fragmentation of society, disrupting the uniformity of the print era and creating a global environment that is full of a cast of participants, or what McLuhan and Nevitt (1972) called "the global theater" (p. 18). There is a modus operandi shift from the singular interaction and face-to-face communication that defined typographic societies, to a multi-attentional, collaborative-authoring and fragmented epoch. While McLuhan addressed the impact media has on society, he overlooked the influence and control that society has on the media. According to Flayhan (2005), "one of the major flaws in McLuhan's later work on electronic media is that he completely overlooks questions of power, domination, capitalism, drive for profit, and human agency in his theorizing" (p. 244). Horrocks (2003) further notes that "nothing that McLuhan said could adequately articulate the relationship between media, power and commerce" (p. 195). To address these oversights in McLuhan's work, postmodern and postrstructural theorist discuss the global theater in terms of a nomadic mentality, where contemporary life is characterized by the movement across a space, not located or tied to the specialization of state powers, but characterized by the movement and assemblage of social power structures (Deleuze & Guattari, 2004).

The development of the global theater, the fragmented electronic world in which industrialized nations exist and the intersecting forms of social power has created the postmodern condition. Lyotard (1984) describes the postmodern condition as the incredulity toward metarnarratives, the ever-present and perpetual questioning of Truths

and Facts. The rapid introduction of electronic information and the rise of information based societies have disrupted the grand ideas and stability of previous epochs and assert that meanings are always deferred or simulated. With the influx of representational media and visual imagery reality is a reproduction, a simulation of a model that has no origin in reality (Poster, 2001, p.69). Individuals are thus connected to and understand the world through a spectacle, where relationships are developed not through personal interaction but through the mediated image and experience (Debord, 1967). Power relations and ideological structures are not asserted over individuals but function through scenarios of power in which images, representations and forms of language are imbued with power relations that form multiple modes of domination (Baudrillard, 1994).

While the postmodern condition attempts to unravel the differed structures of power that exist across social systems and mediums, this process often misses the analysis of social relations. Steinkuehler (2004) notes that the world is more interconnected, networked, and collaborative than McLuhan's global village could have accounted for. The electronic spread of images, video and visual symbols, across much of the globe, is a social force that requires users to understand not only how to read these systems, but also how to participate in and react to them (Bennett, Kendall & McDougall, 2011). Because digital games are fundamentally a social experience that allow for large scale collaborative participation to occur, players are able to teach each other how to operate in the game and allow participants to reshape the social world around them (Ondrewjka, 2008). The postmodern analysis of shifts in media have however often focused on the production-consumption practices of consumers seduced by the mediated image and do not actually address the more basic modes of power relations located in the

social contexts of a medium. Calhoun (1993) suggests that "in order to mount more than a superficial claim to a 'postmodern condition' one would need to show a basic change in the modes of coordinating action and/or in the basic relational organization of fields and the relation of *habitus* and fields" (p. 83). To address the ways that contemporary large scale digital societies constitute actors and action, research should turn its attention to the ways in which digital fields, including games, work as social processes and practices.

Cultural production

While games are an immersive and interactive (Ryan, 2003) environment which rely on player choice and engagement to produce meaning and that embody the fragmentation of the postmodern condition, they are simultaneously constrained by the computer systems that create their existence. Digital games provide an environment in which players can engage the rules and challenges they want to and move in and out of meaningful or individual significant contexts. Gee (2003) locates this process in "situated cognition," where meaning making is tied to a body through the experiences one has and the knowledge that develops form those experiences. Within digital games this situated cognition or process of meaning making is developed through the player and the computer systems which provide the game design. Murray (1997) asserts that computers are: 1) an encyclopedic medium that has the capacity to represent enormous quantities of information in digital form; 2) spatial environments that allow individuals to move through the presented space; 3) participatory environments that permit individuals to interact with the content; and 4) a procedural system that executes a series of rules to produce a behavior. Murray's (1997) four tenants and the definition of digital games show that games cannot be sufficiently understood objectively, through an analysis of the

medium itself or subjectively through personal experiences with it, and so research must manage to include both of these two polemics. To accomplish this, I integrate Bourdieu's approach to cultural products that recognizes the internal and external constraints on the construction of a text through the concepts of capital, field and *habitus*.

Capital

Within a given context agents compete to occupy different positions of power through their control of and struggle over economic, symbolic and social capital. First, economic capital is the accumulated wealth that an individual has. Second, because the "interest and resources at stake in" a context "are not always material, and competition among agents is not always directly calculated," symbolic capital functions as a marker of wealth (Johnson, 1993, p. 7). Symbolic capital is the degree of accumulated prestige or honor "founded on a dialectic of knowledge (*connaissance*) and recognition (*reconnaissance*)" (Johnson, 1993, p. 7). Symbolic capital legitimizes economic capital by naturalizing economic income, such as when a high priced suit is worn to a wedding, marking the wealth of the wearer as well as naturalizing the high priced nature of weddings and legitimizes the expenditure of such events. Third, cultural capital is a form of knowledge, or a set of dispositions that equip a social agent to use cultural codes effectively. Cultural capital consists of the dispositions and practices "of domination by legitimizing certain practices as 'naturally' superior to others and by making these practices seem superior even to those who do not participate, who are thus led, through a process of inculcation, to see their own practices as inferior and to exclude themselves from legitimate practices" (Johnson, 1993, p. 24). Cultural capital is acquired through education, family, social groups and social institutions, and it creates distinctions among

classes as to how they can have access or participate in social contexts. Cultural capital constructs the practices that are appropriate for bourgeois weddings. While the forms of capital can be exchanged for each other, such as the symbolic capital of a professor is exchanged for economic capital, they are not reducible to each other making capital, and its legitimating practices, unequally distributed across social classes.

The development of forms of capital can be seen in the institutional production of knowledge such as in art or literacy. According to Gee (2003), "literacy and thinking—two things that, at first sight, seem to be "mental" achievements—are in reality also primarily social and cultural achievements" (p. 5) A person never just reads or thinks in general but she/he does these activities in some way, according to Wittgenstein (2009), in which there is no "private" language nor is there a "private mind." The meanings created and ascribed to works are dependent on the interrelating position between agents and the socially constructed association of capital to that work. An individual that accumulates a large amount of cultural capital through their family name utilizes this to attend an Ivy League art program; thus exchanging cultural for economic capital. Educational structures, as one example, therefore create and reinforce the dispositions or literacy on how to appreciate, produce and consume works of art, thereby creating a symbolic system that re-inscribes cultural capital. Because literacy is caught up in the social relations of other agents in these fields, the way to think about or to value specific works depends upon the institutions of knowledge that construct the field.

Field

A field is "any social formation [that] is structured by way of a hierarchically organized series of fields (the economic field, the educational field, the political field, the

cultural field, etc), each defined as a structured space with its own laws of functioning and its own relations of force independent of those of politics and the economy" (Johnson, 1993, p. 6). Fields are autonomous structures that exist by relation of the positions that different agents occupy within it and the set of social position it holds with other fields. A field is foremost situated within the production of culture. For Bourdieu:

> the role of culture in the reproduction of social structures, or the ways in which unequal power relations, [are] unrecognized as such and thus accepted as legitimate, are embedded in the systems of classification used to describe and discuss everyday life—as well as cultural practices—and in the ways of perceiving reality that are taken for granted by members of society (Johnson, 1993, p. 2).

Bourdieu, much like Foucault, understood that forms of power are spread across systems and often concealed in accepted views and understandings of the world. However, this "diffuse or symbolic power is closely intertwined with—but not reducible to—economic and political power, and thus serves a legitimizing function" (Johnson , 1993, p. 2). Social structures are thus hierarchically organized through the relations and forces of the agents in field and do not solely apply to discursive structures.

Habitus

To enter into a field, an agent must have the ability and knowledge to do so, Bourdieu explains this process through the concept of *habitus*. Johnson (1993) notes that "to enter a field (the philosophical field, the scientific field, etc.), to play the game, that game, one must possess the *habitus* which predisposes one to enter that field, that game,

and not another. One must also posses at least a minimum amount of knowledge, or skill, or 'talent' to be accepted as a legitimate player. Formally, *habitus* is the system of:

> durable, transposable *dispositions*, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them. [They are o]bjectively "regulated" and "regular" without being in any way the product of obedience to rules, that can be collectively orchestrated without being the product of the organizing action of a conductor (Bourdieu, 1977, p. 72).

Habitus consists of the practices and learned dispositions of individuals, the rules for interaction that generate, reproduce and maintain the social conditions that they adherent to. *Habitus* is a person's developed knowledge of how to act in a context as understood through the relations between groups, systems of disposition and objective structures that create practice of interaction which can be activated across different fields. To further clarify this concept, Bourdieu connects *habitus* to schemas.

Schemas are an organizing characteristic that provide a framework for addressing similar structures. Schemas help to organize information and action in memory, they adapt and accommodate to the totality of a perceived experiences and are flexible/fluid structures with variety and variability that may embed themselves in or overlap each other (Bartlett, 1932; Paiget, 1952; Rummelhart, Smolensky, McGlelland & Hinton, 1987). Schemas are cognitive processes of assimilation and accommodation that both structure the information from a person's experience and are structured by the experience

itself (Piaget, 1952; Fisk & Taylor, 1984; Mandler, 1985). In sum, schemas are interactive cognitive structures that represent the configuration of input data and the organization of this information as a means to guide a networked knowledge and action across similar context. Bourdieu describes the *habitus* as schemas that are generative and durable "(inscribed in the social construction of the self) and transposable (from one field to another), function[ing] on an unconscious plane," and taking place within "the structured space of possibilities (defined by the intersection of material conditions and fields of operations)" (Postone, LiPuma & Calhoun, 1993, p. 4). *Habitus* is the configuration of information, from a social structure into a flexible network of human knowledge—that parallel the structures of a game—that guides an individual's actions within a similar set of contexts while simultaneously inscribing the self into the social structures and reaffirming the conditions of the structures in the process.

To explore the implications of *habitus*, Bourdieu focuses on how educational systems reproduce linguistic domination (Collins, 1993). Bourdieu and Passeron (1977) argue that educational systems create linguistic deficits, where upper-class students are taught a *habitus* of speaking in formal and intellectual ways while lower-class students are taught to shun formal language in favor of more process oriented language. Collins (1993) further claims that school systems reinforce dominant forms of language acquisition that unify a linguistic standard and create a "system of discursive, social, and economic domination" that creates a class-divided society (pp. 120-121). Language, and its appropriate use within a given context, is an embodied or learned mechanism that dictates the ways individuals should talk according to social hierarchies. Pedagogical messages and academic systems are thus designed to structure and assimilate a

knowledge of practice through school experiences that create and transform one's *habitus*; a process that "underlies the structuring of all subsequent experiences (e.g. the reception and assimilation of the messages of the culture industry or work experiences)" (Bourdieu, 1977, p. 87). Institutions, such as education, law of government make certain a specific cultivated disposition toward a work by imbuing agents with a *habitus* toward the understanding, conception or perception of the work (Bourdieu, 1993, p. 121). For example, academies claim monopoly over the consecration of past artworks, over the production and circulation of artistic works and sanction those teachers that are able to explain and provide the language to talk about the works of others and what value they might have (Bourdieu, 1993, p. 124). This project extends the construction of *habitus* to uncover the ways modes of acting that are present in game structures.

Extending Habitus

Fisk extends the discussion on *habitus* to address how everyday environments are part of the construction of social relations through a dialogue on cognition. Opposing the traditional conceptualizations of cognition, as focused on mental processes of memory or perception that guide the encoding, storing and retrieving of information into a memory, Fisk (1992) argues that these conceptions often overlook the spatial or social systems in which individuals and cognition are situated. Mead (1934), Vygotsky (1978) and Hutchins and Klausen (1998) similarly argue that social experiences, in which individuals are only one part, shape knowledge structures and make it necessary to understand the social systems in which cognition is developed and distributed. Fisk (1992) asserts that *habitus* is located within a social space that has a dynamic relationship between dominant social orders, their materialization of behaviors and individuals' dispositions towards

those that have different positions within that space (p. 163). Each symbol, action, or context is participatory in the process of developing information; it is thus not only our thought processes or our actions that orient *habitus*, but the design of the environment around us (Norman, 2007). Physical institutions that conserve and sanction symbolic goods, such as museums, function to legitimate and inform a *habitus* through the material world. For Fisk, this process is not limited to the state apparatuses, such as museums or schools, but exists within all the lived context an individual has.

To extend the analysis of space and the interactions with the environment, I focused on the medium of electronic games. Fisk (1992) stresses the body and the settings that surround that body, arguing that the body is socially situated in time and space through the practices of habituation (p. 162). The social space of one's interaction serves as a materialized social structure that inscribes the body with practices of larger social orders. Because cognition is a complex social phenomena, "observed in everyday practice [where it] is distributed—stretched over, not divided among—mind, body, activity and culturally organized settings (which include other actors)," physical environments are not the only spaces that can inscribe practices of habituation (Lave, 1988, p.10). Steinkuehler (2004) recognizes that in games, cognition is "part of the intact activity systems in which the individual participates—systems which necessarily include social relationships, physical and temporal contexts, symbolic and material resources (such as artifacts and tools), and historical change" (p. 3). Games are a field of cultural production, like the social space that Fisk addresses, that maintain forms of power through the struggle over capital and have the ability to inscribe a *habitus* onto the players.

Summary

Following Gee's (2003) claim, I addressed and examined the (internal and external) "design of the game, about the game as a complex system of interrelated parts meant to engage and even manipulate the player in certain ways" (Gee, 2003, p.35). This review of literature lays the foundation for this investigation of the textual construction and presentation of electronic game design as a medium of cultural production. The review of the concepts of joint attentional scene, play, electronic games, medium theory, cultural production, capital, field and *habitus* inform the methodological choices of this study, as explained in the following chapter.

CHAPTER 3: METHOD

The following chapter explains my method for the study of electronic games as a communication text. Chapter 3 develops the method of textual interpretation by 1) listing my general research questions; 2) giving a brief explanation of my research standpoint; 3) providing a synopsis of the games I studied; 4) offering an overview of the method; and 5) describing the levels of analysis to be used for each game.

Research Questions

For the purpose of this project I have three general research questions.

RQ 1: What is the relationship between game design and the processes of meaning making?

RQ 2: How does game design enable and constrain player agency?

RQ 3: What intertextual structures are present within the cultural production of digital games?

Sub Question: What forms of social learning occur in games as a result of these structures?

Researcher Standpoint

My interest in digital games was first developed in childhood and has carried into my academic tenure. My hometown arcade was a primary learning space for my social development as it promoted an awareness of social practices and knowledge building. With few local attractions, the arcade was a center point for youth culture and was a public space that had a significant impact on my awareness of cultural norms. Age lines were marked by sections of the arcade, indicating appropriateness of games from an institutional standpoint and reinforced through social boundaries of grade levels and

seniority rights to specific games. The arcade was further organized by gendered rooms, where boys often had many games to play and focused on a wide range of activities, while girls were often relegated to Midway style games such as Skeeball. These norms extended to other arcades as similar social and institutional practices were present across the penny and nickel arcade and additional arcades located in my hometown. The interactions with games further influenced my understanding of monetary budgeting, since some games cost more than others; my patience by having to wait for my turn to play a popular game; and my humility because many individuals were better at playing these games than I. In 1995 I began to play *Ultima Online* on a home PC and started exchanging digital game commodities with other players across the globe, a process that brought the social and commercial potential of games to my awareness. Video games have not only played a significant role in my social upbringing, but they have been an ever-present part of my education. I first learned multiplication through the game *Number Munchers,* grammar through *Mavis Beacon,* and I played games such as *Oregon Trail* 1&2, *Amazon Trail,* and *Where in the World is Carmen San Diego,* among others, throughout my elementary and middle school years.

In 2008 I bridged my interests in video games and my academic research in my thesis on the trilogy *Halo: Combat Evolved*. From 2005 to 2008 I played the game with fifteen other individuals and met weekly to play locally networked games: allowing for a competition against all fifteen friends. Through the experiences with this group and with the *Halo* trilogy, I conducted a narrative analysis of the game. Utilizing my research from these thesis project and my experience with other games, I have further integrated the concepts from game design into my teaching strategies by creating game like activities,

framing syllabi in the form of leveling up and bringing video games into the classroom for analysis. My uses and interactions with video games influence my position as a researcher and my understanding of game narratives as serious academic texts for analysis. It is with this project, and a focus on the structural elements of game design, that I seek to extend my understanding of games for this dissertation.

Having grown up during the rise of the video game industry and experienced the cultures that developed in response to them, I have never known a world without electronic games. From my standpoint electronic games are as much a part of the contemporary moment as cars or the printed book were for previous generations. However, because games need someone to play them, I understand that video games cannot be understood through objective analyses alone. Following from Bourdieu's (1977) theory of practice which critiques objective theories that focus on life as materially constituted and subjective theories that emphasize the social constitution of life, my approach to this dissertation is to learn more about how the social aspects of life are intertwined with material interactions and to become aware of the symbolic relations between these fields.

I thus integrate theoretical and methodological research to analyze the objects and symbols as well as the structures and interactions that generate meaning for digital game players. Moreover, I try to explain how players are imbedded in and reinforce structures of power within the *field* or the structured space that positions their *habitus* in each game (Postone, LiPuma & Calhoun, 1993, p. 4). I used methodological and theoretical lenses to code the data that I discovered while engaging with the object, *habitus* and field of the games, a process that generated a significant and compelling set

of arguments to explain how electronic games create their own forms of *capital* or forms of power. The goal of this chapter is to extend previous methods as a means for explaining the meaning and implications of electronic game procedures, processes, and their influences on the people and cultures that play them.

Synopsis of Games

Games are complex communication texts that provide a rich resource for analysis. Following from the previous discussions on symbolic interaction, I understand that communication is a complex and involved process of symbol using and misusing that enables people to construct meaning(s). In the application to video games, I argue that the interaction with the symbolic and structural elements of games is significant to the process of constructing meaning for games and the players who play them. While games are composed of many elements, such as narratives, emotional responses, or play styles, this research specifically examined the imbedded objects, systems of interaction, feedback and rules that guided players' interactions and meaning making. To explore these overlapping and intersecting elements, I studied two specific types of games that have unique game designs, are highly popular and have produced the highest profit of all time. This selection also offers a range of genres/game designs to analyze the ways that rules guide game players' interactions. For the purpose of this study, I chose *FarmVille 2* as a macro level game structure, and *Elder Scrolls IV: Skyrim* as a micro level game structure. A brief synopsis of the games follows here.

FarmVille 2

FarmVille 2 is the most popular game on Facebook and is a unique social networking game that transformed the laborious work of farming into an Internet

sensation for players. With the world wide decline of farming, due in part to the globalized takeover of GMO's by Monsanto and the DuPont pesticide market, farming currently is a technological and economically sophisticated job that has distanced many people from partaking in its practice. While the United States Department of Agriculture notes that local farmers markets have increased from 2,000 to 8,000 over the past seventeen years, farmland has declined by five-percent every ten years and has doubled in price per acre during the past ten years (Schober, 2009). With the detached connection to farming practices and the national decrease in farming, it is intriguing that a social game based on this labor practice would become so popular. *FarmVille 2* marks a simulated connection to an agricultural practice that is physically declining, yet has a digital rise in popularity. I am thus interested in studying *FarmVille 2* as a game to explain what it is about the game structure that has made digital farming so compelling and what this communicates to players about labor practices and processes of production and consumption.

FarmVille was established in 2008 by Zynga, a highly profitable company that specializes in social networking games. Founded in 2007 by Mark Pincus, Zynga hosts ten of the most popular games on Facebook, and the top game from 2008-2012 was *FarmVille* with over thirty million farmers (Zynga.com, 2011). In September of 2012, Zynga released *FarmVille 2* and in the first thirty days after the games' release there were more than sixty-million players, with nine-million playing daily (Glasser, 2012). The next closest application to this game on Facebook is *Instagram* with thirty-five million users, making Zynga four times as successful as the next company (Microsoft) hosting

applications on Facebook (Appdata.com, October 25, 2012). The popularity of this game comes from its straight forward presentation of game design and rules.

FarmVille 2 is a strategy-based game that utilizes simple farming practices to engage players in the game structure. In strategy games, players generally have a god's eye view or macro level perspective, looking down over the game space like a map, and the game features different interfaces to guide the players (Apperlay, 2006). Much like a legend would guide the understanding of a map, several legends or interfaces offer a range of information for players to manage their farms. These games often contain a great deal of information about layout possibilities for a city or farm design, control over what resources gets used and what does not, and the ways for development of land features. Through trial and error and incremental developments of building structures or crops, players develop an expert understanding of relationships between the controllable structures and the represented outcome values of these interactions (Myers, 2002). *FarmVille 2* is unique within this genre of games in that many games focus on building up resources, a process that emphasizes city or national development that is often regulated by citizen needs; there is little recognition of labor practices or citizen concerns within this game. For example in *FarmVille 2*, players receive a small plot of land and they then must learn how to manage this land through planting crops, harvesting them, tilling the soil and then planting the crops again. Harvested crops yield rewards and produce commodities that can then be sold. Interfaces then give details to players about how different crops have varying harvesting times and space requirements. Players must learn to use this information to manage the structures of space and time efficiently if they are to achieve their desired outcomes. The desired outcomes, which often take the form

of monetary rewards, more land, building structures, or new plants, come from player concerns since there are no other citizens or mitigating factors for them to consider, and the only other interactions come from other *FarmVille 2* players.

Hosted on Facebook, *FarmVille 2* utilizes social networking to expand the popularity of the game. Players start the game with a limited plot of land and play the game without having to interact with other people. Because this kind of solo farming takes longer to develop a farm, Zynga thus encourages players to fertilize a friend's farms, share resources and trade gifts with other people playing the game. It is through this structure that *FarmVille 2* builds social interaction into the game. Social interaction is significant for this game text because players are not only encouraged to become social, but actually depend upon socialization to farm efficiently. Farms can only grow if players have other friends watching their farm; this required social interaction is a fundamental rule structure that many games do not have but one that is essential to this game.

Beyond the social requirements of the game, *FarmVille 2* utilizes micro-transactions to spur farm growth, a design integrated into other Zynga games. The game utilizes reward points and income, called Farm Bucks, to build a farm. Although these rewards are required to expand each player's farm, they are limited in quantity. While managing crops wisely and helping friends allows players to work for their land, players also can buy digital goods with real cash in order to skip the actual labor of playing the game. These micro-transactions, small frequent payments of a national currency for digital goods, allow players to progress toward their goal quickly. Additionally, players can earn rewards from playing one of the other twenty-one other games that Zynga has linked through Facebook, by watching sponsored ads and even applying for a credit card

that uses Farm Bucks as a points back system. I present additional detail about of these elements in the analysis section since this synopsis here is only a general overview of *FarmVille 2*.

Elder Scrolls V: Skyrim

Because *FarmVille 2* offers little in the way of world development, I contrast it to *Skyrim* which provides a high-fantasy world unlike any other game. High-fantasy tales of ogres, trolls, ghosts and dragons have appeared in Japanese, Chinese, European and South American lore time and time again. While these mystical creatures constitute the *Elder Scrolls* world, their existence in *Skyrim* does not adhere to the linear *Beowulf* or *Lord of the Rings* antagonist/ protagonist relationship. Rather it develops a miner or blacksmith apprenticeship motif. In this game players can spend more than two-hundred hours scouring the digital landscape for objects that they can smelt into new objects. This practice has additionally transferred into developing patches and modifications for the game, giving players the ability to forge new parts and follow new paths within the game structure. While modification practices are common in games such as *Minecraft, Portal* or *Little Big Plant*, *Skyrim* is unique in that it bridges the simulated practices of trade skills with digital trade skills of computer programming. Unlike *Farmville 2*, this game is created for individual play, there is no overarching social connecting that ties the game together; instead a community is developed around the production of these modifications and relevant information about world exploration.

The core attraction to *Skyrim* is in the detailed environment construction that makes it one of the most expansive fantasy based games available. *Skyrim* is an action role-playing game (RPG) that allows player interaction through a first or third-person

perspective. In *Skyrim* the players are either looking through their characters' eyes or over the characters' shoulder, making the players less in charge of the overall structure of game space and more in control of their individual actions. The actions of players in RPSs are performative, requiring players to engage in specific non-trivial motions that allow them to overcome a challenge (Apperley, 2006, p. 16). In action games players must learn to manage their character rather than selecting a desired location for the crop. Myers (2003) notes that RPGs are intertextual in nature, players depend on a context that is larger than the game itself and "many players…collectively form a discourse that assigns value to the various" elements of the game (Apperley, 2006, p. 17). RPGs thus form a social interaction through the extensions of the game via blogs, websites or fan forums that reinforce the game context, imbedded values and the community. *Skyrim* gives players a direct perception of their interactions in a game, allowing them to engage in the broad game space as well as the larger cultural environment of the *Elder Scrolls* high-fantasy community.

Set in a high fantasy-motif, *Skyrim* situates players in a world of magic and dragons with epic quests and rewards. The main storyline revolves around the players' efforts to defeat a Dragon, named Alduin, which is prophesized to destroy the world. The players go on various quests, at the bequest of an assortment of factions in the game, to find out more about Aldiun, rebel camps and ruling factions. Through these quests individuals refine character and player skills, acquire new items and earn various rewards. It is the variation in these quests and the expansive environment that makes *Skyrim* a compelling game for my study. While the game offers a dynamic core narrative, the player is not forced to follow this story. Rather, players can chart creative paths to

complete side quests, explore hidden crypts and navigate the landscape in a variety of ways. According to Schiesel (2011), *Skyrim* is modern fantasy game of the highest order, covering vast areas of swamps, plains and mountains with teeming towns filled with merchants, kings or beggars. *Skyrim* offers a massive playground that allows players to go wherever and do whatever across an open-world with no defined way of engaging with the game. It is the epic scale and detail of this open-world game that has made *Skyrim* one of the most successful games of all time.

Released in November of 2011, *Elder Scrolls V: Skyrim* is a critically acclaimed game, praised as "one of the best role-playing games yet produced" (Onyett, 2011, p. 3). The game, according to Sessler (2011), is "a monumental achievement from top to bottom… [and] stands as one of the greatest interactive experiences ever created" (p.1). Popular reviews of the game constantly give *Skyrim* a 9.4 out of 10 with a significant number of critics giving it a perfect score. Metacritic averaged the game's score of 96 out of 100 and tied it with four other games as one of the best games of all time. In the first two days of game sales more than three million units were sold earning the publishing company Bethesda $450 million dollars in global sales (Schreier, 2011). Due to the popularity of the game, it has been awarded the Role Playing Game (RPG) of the year and overall game of the year from appraisals of sixteen different video game publications.

Method of Textual Analysis

Choosing a method of interpretive analysis for this dissertation was a challenge since the method has to be broad enough to cover the objective elements of the games design and yet specific enough to capture and explain the processes of meaning making by the player. Current research on digital games often utilizes established methods of

research and then overlays them onto the study of digital games. Narrative, literary, and dramatic criticisms are routinely applied to study games and while these approaches provide valuable insights, their analyses often overlook the ludic or game structures that form games (Eskelinen, 2004; Bogost, 2007, 2008). However, analyses that address the rules and structures of game usually overlook the cultural and hegemonic implications of games. Game structure or ludic analyses often stress the differences between digital games and other texts (Aarseth, 2004), interactivity (Strickland, 2005), how games persuade (Bogost, 2007) or how game structures can develop collaboration (McGonnigal, 2011). These approaches are not devoid of critical implications and discussion, but they are not the focus of my research. Additionally, much of the research on class and power within games looks at the larger political economy of game production (Dyer-Witheford 1999; de Peuter & Dyer-Witheford, 2009) and the development of in-game market economies (Castronova, 2006). This current research tends to emphasize the political economy and monetary modes of capital present in games rather than how rules and game structures influence player interaction. Research must therefore bridge the analysis of design structures with an interpretive-critical insight to address the socially constructed interactions and modes of meaning making that occur in digital games.

Digital Games and Computer Systems

To address the concerns of previous research as well as the broad and specific elements of electronic games, I first recognize that electronic games are imbedded in computer systems. Computers and games are not totalizing, overly deterministic and progressive systems guided by grand narrative rules. Rather, computers are composed of individual building blocks of a system that privileges the discrete, disconnected elements

of material, conceptual and interactive structures. According to Murray (2007), digital environments have four core components (procedural, participatory, spatial, and encyclopedic) making them a rule based system that engages actors in new and endless spaces. Neither computers nor electronic games can be simplified by deterministic rules alone and should thus be explained through the components that create their interacting structure. Prioritizing the concept of procedurality, defined as the ability to execute a set of rules, Bogost (2006) asserts that computers embody "the practice of encapsulating real-world behaviors into programmed representations," allowing computer programs to formalize behavior through represented procedures (p. 13). Computers thus enforce ways of interacting through represented rules; in video games a male player may not be allowed to wear a dress and through the coded game rules on gender the players learn quickly that men do not wear dresses. Proceduralism shows how "arguments are embedded in the rules of the game, and how the rules are expressed, communicated to and understood by the player" (Sicart, 2011, Para. 13). Through the use of rules, games contain embedded values, and it is through the players' understanding of these rules that games produce knowledge and meaning. It is only when the interrelating parts of a computer or game are configured or brought together (Aarseth, 2004), through procedural rules, that meaningful units are created (See Figure A).

Developed as a method of criticism that analyzes key features of video games, unit analysis shows that any medium can be read as a configurative system or a procedural expression of what it means to be human. Bogost (2006) focuses on the ways unit operations inform, change or participate in human activity; how games reflect what it means to be human and how forms of human expression work; and what practices and

processes persuade individuals to think or act in specific ways. An analysis of unit operations allows critics to understand how games "could be considered the ultimate punctuation of the Foucauldian geneology of power, an active practice of the relationship between power and discipline" (Bogost, 2006, p. 168). Bogost's (2006) analysis explicates the ways rules or processes, within all texts, discipline the understanding of players about what it means to be human. While Bogost focuses on the ways games inform players on how to be human and how to understand social norms, I argue that games also extend this process. Referring back to the joint attentional scene, where systems of objects orient interactions as well as produce new ones, games not only participate in informing individuals, but they also create systems of meaning to which humans orient themselves. I used unit analysis in this dissertation to understand how rules and game structures interact to inform players about systems of power or normative ways of acting, while also identifying the specific elements that create new modes of meaning making.

Overview of Methodology

To address the research on digital games, I analyzed the integration of the player into the game, the structural parameters of the game, the textual elements of game design and rules and the social positioning of these games. I recognize that rules and material structures are not the only elements of a game and that forms of play or practices are equally important (Sicart, 2011). In my analysis I used a coding scheme derived from Frasca's (2007) understanding of gameplay and Gee's (2005) notion of tutorials. Second, drawing from the concepts of Hall's (1975) and Barthes' (1977a; 1977b) approaches to textual analysis, I utilized structural coding elements to identify the objects within the

game through an adaptation of Consalvo and Duntton's (2006) levels of game study. First, players are oriented toward games through the objects and actions that they are able to access. These objects and actions construct the symbolic structure in which the players are embedded (See Symbolic Structures figure). I code the objects, such as a sword or hat, and the actions available to the player within these objects, such as stab or wear. Additionally, players come to understand what is valued in the game though significant objects and the modes of interaction that produce and promote forms of *capital*; be it form of monetary capital, social capital or the accumulation of prestige and cultural capital or the accumulation of knowledge, competence or dispositions (See Unit Procedures and Interactions Figure). Second, players orient their gameplay and interactions in the game through ways of playing. The players' habits are thus addressed through the available interactions with game interfaces (See Game Interfaces Figure). In this way, I code the sets of information that tell players how to plow a plot of land or how to trade objects in the game. Third, I utilize unit operations to identify and analyze the important modes of interaction that lead to player progress or significant moments in the game. Players understand the game as a unit of operation itself, constructed as the game field. Elements of this field are then integrated into the larger context and into the social interaction that the game field promotes (See Social Meaning Figure). Finally, throughout the previous three levels I code the ways in which players' interactions overlap across the game and the external social context of the game as a way to develop and address the intertextual hegemonies and forms of power that develop throughout the games. While separated into various levels, the four spheres ultimately overlap and inform each other to create the elements of game design in which the player is situated (See Player Integration

Figure). Figure G illustrates how these four spheres influence each other and how players work through these spheres, which is the basis for understanding a textual analysis of game design.

Levels of Analysis

This research analyzed the ways digital game design guides players' actions through fields of meaning making. To discuss the ways symbolic elements of game design, game dynamics and rule structures intersect with player actions, I focused on 1) the ways in which players enter into the game structure; 2) the objects presented in a game and the interfaces that orient players toward the use of these objects; 3) the interactions of units within the game that create patterns of action and forms of capital; and 4) the intertextual references that help to articulate these forms of social meaning.

Level 1: Entering the Game

To approach this analysis, I integrated Frasca's (2007) concept of playformance and Gee's (2007) concept of sandbox learning. To understand a text, be it a building, book or game, one needs to live inside of it, to interpret it by doing (Benjamin, 1936). An individual learns how a shoe feels only by walking in it, to understand a digital game it must be played. Frasca (2007) asserts that individuals understand an object though their performance with or in that object. For example, in *Batman: Arkham City*, a player must travel around a large game space, and it is only by playing the game that the use of Batman's cape to glide becomes the predominant mode of travel. Following this premise, Frasca (2007) argues that meaning arises through the interactions that "forbid, encourage or discourage" performances within a game and notes that signs are not just interpreted through visual senses but through the ways that one performs with it (Frasca, 2007, pp.

139-145). While Batman might be able to glide around the city, the game often puts the players in the confines of a sewer thus limiting this ability and changing the way the gameplay occurs. The design of the game structure can guide "and encourage certain performances over others and this is why…games can be used for communication and persuasion" (Frasca, 2007, p. 140). The playing through of a game orients the player to the game structures, exposes the ways a game's design guides the players and serves as an entrance into the exploration of the ways game rules work. To ground this process, I utilized Gee's (2007) description of sandbox walkthroughs to explain the processes players use to understand the games design.

Gee (2007) offers three levels of sandbox walkthroughs that teach players how to play the game. Sandboxes put players into situations that simulate the real thing but minimize the risk of danger, thus allowing them to learn while still feeling a sense of authenticity and accomplishment (Gee, 2007, p. 39). Game tutorials allow the players to understand the game, to develop a level of competence in the game space and then to progress into more complicated processes on their own. The first level of sandbox, according to Gee (2007), is the "fish tank," this is a "stripped down version of the game" that allows players to understand the basic relationships at work (p. 39). Rather than throwing a player into the complex world all at once, this entry level system allows players to engage with basic variables of the game, negotiate these interactions and then build on them to address complex challenges later on. In the second level sandbox, called the "supervised sandbox," players assess their own styles of play and become proactive in their decision making. While the game still provides boundaries and guidance, the player is in control of their actions as the game presents advanced challenges to them. The third

sandbox is entitled “unsupervised sandboxes,” here the player has little guidance and is open to play a more complex version of the game. As the player progresses in the game, individuals utilize what they have learned in these tutorials to engage with the complex interactions and challenges that the game presents. By participating in the games, I seek to understand how the game’s introductory design teaches one to play, what needs to be learned to keep playing and how overt and covert goals are presented. Through this analysis I reported my orientation toward and learning of the selected games by briefly describing the sandbox tutorials that guide gameplay prior to coding the rest of the game text.

Level 2: Coding Objects and Interfaces

To analyze the values imbedded in a text, textual analysis was used to locate and code the objects or units within the selected games. I rely on Barthes’ (1977) establishment of an empirical coding of the text into *lexias* or textual signifiers to accomplish this analysis. *Lexias* are clustered in an intellectual sieve that creates the specific units of interpretation or space to observe meaning (Barthes, 1970). I used Barthe’s concept of *lexias* for my game analysis by arguing that game objects and actions are important blocks or segments of texts. For the analysis of each game, I first establish the dominant blocks or units of study. To understand the role that objects and actions play, I developed an inventory of known objects and actions that can be found, bought, taken or created and then give a list of the properties of each of these will be produced. I then coded the objects and actions into categories according to their significance and frequency. Categories consisted of: important objects, collected vs. utilized objects, value

and scarcity of objects and types of actions. I also coded the interfaces of the game design that categorize and facilitate interaction with these objects.

Following the previous discussion, my analysis addressed the ways in which meaning emerged from the *lexia* or units of interaction. According to Barthes (1977) the meanings of *lexia* are established through their connotations, associations or relations to other elements of a text. To address the ways objects in the game interrelated to each other and to the player, I identified the interfaces that the digital game design presents. Interfaces are the on-screen information presented to players and the menus or additional screens that give players control over elements of gameplay and the objects of interaction (Consalvo & Dutton, 2006, Para. 18). For example, this included health and mana bars, resource levels, menu lists that hold player items, and weapon selection menus to name a few. What is important about these interfaces is the information and choices they offer to and withhold from the players. This allowed me to answer questions related to RQ 1 such as: What game elements are left absent or what is prioritized? How are objects presented as essential? How are players directed toward objects? How do interactions with objects influence player knowledge of gameplay? How do interfaces store knowledge to allow for more complex interactions? To address the ways that game design further guides gameplay, I analyzed the interactions between the player and the chosen games.

Level 3: Coding Game Interactions

Because meaning is created between the text and the individual, structuration theory provides a basis for this analysis. The focus on a text's structure alone, on its objects and interfaces, cannot provide a detailed analysis that explains how meanings are constructed. To address this "we shall consider the structuration of the reading as more

important than the composition" (Barthes, 1977, p. 174). Structuration is the ongoing processes of agents' [players'] interactions with a social system and the reciprocal interaction of the social system with the agent [the player] (Giddens, 1979). In a film this might be a suspension of belief or a purchasing of tickets to see that film, in games a direct engagement exists so that players are able to manipulate and change the order of interactions in real time. It is thus important that critics understand how players interact with objects and interfaces if a proper system analysis is to be conducted. My analysis examined the players' interactions and the systems' interactions with the players through the following categories: limitations on interactions, changes in interactions, interaction ranges, interaction variables and naturalized or repetitive actions. These categories address the ways interactions are constrained and enabled in the game and offer insights about how covert systems influence or regulate character/object interactions (Consalvo & Dutton, 2006, para. 25-28). However, according to Consalvo and Dutton (2006), because it may not be impossible to record every possible interaction, the researcher codes or catalogues only the significant interactions presented in the game. The coding scheme for this analysis is situated within the framework of unit operations as a way to identify significant interactions.

Unit operations are formally situated in a computer mediated understanding of structuralist and poststructuralist semiotics. Formative research in semiotics (Saussure, 1959; Peirce, 1960) addressed the structural ordering and meaning of the signs in a text, whereas the particular use of a sign, *parole*, is a unit within the closed and stable structure of *langue*. Structuralism sought to understand the predictable relationship of structures based on their systematic ordering or difference from other objects. Language from this

perspective has intrinsic meaning because lexicons have a separate meaning and their ordered syntax provides a coherent structure for interpreting that meaning. Computer scholars, such as Murray (1997), Aarseth (1997) and Bogost (2006; 2008), examine the concepts of computer ordered language within games, arguing that a computer code parallels structuralist semiotics. This research recognizes that computers are a syntax of code and that the ordering words or code constructs a represented meaning. A computer code offers a system of ordered lines or *langue*, with "a finite set of instructions for accomplishing some task," and when an individual performs an operation or *parole* on this code they "transform an initial starting condition into a recognizable end condition" (Wark, 2007, par. 31). By hitting the back button on a web browser, the process of clicking the button executes a specific code and the browser is representatively moved to the previous page. However, the sedentary meaning of concepts or the singular movement of a computer code is altered by contemporary practices which "create fields of relation reliant on structure and method rather than on content to generate meaning" (Bogost, 2006, p. 27). Bogost utilizes the concept of poststructuralist movement to explain how disrupted centers of meaning shift the approach to language and to computer codes.

The poststructuralist movement challenged stable systems of meaning by identifying points of relation in a text that defer to other texts, a process that is visible in both computers and games. Unlike reading the lines of a book and referencing to another linear structure, a dictionary, to look up a term, computers hyperlink terms directly in the text. A hyperlink thus allows individuals to move around a text, jumping from concept to concept and ending up with an entirely new text, without ever returning to the original

text. Meaning is therefore developed not within the ordered structure of the text, but within the structuration of information that is configured together via the interactions across texts. Computers and digital games, much like other discursive structures, develop meaning through the "complex interrelations between the player, the actions and the world via unit operations that simultaneously embed material, functional and discursive modes of representation" (Bogost, 2008, p. 105). Because the configuration of game systems is that of interlocking units of expressive meaning rather than a structured ordering of code or syntax, I examine the connections between the game units and the rules that guide player interactions with these units.

Following Barthe's suggestion that one should conduct a slow reading through the text, I play through each game several times and follow the structuration of the text through an analysis of unit operations. Drawing from my definition of games, unit analysis consists of how the rules of a digital game enable and constrain the operations available in a game and configure ways of interacting that are guided by a feedback of outcomes. Utilizing unit analysis to accomplish this analysis, I code for: encouraged modes of interaction, designed modes of normative behavior, guided forms of agency, connected modes of action, forms of feedback, and means of collecting capital and motivations from forms of capital. This coding directs my reading of the ways that game units operate to encourage or discourage significant modes of action as a way to further answer RQ 2 and RQ 3. I recognize that players' action do not happen in a vacuum or only in specific interactions in the game. For this reason my interpretation of gaming texts extends to the broader game systems and external contexts.

Level 4: Coding the Social Meaning

Textual analysis of games moves beyond a description of how players learn or interact with a game to analyze the ways texts create and are influenced by the world and realities around us. Hall (1981) argues that cultural forms do not have an intrinsic meaning; rather they are an active product of social articulations of meaning embedded in a web of connotations and codes (Grossman, p. 157). Texts are not just the words in a newspaper but are complex symbolic entities with structural, systemic, visual and organizational features that when taken together, produce coherent meaning for those who create and respond to texts. This analysis recognizes that meaning is not manifest only in symbols and one's interactions with them, but is symbolically reflected in "the structure of values and relationships beneath the surface" of a text (Fiske & Hartley, 1978, p. 24). The symbols, units and interactions within a text create and naturalize players' knowledge inside and outside of the game structures.

Utilizing textual analysis, this dissertation explores the ways that meaning is produced and reproduced through the interactions players have with electronic game structures (Atkinson & Coffey, 2011). Hall (1981) asserts that hegemony is the process by which people are both the producers and the consumers of culture and as a result, people acquiesce to forms of social order or systems of power through support rather than through coercion. Following this premise "Bourdieu treats social life as a mutually constituting interaction of structures, dispositions, and actions whereby social structures and embodied (therefore situated) knowledge of those structures produce enduring orientations to action which, in turn, are constitutive of social structures" (Postone, LiPuma & Calhoun, 1993, p. 4). Social knowledge and individual orientations towards

action help to structure and are structured by these social practices. Through this process, sets of power relations, knowledge structures and belief systems are negotiated and stabilized, making consumers active participants in the development of a dominant form of meaning. To understand how hegemony exerts control or how it is challenged, critics must look at how forms of dominance and subordination are articulated, at "the ways in which power relations are encoded in texts and how texts exert power over us and in society. . . [and] how media texts represent and construct *knowledge, values and beliefs*… [that] endure and contribute to a stabilisation and continuity of certain meanings and messages" (Gillespie & Tonybee, 2006, p. 2). The hegemonic structuration, between the individual and the text, is part of the textual analysis I conduct in this dissertation.

To connect Hall's (1981) discussion of hegemonic process with game contexts, I explain the unit operations across the game and the intertextual references present to understand what dominant meanings are being created. I used Bourdieu's understanding of intertextuality, that "texts must be analyzed both in relation to other texts and in relation to the structure of the field and to the specific agents involved" (Johnson, 1993, p. 17). Intertextuality then addresses the ways that the player and their actions are positioned within the field of the game, as well as the ways that game fields overlap with larger social structures. Unit operations are situated as unattached elements across a game structure that may be imbedded in larger forms of meaning making. Following this I coded for interconnecting sets of meaning such as: dominant meanings, broader social structures, forms of capital that regulate player interactions, the habits that exist across the games and persistent rule structures. As Barthes notes, texts are not closed internal structures but reference and are referenced by other texts and signs, I conducted an

analysis of how the chosen games reflect this intertextuality. To address this process, I code for the ways that internal units move outside of the game and how external forms of knowledge enter the game through forms of power relations, overlapping fields, external references and persistent representations of capital. This analysis is conducted in tandem with the previous levels of analysis and is further explored in the concluding chapter as a way to compare and contrast the games and to further answer RQ 3.

Conclusion

This chapter provides an overview of the method and procedures for my textual study of game design and the ways games influence capital and *habitus*. My analysis of electronic game design examines the objects, interfaces, interactions of unit operations and the social contexts of games as a communicative text or artifact. This analysis addresses the ways games create, promote and reinforce modes of power through learned interactions. This four part analysis with be synthesized in the concluding chapter to develop the broader communicative implications that arise from this analysis.

CHAPTER 4: ANALYSIS OF *FARMVILLE 2*

As indicated in the previous chapters, games are a form of communication that create and reinforce certain versions of a socially constructed reality and are therefore significant artifacts for study. While board games such as *Life* point to the ways that social events like childhood education, college, jobs, weddings and retirement are imbedded in the construction of cultural norms, so too do digital games construct and reinforce cultural knowledge. In *FarmVille 2*, I argue that the sophisticated design of this game not only orients players to a modernist concept of technological design used to frame online interactions, but these structures also develop a cyclical process of social farming that embeds the player in contemporary capitalist structures of corporate farming or agribusiness and progress through habitual social routines. The technological features of the game, especially its structure of objects, interfaces and rules for interaction enable players to construct an elaborate social reality that is unique to this game. The structure and rules of *FarmVille 2* are salient features of the game design that guide players through a cycle of planting, harvesting, crafting, marketing and selling that relies on quests, lexia, interfaces and interactions that frame a players' technological constructions of reality constrained by space and time.

FarmVille 2 is a strategy-based game that utilizes simple farming practices to engage players in the game structure. In strategy games, players generally have a god's eye view, looking down over the game space like a map, and the game features different interfaces to guide the players (Apperlay, 2006). *FarmVille 2* utilizes this structure to present players with quest lines (objectives that offer various challenges and rewards for their completion) that constrain players' control and management of their land and

resources within the game space. Because the goal of this study is to understand how the medium of electronic games function as a field of cultural production and to analyze the ways game structures communicate dominant forms of acting and knowing, *FarmVille 2* serves as the first case study approach of this research. With the popularity of this game, which is currently the most popular Facebook game, this study not only serves as an entrance into exploring the ways that game design influences processes of interaction and creates large scale social meaning, but it lays the groundwork for a discussion of social networking games as forms of social production. To accomplish this goal I will address my primary research questions:

RQ 1: What is the relationship between game design and the processes of meaning making?

RQ 2: How does game design enable and constrain player agency?

RQ 3: What intertextual structures are present within the cultural production of digital games?

Sub Question: What forms of social learning occur in game as a result of these structures?

These questions will be addressed throughout this chapter as a way to explain the *FarmVille 2* game design and to analyze the interconnecting meanings present in the game design. To illustrate this, I work through the introductory tutorial of the game that also orients other players to the social RTS (Real Time Strategy) format and learning process; code the central elements of game objects, interfaces and interactions; connect my coding patterns to real life social practices in capitalistic agribusiness systems; and

identify the way these codes inform and explain the game players' interactions within this strategy-based game.

Learning to Play *FarmVille 2*

To understand the structures of *FarmVille 2* and the ways that the game orients players into its constructed environments, I describe the games' introductory tutorials and the elements that direct player action. Following Frasca's (2007) conception of playformance, where the actions and behaviors of a player in a game session lead to an understanding of gameplay by describing how players experience the interactions and design of a game, I utilize my experiences with the game as a participant observer. My observations are further situated within Gee's (2007) argument that game tutorials not only introduce the game structure, but they also teach players the skills necessary to advance in the game and then offer more complex interactions as a way to build upon skills. My participant observations through gameplay therefore serve as an entrance into game design by showing how players develop skills and interactions and how these structures promote player agency within the choices that game designers present.

Fish Tank Tutorial

The introduction to the game is located within the safe learning space of what Gee (2007) calls a fish tank. A fish tank is a contained environment that allows individuals to safely manage and manipulate its structures in order to understand the basic relationships at work without any harm coming to their character. The fish tank is a "simplified environment that lets one appreciate an ecosystem" by stripping away the game's complexity while highlighting the systems core relationships (Gee, 2007, p. 54). Similar practices in learning to farm can be seen when individuals cultivate small gardens. Within

this process individuals learn to manage seed planting, watering rotations and light management. While not all gardens grow perfectly, these are small plots in which individuals learn the larger relationships of resource management associated with farming without any harm coming to the farmer. However, within *FarmVille 2*, player actions such as overwatering, allowing too much sun or simple neglect are mitigated since the ecosystem of the game tutorial ensures a successful planting process. Players do not experience any adverse consequences of their actions because the fish tank allows them to easily rearrange their farm; it also gives them an initial abundance of resources and allows them to exit out of the game without any negative consequences. The tutorial therefore allows players to engage with and explore the game design, and in the process it explains the basic rules of digital farming and teaches players the important relationships within the game.

FarmVille 2 orients the player toward the games' important relationships, such as reward based interactions and quest completion, through a hosted tutorial by a fellow farmhand named Marie. At the start of the game Marie sends a postcard welcoming the player back to their family farm and wishes them good luck on their move from the big city back to the farm (See Figure 1). To develop the significant relationships of the game

Figure 1: Introductory Postcard

Marie offers a series of easy to follow quests (quests are goal oriented challenges for the player and are available for a set amount of time) to direct players' actions toward the purpose in the game (See Figure 2).

In a quest the player is given a task, which may be to water X plants or move objects around; and players are offered rewards of coins (represented with a numerical amount), gains in XP (Experience Points, what is needed to level up in the game are expressed numerically and represented with a status bar), and new items upon completion of these tasks. The introduction to quest completion directs player agency by delineating the basic rules of the game (which are to water and harvest crops, to feed the farm animals and to expand this process) and locates player motivation in the context of reward based actions. However, at any time during the first ten quests if the player exits out of the game, the completed quests will reset giving players the freedom to play around in this safe space and start over if they choose to do so. The introduction to the game rules communicates the steps necessary for moving the objects of the farm around and the planting and harvesting of crops, and it guides player actions toward challenge completion and goods' accumulation as the source of success and progress.

Figure 2: Introductory Quest

To increase players' success and progress, the introduction situates interaction in processes of harvesting and land expansion. Early quests require players to locate crop seeds within the general store menu, to plant and water the crop and then to harvest the crop. The introductory process is completed by following Marie's guidance of clicking on the objects that she directs the players toward. By clicking on a planted seed players water a crop and utilize the allotted natural resources to do so, through this process the

Figure 3: Resource Manegment

player is able to grow a good, such as a tomato. Once grown, tomatoes are harvested and then turned into feed for animals or made into additional goods, such as tomato paste which can be sold for a profit (See Figure 3). The initial guidance of action situates gameplay within the repetitive process of planting, watering and harvesting as a way to earn feed animals, make more goods or earn a profit through the sales of their crops. To build upon this process, Marie requires players to expand their farms and pay an allotted amount to do so. Players are therefore directed to continually accumulate natural goods as an economic resource in order to successfully complete quests, to earn an income and to progress in the game. With the addition of more land players move into the next tutorial where players are able to produce more goods, but they must learn how to manage the resources that they have available to them without the direct guidance of Marie.

Supervised Sandbox Tutorial

In moving through the initial stages of the game and learning how to manage the increasing complexity of the basic elements, Marie leaves the players to their own devices and enters them into the supervised sandbox. While Marie still provides helpful insights and guidance, her absence on the farm creates a supervised sandbox, which is where the game still provides boundaries and limitations but the players have more control of their actions while the game presents advanced challenges to them. For example, some crops, such as wheat, take four hours to grow, while others, such as

tomatoes, take one minute so the players must learn to manage their land, time and water resources appropriately. Marie provides quests that explicitly dictate this process. The supervised sandbox therefore expands the parameters of the game by increasing the varying tasks required and highlights an additional challenge of time constraints.

To increase the games' complexity designers insert other quest givers to constrain players' use of space and growing time. For example, at level seven, game designers introduce another farmer, Walter, who joins the game and offers additional quests for the players to complete. The increase of quests, plots created, trees planted and animal raised requires the players to learn how to navigate the increasing relationship between resources, time constraints and the mounting complexity of challenges. By compounding the constraints on player action, game designers require proactive decision making, through the framework of efficiency, as every resource must be managed to meet the requested demands. In addition to player constraints, Walter offers one of the first overt connections to capitalism within the game by stating that "Capitalism is king" (See Figure 4). Accessing this comment only when the player visits Walter's farm, the commentary locates the player in a structure of comparative competition that pits a players' farms against other farms in the game. The structuring of the game through competition and capitalism is further contextualized through the unsupervised sandbox tutorial.

Figure 4: Capitalism as a Challenge

Unsupervised Sandbox

Building from the increased complexity of quest and challenges, as well as the negotiation of player actions, the game designers move players into the unsupervised sandbox where they encounter the consequences of the full game. Offering little guidance from Marie, the game's designers introduce the notion of contract maximalization by limiting the contract length of quests so they expire, thereby forcing players to split their work across several different challenges; up to six quests with three parts can be presented at one time. Resource management is further compounded by quests given as part of chains, where one part has to be completed before the other parts are available. Each chain is composed of six to ten parts and if players fail to complete one part of a quest in time, then they fail that chain and lose the rewards associated with its completion. Additionally, players learn that the game presents a restriction on water storage which makes it difficult to water every crop, that there are limits on the number of animals a farm can hold, that crops can wilt if left unharvested for too long, and that they must sell their produce to earn an income in order to purchase new seeds for planting. The engagement with the complex interactions and consequences of the game highlights the ongoing struggle over resources that players must learn to manage if they are to earn their rewards and be successful in the game.

The game designers' limitation on resources and the restriction on the players' ability to manage their farm are further complicated by resource requests. Initial quests required players to harvest a crop or to feed an animal, teaching them the structure of the game while allowing them to accumulate resources. Higher level quests begin to limit player resources by including building quests, such as the goat shelter, that necessitate the

players' ability to manage multiple crops that can take a full day to grow and then utilize this produce to construct the building. Additionally, players must befriend other *FarmVille 2* players to acquire quest specific items, and because these items can only be gained through this process, the more befriended farmers a player has the easier it is to accumulate these goods. The use of time specific crops, resource requests and resource management by game designers constructs a focus on real time interactions with the game, where players are forced to check into their farms frequently to maintain their resources and progress. The internal game ecology of *FarmVille 2* teaches players to micromanage each element of their agricultural production, including the use of fellow farmers as a source of production, and persuades players to frequently tend to and update their farm to progress and succeed.

Tutorial Summary

The game structures promoted in the introduction of this game, such as resource management and quest completion, introduce players to the environment of the game. Through the initial tutorial, players learn the basic farm activities of managing crops and animals, and understand that these objects are the material resources upon which game interactions rely. To structure player agency game designers offer a series of quests that reward the completion of challenges through monetary capital (gold coins) and symbolic capital (experience points). Players are finally directed to understand their farm as a business in which they are competing against other farmers, often using them as an additional resource for materials, and they learn to manage their resources efficiently in order to earn rewards and be successful in this game. To complicate this basic orientation

to *FarmVille 2*, game designers force players to negotiate the various forms of constructed meaning that are present in the game through the represented game objects.

Objects

To extend the analysis of the players' gameplay within the full game, I identify the objects or units in the game design and then indicate how each object develops a presented and contextual meaning for players that depends upon their position in the game. Each unit of reading, or lexia, is a "diffuse and multiple, subjective and situational 'unit of meaning' that is both materially bound to the authors'" construction of the text and the readers resituating of its meanings (Harpold, 2009, p. 152). Within the study of games, units are the objects that engage with each other and offer meaning through these interactions. For example, in *FarmVille 2,* trees interact with water and once watered they will start to grow fruit, and after a specified grow time they will produce their product; a tree is therefore bound to the material constraints and operations of the game design. However, the product and the players' interactions with it can resituate this meaning through a variety of contexts. While the interactions with a tree serve as a meaningful resource for that product, trees also limit players or animals from walking through them and provide a type of boundary. On some farms trees are placed into organized orchards while on my farm they are used as a border or to pen in animals so they do not wander about. Furthermore, specific trees, such as olive trees, provide a line for my farm house as a connection to my familial ties to the Greek province of Kalamata. The olives produced from this tree are simultaneously a game resource that creates animal feed and becomes the primary resource on my farm throughout the first fifteen levels that guide my feeding interactions.

Through a detailed analysis of the objects of this game, I located more than 450 objects, and then clustered these objects into six core units of seeds, trees, animals, crafts, consumables and decorations, which I explain as signifying lexia that indicate a polysemy of meanings. However, beyond the previously discussed internal constructions of meaning that these objects develop, they are analogies to structures and processes outside of the game that connect players to larger ideological systems of meaning. I argue that at multiple points, this game, which is premised on a farm structure, serves as an allegory to traditional and contemporary farming practices that reinforce dominant practices of industrial farming or agribusiness. The extension of industrial farming is reinforced through the traditional construction of the natural environment as a material resource for human manipulation and capitalization, thereby fusing the game with neoliberal processes of capitalization and profit oriented models of production. The ideologies of progress, capitalism and industrial farming, within *FarmVille 2*, connect the lexia present in this game to broader social constructions of reality that players are likely to recognize as taking place outside of this game.

Seeds and Trees

Seeds and trees in *FarmVille 2* are fundamental objects within the game design that provide players with varying meanings by structuring their game knowledge and regulating their available interactions. The internal field or environment of the game and the material or symbolic elements that present and constrain meaning to the agents (players) involved are associated with the available space for farming. The extension of farmable land as a location to plant more seeds and thereby harvest more goods is a necessary condition for farming in this game. Trees vary only slightly from seeds since

they can be planted anywhere on the farm without a designated plot. Seeds and trees not only interact with the game elements through their consumption of space and water, but they produce the primary goods for the farm's sustainability. Through the harvesting process each plant provides meaning for the player with a differing amount of XP (symbolic value) for planting and harvesting, and an economic value through the selling of that product as a way to repurchase more seeds. Additionally, crops supply varying feed amounts for animals (symbolic value) and their produce can be crafted into additional goods; crops therefore offer meaning as a resource for other products. Through the players' interactions with these objects, multiple layers of meaning emerge that orient players to the field of the game, direct the consumption and production of resources, develop an understanding of the symbolic and economic value of crops, enable the construction of additional goods, and further direct the actions of the player within the game. A focus on the specific use of seeds is one way to further contextualize the developments of object meaning in this game.

Game design structures player interactions with plants by enabling and constraining the players' consumption and production of resources. Farm land consists of an allotted amount of plots for the players to plant seeds on, the more land they own the more plots they can utilize. At a maximum the plots can consume just over half of the available space for the players' farmland. Additionally, each planted seed requires a drop of water, while trees require a varying amount of drops to grow and produce goods. While planting and watering are easily managed in the beginning of the game, at higher levels players have more plots than water drops and since only thirty maximum drops are available at one time, water holds a significant value for players. The limitation on land

and the demand for water constrains the available actions of players and requires them to focus on contextually specific crops. For example, players have to buy new seeds every time and to offset these seed prices they must sell a harvested good; higher priced crops are therefore planted as a means to make money over a shorter growing seed. The choices players make in selecting which seeds to plant are connected to the utility of crops and their sale value, a process that connects successful actions to the players' ability to accumulate quantities of gold or income.

While players are directed towards seeds and trees as objects of monetary gain, the representation of farming as a process of profit maximization does not account for environmental disasters such as droughts or market constraints such as price reductions. The natural concerns that many real farmers must face, such as drought, heat concerns, crop infestations or disease are never present in the game, giving a false representation of farming as a hazard free process with inevitable capital gain. Furthermore, the representation of seeds as objects of stable growth, free of any negative influences, constructs them as objects of permanent production and monetary gain. The underlying construction of these game objects as hazard free forms of guaranteed capital is symbolically connected to neoliberal ideology that seeks to extend market availability and the production process, in which business should be conducted twenty-three hours a day at a minimum (Treanor, 2005). The permanence of these seeds promotes the market process of perpetual sales for the players and represents the growth of the crop

Figure 5: Plant Growth Time

down to the second, allowing the players to maintain a consistent production process (See Figure 5). While the process of seasonal seed purchasing and crop production is similar to historical and contemporary farming practices of seed purchasing or leasing, in *FarmVille 2* players buy their seeds outright and always have a stable market to sell their produce. Because players are not constrained by supply and demand, market values or growing subsidies, their products are always reaping successful gains. The presented design of seeds integrates players into a process of resource management that associates production and profit with the more complex notions of a neoliberal agribusiness. The integration of players into a neoliberal agribusiness ideology is further extended by the way game designers constrain the control over seed development.

In addition to the constructed market stabilization present within crop sales and seed purchasing, seeds are represented as a singular strains with adjusted growth rates that parallel the multinational agribusinesses creation of Genetically Modified Organisms (GMO's). While the game offers a differentiation of crops that one can purchase, from cabbage to chili peppers, there is only one kind of seed available; players cannot purchase red or green chilies. The designed selection for each crop generates meaning for seeds not in kind but in quality and limits what can be done with the product, be it to sell or to turn into animal feed. In addition, game designers regulate seeds to grow at specific rates, a factor that has nothing to do with actual growth rates of plants, but is rather a way that game designers constrain players by limiting time. While multinational biotechnology organizations such as Monsanto have no direct connection to *FarmVille 2*, the presence of GMO's and the control over seed rights is likely obvious to many players. The heirloom and genetically altered seeds present players with a corporate product that

highlights the symbolic and economic capital for players. These modified organisms also represent plants as naturally regulated, constrained to grow only in a designated plot, and structured to grow at specific times much like the McKillip Seeds construction of 101-105, 106-110 and 11-115 day maturity seeds such as RL8042HBW and AV 8513V3R. Monsanto has faced repetitive lawsuits for biopiracy or biodiversity because farmers' crops and land have been appropriated by Monsanto due to crosspollination; but farms in this game are kept so segregated that the organic processes of plant development is not even possible (Shiva, 1997; Herring, 2007). Furthermore, the development of suicide or terminator seeds by Monsanto is present within *FarmVille 2* as players are never able to collect seeds from their crops but must continually buy new single growth seeds. The dependence on these genetically modified seeds creates a dependence on their repurchasing and locates the player within the contexts of a multinational globalized agriculture business by focusing on production and progress over sustainability.

The planting of GMO seeds and trees by players to fulfill quest requirements further directs the players' management of resources and removes any consideration of the local devastation that these seeds have wrought. Quests require players to plant specific seeds and harvest them to complete the task (See Figure 6). For example, a quest line entitled "fund in the sun" asks the player to host a bake sale, in order to do so they must harvest a pecan tree three times, craft ten batters and sell ten pecan muffins for the bake

Figure 6: Planting Quests

sale. One pecan muffin requires five pecans and one batter, which is made from four bags of wheat and one egg. In total, players must harvest forty wheat crops, sixty pecan trees and ten chickens to complete the task. Seeds and trees therefore generate a meaning in their ability to produce goods as a means to complete the quest challenges given to players by game designers. The focus on crop production through GMOs symbolizes the multinational ownership of property for capital while ignoring the consequences, such as massive debt, dependency, crop burning and suicide that seed reliance has had on places like India or China (Herring, 2007). Seeds and their harvested produce not only provide a stable income for farmers to continue farming, a process removed from the larger consequences of genetic patenting, but seeds are profit oriented objects for the self-interested progress of a player within this game.

Crops are additionally a means of increasing players' resources through their use to generate XP for progress and monetary value based on their sales. Because each seed offers a different amount of XP when it is planted and when it is harvested, plants that offer a higher XP value more meaningful as are they are better equipped to increase a player's level of progress in the game. For example, crops such as potatoes can be harvested every twelve hours and offer a high amount of XP through this process. When a player increases their level, all of their watered crops are instantaneously grown. Therefore players plant potatoes and water them on open plots in order to help them level up by maximizing their XP accumulation. Potatoes can also be sold at double their planting cost, making them a valuable economic resource for players. The sale of a raw crop is meaningful for players only when they are able to profit from the sale. Tomatoes for example, only generate a profit of two coins for their sale while red peppers generate

a profit of 163 coins. Seeds offer meaning to players through their ability to generate wealth, and they also symbolize players' progress in the game beyond their ability to provide sustenance.

The game designers provide little connection between farming, or the production of food, and the need to consume food as a way to sustain life; an exception to this is the production of grain for animal feed. In ways similar to how agribusinesses produce food in processing plants, animals on this farm are fed a ground up mixture of the highest energy yielding food rather than on the food sources that chickens, steer or goats naturally graze. Specific crops therefore hold meaning for players in their ability to maximize its transformation into animal feed. For example, cucumbers and carrots produce some of the highest feed yield and cost relatively little to plant, making them ideal for feeding to animals. The game offers few references to animal well-being since flowers, pumpkins or peppers are fed to animals with no distinction of the impact these plants might have on the animal or on human consumption.

Animals

The presence of animals, much like seeds, are resource objects for players' progress and wealth accumulation; however, animals further signify meaning to the farm through the extensive effort needed by farmers to raise them. Comprised of birds, dairy, stable and other animals, each represents a material resource or a unique set of goods. For example, while most birds only produce eggs, cows can produce milk, prized Swiss cheese and bags of fertilizer, presumably created from manure to nourish the growth of other crops. Animals are typically fed and raised from "babies" to "adulthood" before these goods can be attained. However, because baby bottles must be acquired through the

request of *FarmVille 2* friends, it can take several days before they become an adult animal. Additionally, each animal requires a varying amount of feed from three to twenty units to produce their designated items; feed functions like water does for plants. When players have more animals on a farm, they can produce more goods, but this then puts a strain on the player's accumulation of produce because it is turned into feed rather used for baking or selling. The game design promotes a definition of animals as beasts of burden that generate commodities which players can use or sell and thereby progress in the game. While both plants and animals are key objects, lexia, that constitute the primary farm resources for players, the presence of animals on the farm further enlivens farm production and engages players with a larger amount of invested effort.

While animals require a large investment of resources and time for a player, they also represent the players' invested energy and populate the farm space. The attachment a player has to a game outcome is directly connected to their invested energy, because *FarmVille 2* does not have a delineated end, outcomes are connected to monetary expenditures, a feature that is overtly coded with the purchasing of animals. For example, spinach only costs $90 coins for seeds while a Swiss cow costs $65,000 coins making the purchase of a cow more significant. Throughout the game specialty animals, such as reindeer, can be purchased; this represents the ability of a player to buy these animals. Additionally, animals are acquired through the completion of collection quests, such as spinning wool. In this case, players harvest sheep to spin the collected wool into yarn and then collect special yarn balls to earn a unique sheep, a process that can take several days or even weeks to complete. Animals therefore require a larger investment of capital and energy than plants do and promote a stronger player attachment to these objects.

Designers additionally represent animals as the only objects on the farm that react to players' actions, jumping when they are moved or making sounds when they are fed. For example, when a cow is fed it will moo, when it walks around a bell jingles, and the bleating of goats and sheep can be heard emanating from the farm. Animals also wonder about the farm often shaking their mane, ruffling their feather or sniffing the air and through these animations bring the farm to life; creating attachment or meaning for the player in their ability to sustain the farm and to treat animals as different from plants. Because animals utilize plants as a resource for feed, require more gold to purchase and need more resources to raise they are hierarchically superior to other objects. In addition to these quantifiable elements animals produce the voice of the farm, where their combined sounds communicate the auditory authenticity of a farm. Animals are also a persistent feature of the farm since they only produce vegetarian goods, such as milk or cheese and are never butchered, unlike crops which are perpetually cut down. The invested capital, effort and persistent presence on the farm show animals to be significant symbolic objects for players. While these elements create a division of goods on the farms, all of them constrain the player's ability to profit from them.

The seeds, trees and animals in *FarmVille 2* are material resources used for players' accumulation of wealth, and as a result players value them primarily for their utility as a commodity. In this way, players attribute meaning to objects on farms in line with the capitalistic ideology of production and consumption, features that characterize contemporary farming practices. Dyer-Witheford (1999) argues that capitalist systems "operate by a process of massive reduction—Marx called it 'abstraction'—that perceives and processes the world solely as an array of economic factors…human subjects figure

only as so much labor power and consumption capacity, and their natural surroundings as so much raw material" (p. 9). Within the field of *FarmVille 2*, the entirety of the natural surroundings of the farm that game designers provide and that players help to construct, are reduced to forms of raw material that reinforce a capitalist ideology of production and profit. Because the game designers impose limitations on the amount of resources that players can have, players must harvest the highest monetary yielding and highest feed producing crops to maximize their income while keeping their feed costs down. This fits with market driven economics because objects gain importance for players through their monetary value and their ability to produce additional or added value through crafting.

Crafting

Crafting, which occurs in the kitchen or workshop building, extends the use of plant and animal objects by transforming them into new higher selling objects and in this way constructs the player as both farmer and producer. The kitchen utilizes the varying produce that players collect and provides a predesigned recipe for them to be inserted into for the creation of higher value (both symbolic and capital) goods. For example, players can turn water and a lemon into lemon water that sells for $150 coins, with the addition of two lemons this can be turned into lemonade that sells for $350 coins. By further adding goji berries, goji berry lemonade is crafted and sells for $2,510 coins. Game designers provide more than seventy different recipes that have a sales value from $90 to $7,000 coins. In addition to the increased financial capital, crafting also offers XP value for each item made, where the more expensive items also result in higher points for the players. Similarly, the workshop crafts specialty items, such as textile items that are made from animal products like sheep's wool. Crafting produces products that enhance the

value of the harvested goods and offer a higher monetary value for players while increasing their symbolic worth through the gained XP. The crafting interface not only represents the increasing demand on farmers to take on additional roles to increase their profit margins, but points to the ways in which raw goods are produced only as a means to further economic and symbolic capital.

One of the most significant differences in the crafting process from the farming process is the utilization or power as a resource to create new objects. Unlike farming the construction of a good in the crafting process requires players to utilize power, represented by a flame, which is representative of the heat necessary to cook the selected recipe. The representation of crafting, as reliant on an external power source, directs the player to see farming as a work of manual labor while crafting is an industrial production process. When a player harvests a crop they see their avatar run across the crop with a quick cutting sound, similar to a scythe cutting wheat, and the crop is harvested and bounces into a player's inventory. However, when the player crafts individual items such as butter, the actual process or work of churning of cream into butter is absent. Products are then combined to create a pie crust where wheat is transformed into flower, without the grinding from the payer, and then combined with butter to produce the crust. Players are therefore only responsible for placing items together; learning only what generally goes into a food and to rely on the game design to do the actual labor of making and producing the product. The production of objects, through crafting, generates meaning for players through the production of increased capital and that the necessary labor of production to create this capital is outsourced to the game design.

The production of goods, through outsourced labor, locates crafting within contemporary neo-liberal export and import practices of product production on contemporary farms. The transformation of raw goods into usable material is never present within the game, nor is the process of creating a good, additionally there is no cost to the player for transforming this raw material into a product. Multinational corporations follow a similar process when they export their harvested raw goods to a foreign nation for processing and then import these goods as either refined products for domestic use or as packed goods themselves. Similarly, the 1994 passage of the North American Free Trade Agreement (NAFTA) allowed international trade to occur between Canada, the U.S. and Mexico by removing the tariffs on imported and exported goods. A central focus on this agreement was on agricultural goods, allowing raw products to be grown in one country and then processed in another for no charge. For this reason, crafting links the player in *FarmVille 2* to the multinational agribusiness practices of deregulation, lowered import/export costs, and outsourcing through the elimination of the production process, much in the same way that NAFTA functions. Raw goods and the production of food is therefore removed from the organic growing process inherent to farming and relocated into the industrial practices of packaging items for consumption and profit accrued from consumers who are far removed from the planting, growing, and producing of food.

Consumable Items

Consumable objects are the items in *FarmVille 2* that provide the underlying structure for plants or animals to exist and are used to promote the player's reliance on an external purchasing power. Consumable items are goods that the player gathers from

animals, such as fertilizer, a resource that is slowly replenished, like water; or it is something players purchase with an external currency called Farm Bucks (See Figure 7). Throughout the game consumable items may be produced on players' farms and then used by them to increase the growth of a crop as is the case with fertilizer.

Figure 7: Farm Buck Purchasing

However, because fertilizer is not a bountiful product and water is only acquired with the passage of time, this is a time intensive process. Rather than waiting for these objects to be produced, players can purchase large quantities of these items with Farm Bucks, a separate currency from the gold coins that players earn in the game. While players start with $10 in Farm Bucks, they may also choose to buy Farm Bucks with cash and an exchange rate of $650 Farm Bucks going for $100 US dollars. Considering that a twenty-five pound pack of fertilizer sells for $15 Farm Bucks, and players can have one-hundred or more items to fertilize at a time, this currency can be spent quickly and easily. Players purchase Farm Bucks to buy resources to increase their farm yields, to bypass quest requirements, to purchase animals that cannot be bought with coins and to buy more plots of land. Farm Bucks therefore allows players to subvert the challenges of game design, having to wait for crops to grow; this promotes the agency of players to purchase their way through the game and make profit over working their land and paying attention to natural resources.

Consumable items represent the ability of individuals to utilize monetary capital as a way to assert control over natural systems, including the natural environment and connect capital to time in direct ways. As described in chapter 2, a fundamental element of games is that they require players' effort to participate within the constraints created by game designers and in the process they overcome challenges and rules that adhere in the game structure. The power afforded to players by monetary expenditure undermines players' effort to overcome challenges by allowing them to manipulate and control the environment and natural resources available to them. Several consumable items, such as fertilizer, speed-feed (an animal feed that forces animals to produce more goods) and speed-grow (a plant fertilizer that forces them to grow instantaneously) are designed to manipulate the natural feeding and growth cycles to produce more products more quickly. Purchasing these items allows the player to skip the time constraints placed upon them by game designers and communicates the capitalist perspective that money can make events happen quicker and even subvert natural processes. External capital is linked to game products, and time constraints, allowing players to not only buy their way through the game, but reconstruct the external social-economic positions of power within the game environment.

Decorations

Unlike other objects in the game, which offer a specific utility for profit, decorations improve the aesthetics or status of a player's farm. The emphasis on symbolic capital or the recognition of success in *FarmVille 2* surfaces in the game design with the availability of players to decorate their farm. While decorations are not commodities to be used by the players, they nonetheless represent commodity accumulation. Players can

purchase items and the larger or nicer looking items cost a significant amount of coins or Farm Bucks. These objects, much like the size of players' farms, become status symbols for the success of one's farming industry or at least their ability to purchase them. However, as players accumulate knowledge about the game, they learn what high priced items are and how many Farm Bucks it takes to buy them. The use of decorations on a farm can indicate the value of time spent on the farm as well as the farmers' wealth or success in the game.

Summary of Objects

The constructed objects within FarmVille 2 are a resource for the player to increase their symbolic and economic capital, and connect players to a larger neoliberal ideology of agribusiness. The design of seeds and trees helps to focus players' attention on the ability of a crop to produce profit and XP. To regulate this contextual selection of a crop, game designers present a genetically modified crop that allows farming to continue perpetually with the only limitation being that players must continually purchase new seeds. While animals are presented an additional resource for players' success, they are also a beast of burden for players to connect to the farm because they give life to the farm through their animations. Seeds and animals primarily reinforce the capitalist construction of the natural world as a resource not only for profit, but for individual use as a means to succeed. The design of crafted objects functions as a resource to increase players' capital while consumable objects utilize the purchasing power of players to highlight the economic ability of players to control the natural world. Decorations perpetuate the emphasis on capital through a symbolic representation of a source of success. The design of objects within the game is an allegory to contemporary neoliberal

agribusiness practices that encourage individual prosperity over the local, cultural or environmental resources and represent objects as a source of capital in and of itself.

Interfaces

Interfaces enable players to purchase items, to create new items through the crafting or cooking shops, to sell items through the market stand and to store information about players' progress; however, these interfaces are located in the games' ideology of consumer capitalism and limit players' ability to oppose the rules of the game. The interfaces of *FarmVille 2* consist of seven clusters that include status bars (the indicators of experience point accumulation) and four essential menus (the interfaces access objects and resources). The first interface is represented through the status bars that line the top of the game and are attached to the objects within the game (see Figure 8). As players earn XP (value) points for a planted crop or a crafted object in the game, the points are added to a total status bar (which represents the players' level). Once the bar is full the player reaches a new level, then the bar is reset back to zero. Each status bar therefore represents the symbolic success and status of the player. The essential secondary menus consist of the locations of the kitchen, the workshop, the market stand and the general store. Each of these menus presents a three-by-three grid of objects listing several pages of various items; each has a range of order from the least amount of time available to sell

Figure 8: Status Bars

to the highest value in sales.

These interfaces connect monetary capital to symbolic capital showing that their presence is interconnected with the progress of the player and represented by their presence in the game. To analyze these interfaces and their construction of a capitalist system of production, I first address how interfaces store game objects, and then how they enable players to manage their access to resources, raw material and produced goods. Next, I analyze the ways that game interfaces establish what game designers have deemed important, or not important, by the presence and absence of items in these interfaces. The persistent presence of items communicates a dominant encoding that is central to the game and is therefore explained within each interface. Finally, I analyze how interfaces offer and limit players' choices, identify what they can accomplish or what they cannot, note the ways interfaces constrain or enable player choices and call attention to what meanings this creates for the players.

Progress

Player progress is constructed and reinforced by the designed location and use of status bars in the game through their connection to significant objects and their indication of the players' overall status. Appearing across the top of the players' screen are five bars that describe the experience level of the players, the amount of feed, water, fertilizer and energy for crafting. Each bar hosts a numerical indicator and a progress bar that indicates the accumulated total resources and the total level achieved by the players as they progress through the game. Additionally, each animal and plant on the farm has a status bar that identifies how many points are needed to achieve a yellow, red and blue ribbon (which is a sign of progress), an XP value for feeding/ watering the animal or plant and

what they will produce (See Figure 9). The more a player harvests a specific crop or feeds an animal, that object earns XP toward a new ribbon, encouraging the player to repeatedly plant the same crop. The plant and animal status bars indicate the utility and profitability of these resources to the players and converts their expertise in animal husbandry and horticulture into representations of their achievements and profitability as a farmer. While each resource is attached to its own status bar, this interface also illustrates the players' overall progress.

Figure 9: Animal Status Bars

Status bars are a symbolic indicator of how successful a player is in the game and represents player prestige and effort to earn higher levels. Within the game players are directed toward their own objects through the ribbon level or the status bars attached to each object via small signs that the players can post around their farm. As the player increases the object expertise or level, the signs will also change from a small yellow post to a large blue trophy. In this way other players receive a symbolic clue as to how successful the player is in producing each crop and animal. Beyond the individual object success, total player success is represented through a level bar that is hosted at the top of the screen. In playing the game, it can take months for individuals, even with regular play, to reach level 20 or 30, and with 60 levels in *FarmVille 2*, a significant time investment is necessary to reach this level. As a reward or outcome of players reaching a new level, the game grants them access to more land, unlocks more recipes—literally represented by a gold lock— new seeds and animals for purchase. Because the player can

only earn XP point by working their farm, one cannot buy XP with Farm Bucks, player level represents that effort expenditure and time investment of players, with a higher level equating to a more invested player. Higher ranking players also hold more credibility on the *FarmVille 2* Wiki (the player hosted forum for questions and game information and the place where long time players are able to address the changes in the game with more authority). Player level represents the symbolic capital and accumulated prestige that naturalizes their status in the game and across player forums.

Purchasing

Separated into seven different tabs the general store interface presents the cost and progress of each object and in the process connects monetary capital with symbolic capital. The first home tab offers seasonal items, identifies the most frequently purchased Farm Buck items and presents the other tabs that consist of seeds, trees, animals, decorations, buildings and consumables (See Figure 10). When players select the seed or tree tab, a grid of tiles shows different plants and lists their cost, ribbon color (symbolic of the players success with that object) which allows them to grow larger goods or produce a higher value item and the growth time of that object. If players highlight an item with their mouse, a menu pane provides an image of the plant, its ribbon award (yellow, red

Figure 10: General Store Interface

and blue illustrating progress with that crop via a status bar), what the raw product selling value is, XP value for harvesting, the quantity for feed conversion, the recipes it is used for and the largest size that the player has grown. When players select the category of animal, they see a similar form but with details that further indicate the bottles needed until the animal reaches adulthood, the cost to feed the animal, the experience point per feeding, the value of product produced and its prized product. The other tabs for decorations and consumables detail how much each object costs. The general store provides the specific information for resources, how much progress they have made in producing a crop or nurturing an animal and what these objects can produce for the player. The general store interface is the amassed repository of the games' objects, storing the detailed information about them which allows players to focus on the interactions, challenges and management of resources without having to remember the specifics of each object. The detailed crop information presented in these interfaces parallel the breakdown of crops by contemporary multinational agribusiness corporations such as McKillip Seeds, which offer a breakdown of their trademarked seeds online (See Figure 11). Additionally, this interface directs the players toward their purchasing power and players' progress toward gaining additional symbolic capital to move to a higher level in the game.

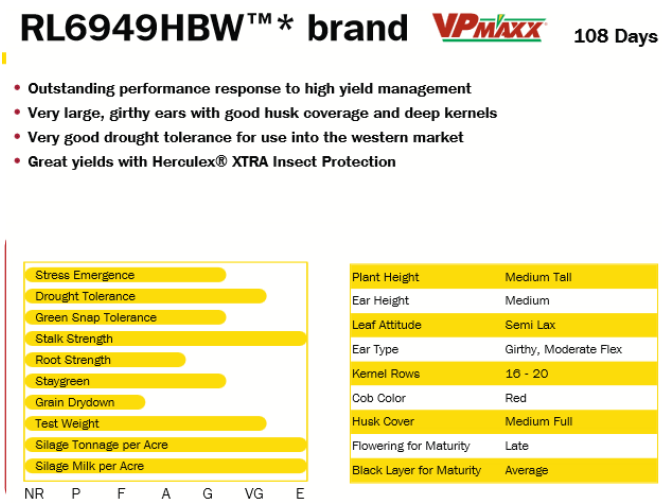


Figure 11: McKillip Seed Breakdown

The general store interface equates monetary expenditure with experience by hosting the objects a player can buy and representing the players' experiences with each object via their status bars. Located at the bottom of each object tile is the cost per item, in coins or Farm Bucks, and this is the most prominent information within this interface. Each tile orients the player to the cost of the object first since this is the largest descriptive element and the most frequent item within the interface, which is located across all six object tiles. Each object that costs more to purchase also has more rewards or produces more through cultivation; therefore the more money a player has the more items they can buy and produce. Additionally, many items are only purchasable through Farm Bucks, telling players that external monetary capital is a necessary element for efficient production. The cost of each object is matched in frequency by the symbols of progress that each object has and is indicated by the ribbon color in the object tile and a ribbon status bar in the object description pane. Because plants only offer experience points through their purchase, planting and harvesting, the progress and experience with an object is directly related to players' purchasing power and connects their symbolic power to the amount of monetary capital they have. Game designers therefore equate player progress with expenditure, this connection is analogous to the cultural assumption that spending money on a process will give you a better product and make you a better producer.

Crafting

The kitchen and workshop introduce the player to the menu with a slogan stating "craft recipes to sell for money!," immediately directing players to the process of increasing capital through manufactured production processes (See Figure 12). The

crafting interface is separated into two separate menus; the first interface features product tiles that host the name of the product, show its image and communicate how much an item can be sold for. Scrolling the mouse over an item creates a supplementary menu that only lists the product name, its value in coins and the XP that it offers. The value of each created item is presented as a monetary and symbolic gain for the individual player rather than shown as how nutritious the product is, how it can be turned into clothes or supply them and other farmers for the future. The interface here equates monetary accumulation with symbolic capital and blurs the separation between peoples' accumulation of wealth with their level of symbolic success. Because XP is a part of the players overall status bar, rather than as a baking skill or a workshop skill that are absent from the game, the presentation of experience represents the overall development of the player. Through the crafting interface game designers demonstrate a positive relationship between monetary and symbolic gain as a form of player success. The development of player success is further represented by the creation of individual goods.

Figure 12: Crafting Kitchen

Once a player clicks on an object a second menu pane presents the necessary ingredients and the monetary value of a product, and constructing raw goods as a means for profit only (See Figure 13). By focusing on the raw material of a product and its

associated sale value, the game removes any contextual meanings for the player and reinscribes a capitalist ideology of production and profit. The object pane therefore creates value in the mass production of goods and emphasizes an accumulation and storage of raw material to accomplish this. Because raw material is a limiting factor on the production of goods for profit, game designers encourage the player to grow one product that can be used in various high earning products. For example, white clover tea and strawberry lemonade are worth a significant amount of gold and rely on the use of lemon water with the addition of white clovers or strawberries. As a perpetual element lemons are continually grown and used to craft various items. The players' modus operandi is to use a combination of easily produced goods as a means to maximize profit, an industrial insight that parallel the contemporary use of corn within the agribusiness industry. Using the crafting menu, players remove themselves from the act of farming and instead are transformed into a manufacturer of goods for resale.

Figure 13: Crafting Ingredients

Unlike the process of cooking or creating an item in a workshop, the player has no creative or experimental ability and s/he is oriented to a process of manufacturing, selling, and profit making. Where traditional forms of crafting allow individuals to construct and create products, only predesigned recipes and patterns are available to *FarmVille 2* players. Patterns and recipes provided by game designers only allow two resources to be combined together thereby reducing the complexity of the crafting process and the role of the crafter. Crafting therefore limits players' agency and

encourages them to rely on the game design to offer them a few limited choices. The delineation of products and limitations on agency locates players in the production line of a manufacturing process and further constrains the choices of players by forcing them into a play space that resembles an industrial machine motivated by profit.

Selling

The market stand, the location where players sell their goods, resembles a market-regulated system that functions to limit player agency by forcing players to rely on the very market that limits their agency. The market stand's slogan is: "Convert your goods to coins," indicating that this is where the player is to sell their goods and lists the most valuable items first as a way to direct this selling process (See Figure 14). The object name, image and its value are hosted on a green button (developing a symbolic association to the American dollar) located in the market stand, and with a simple click the player observes what objects are placed into a basket for sale. Here a player finds a second menu that appears at the bottom of the interface, along with a final green sale button that totals the sale value of every object on which the player has clicked. With a push of the final sale button, a cash register rings and a pile of gold appears next to the market stand and once the player highlights

Figure 14: Market Stand

them the value is added to their total coin accumulation. The only function available to players here is to sell their goods at the presented price: there is no increase or decrease in market value; there is no trading or exchange of goods across friends' farms; and there is no exchange to other markets. The key function of the market stand is to constrain players by limiting their choices as part of one kind of market structure that is determined by the game designers.

The contrived nature of *FarmVille 2*'s market-controlled structure creates a simplified and controlled structure that further removes players from the production process. Unlike the previous interfaces no status bar and no XP points are earned when players sell an item, an indication of the inability of players to progress within the market structure because the game design does not allow them to do so. The pregiven market structure limits players' agency to bargain, barter or debate prices and relinquishes control of the game to the designers. Unlike other games where players have influence or participate in a free market (*WOW*, *Diablo III* and *Everquest* are examples of this), *FarmVille 2* reinforces the authority of game designers as they force players into a controlled-market structure that sets the final price of goods. Since players cannot question or challenge the market system they must act according to what game designers present them with, that is, to an already regulated and set price point for user goods. For this reason, it follows that players develop a complacent relationship to market structures because they rely on it to regulate prices. This reliance further removes the player from the labor, production and now selling process by forcing them to choose items as 1-click sales (a term patented by Amazon.com for immediate online purchases) that promote a false consciousness of the product. The production and purchasing of goods in this model

has no representation of the consequences that are present in neo-liberal market economies, where outsourcing, sweatshop labor, multinational corporations or conglomerates deteriorate nations through oppressive working conditions, in favor of cheaper products that bear no connection to the actual object cost. The reliance on established market structures and simplistic sales design strongly emphasizes the held capitalist ideology that individuals should strive to accumulate capital without considering the processes of oppression, sources of power, and use of natural resources that are inherent in such social systems.

Summary of Interfaces

The interfaces remove the player from the process of farming in favor of an economic and symbolic gain that relies on the game system to regulate labor and market structures. While the players' monetary and symbolic capital is not equal, they are inextricably linked throughout these interfaces and each promote or allow for the increased production of each other. In addition to this interconnectivity, players learn that their skills in farming, as represented by ribbon color and player level, can only be accessed through the repetitive purchasing of these objects, a process that furthers knowledge about economic access and symbolic representation. The design of the interfaces connects farming knowledge to a represented understanding of agriculture, and requires the player to rely on the system to accurately utilize this information to allow for player success. The reliance on the game system, and the regulation of the market, parallels the neoliberal ideology that a completely free market system will be self regulated.

Interactions

While the previously described object and interface sections are key elements of the *FarmVille 2* game, the following analysis of interactions offers a further insight into the ways that game design directs the actions of players and the meanings that arise from these directed interactions. Stemming from the previous analysis, I argue that the interactions within the game enforce players' adherence to game rules as a means to create a micromanagement of *habitus*. By *habitus* I mean the learned understanding of how to act in the game field, or how through a players' social routines within the game field they come to understand their ability to act and control the objects and interfaces as constrained by the design of the game space. Social routines are the everyday social interactions that form the patterns of play but are subject to external structures such as game rules. Rules therefore provide the formal parameters for players to gage the impacts of their interactions within the game environment, to overcome given challenges and to move through the progressive states of the game. A micromanagement of *habitus* therefore demonstrates that players learn to act in a game through their understanding of the individual social routines which are enabled and constrained by the rules of the game design and that motivate players through the use of economic and symbolic rewards. My analysis of interaction looks at the ways in which game rules allow players to engage with the objects and interfaces in order to analyze how game designers' construct a micromanagement of *habitus* for players. To code for these interaction patterns, I describe the construction of the game rules and environment, explain how game states develop, identify the patterns of action present in the game, indicate how feedback motivates players and address the ways social interaction occurs.

Rules of Action

Because rules make games playable and possible, they need to be clearly presented so players can understand the basic structure of a game. In the introduction sandbox to the game players are directed to locate plots or trees on the gridded layout of the farm environment (See Figure 15). The grid inaugurates the player into the squared efficiency of the game rules where the definitive form of this space limits players' ability to manage the farm and forces the players to follow the linear construction, such as placing trees in a direct line, which is designed to maximize efficiency. The game presents these rules only when the player attempts to move an item on their farm and is therefore only present when player agency is involved (See Figure 16). The overlaid grid presents a clear rule structure for farming efficiency in which every plot, tree or animal is premised on a square consumption of space. Players therefore understand the basic structure of the game as one of spatial management, where they can clear a space only as a means for them to hold or build more production based objects.

Figure 15: Grid Rules

Figure 16: Movement Grid

The management of the game grid and the continual completion of task oriented objectives are centralized as for the players in a designed process of routine actions. While players are able to place plots, trees or buildings in different ways across this space, a sporadic or chaotic design makes the game

more tedious and challenging to play. To simplify the playing process and to make the game more manageable for users, Zynga created a process of "paint" interactions. Painting allows a player to select a crop once and every plot that they cross over with their mouse will plant a seed on it; this action also applies to water and to feeding animals. By painting the farm with one stroke players can complete multiple tasks quickly and without much work, thereby limiting the labor for the player, a process that is further associated with industrial farming or agribusiness practices of feeding lines. For example, to feed a herd of cattle with a single "paint" stroke of feed in the game parallels the trough feeding that industrial farmers utilize today. The design of painting allows players to rapidly complete tasks, which often require thirty of X plant to be watered, and encourages interactions that allow players to have control over each crop through the routine process of painting them quickly. Farm work therefore becomes a routine process that removes any interest in a farmers' ingenuity, the ecological sustainability of the farm or the local input into what farming practices work in a particular context.

Further emphasizing the control over space and the routine interaction within it, resource rules in this game constrain what players are able to do on their managed plots by designing progressive game states dependent on resources. Rather than presenting an emergent game state, where play actions open up unknown contexts, *FarmVille 2* has a progressive structure that offers a limited set of game state reactions. For example, when a crop is watered the game begins to grow the crop and unless the player uses fertilizer or speed-grow, another resource constraint, the players' actions are automatically ended. Additionally, objects such as plants must be interacted with in a specific order, one cannot add speed grow to an un-watered plot, and players are therefore guided to perform

action in a linear sequence. The designed limitations on player agency and the limitation on game states allows players to predict the consequences of their actions and allows them to manage their subsequent responses according to the process which adhere to the game design.

Resource rules additionally limit player action by cutting off their available actions, such that when players are out of feed or water they can no longer act toward the resource dependent objects. The construction of resource rules constrains the total actions that a player may complete during a given time and encourages them to complete sessions of play rather than extend play. Unlike other games, such as *Skyrim* where individuals can play for hours at a time, in *FarmVille 2* players must allow for their crops to grow or water to be refilled and so they log-out and log-in to the game throughout the day, but only for short moments, rather than playing continuously. Because resources and actions are predictable, players can manage the frequency in which they tend to their farm, thereby creating an update approach to farming. Through this design, players are continually logging in to their farm, requesting resources from friends and posting about their farm. Through this process players' Facebook feeds are continually posted, presenting the game to other potential players and also motivating players to make the game part of their daily routine.

While space rules regulate the layout of a farm and resource rules constrain the amount of crops to be harvested, time rules regulate the players' amount and intensity of attention to their farm and force them to constantly update their approach to game play. The real time growth rate on crops teaches players that they can water or harvest their crops according to a daily schedule. Players therefore check in to manage their farm in

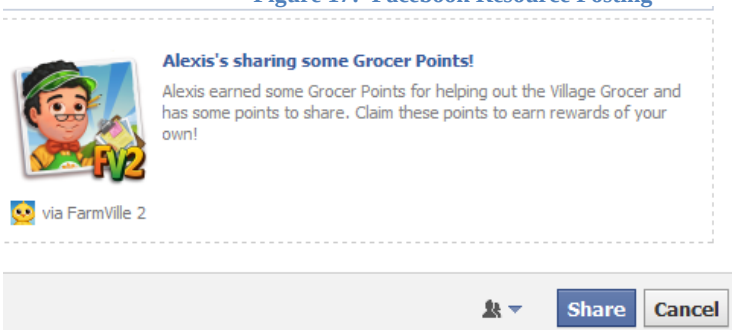
addition to their Facebook page. They update the status of their farm, accomplish the tasks available to them, and within the available actions and repeat this process when new resources are available to them. In the development of the first *FarmVille* players produced alarms on their phone and designed apps that alerted them to harvesting times. The integration of resource and time rules perpetuate a cycle of checking into one's farm as a way to efficiently manage their available resources and to set negotiable times for harvesting goods, a process that is extended through the feedback players receive from these interactions.

Feedback is primarily hosted through the status bars, produced through icons of harvesting and crafting and constrained by time indicators. The depletion or accumulation of resources is represented by the lowering or raising of designated status bars. Every time water is used a visual representation of the water use is presented to the player, an indication of its numerical positions that makes players continually aware of their ability to accomplish a given or chosen task. Not only do these status bars offer feedback to the actions of the player in the game, but they also serve as a continual contextualization of the players' standing in the game and an indication of what they might be able to accomplish next. When players do harvest a crop or craft an item, the fruits of this clicking labor appear in the form of a bouncing icon of the item. These icons serve as a visualized object reward and are a source of recognition that the players have completed the task they started. Throughout the game various time indicators show the a progress of crops, detailing how many hours, minutes or seconds an item has before it can be harvested, fed, crafted, etc. Time is a regulating feedback system that allows players to control the land or their actions down to the second. Feedback is a means of insight that

gives players information on what they can do next and encourages them to check in frequently in order to constantly attend to their farm or a friend's farm.

The interaction with friends, and across farms, creates interdependence on social interactions for player progress. At the start of the game, *FarmVille 2* encourages players to request Facebook friends to create a farm or to become a friend of your farm. By doing so players may visit farms and complete five tasks to help the other players. Visiting friends helps to further the individual progress of one's farm, and while the other player receives help the incentive to participate comes not from reciprocity but from a player's resource needs. Quests also require the player to perform actions on other farms and by doing so players can receive extra items, gold or XP. Once a farm is visited an avatar of the player will appear on the friends farm letting them know that they have received help, a message to the players Facebook wall will also be posted See Figure 17).

Figure 17: Facebook Resource Posting



Interactions between farms are utilized by players to ask for items, such as sugar, that they cannot buy and which they need for various recipes. Requests for items may also be posted on players' Facebook wall and the first *FarmVille 2* player to respond to this request will also receive an item for helping. The social interactions create interdependence between players that enable them to receive items and for quest completion. This interdependence is not a means to talk to other players, but it is a way to accumulate more goods, coins, water and XP. Social interactions therefore develop

friends as resources to further promote a comparative symbolic capital to each other's farms.

Summary of Interactions

The impetus to attend one's farm, to efficiently manage the land and resources as a means to progress or gain more monetary capital creates a micromanagement *habitus* of social routines. While the game can function on its own the player designs the environments and manages the elements and in order to maximize their profits or their farm, they are encouraged to attend the farm frequently and to manage every element possible. Analogous to the social routines that individuals perform on a daily basis the actions taken or managed in *FarmVille 2* reinforce a linear or normative structuring of social interaction which presents a controllable environment that supports the status quo treatment of animals for profit, the transformation of farmland into a multinational business and simplifies the hard manual labor process of farming into repetitive everyday routines.

Conclusion

This chapter has presented the ways individuals learn to play, indicated the meanings that develop from the objects and interfaces, and detailed what the interactions communicate about the game, the player and society. Learning to play the game introduced a game design that constructed the natural environment as a material resource for player manipulation and capitalization. *FarmVille 2* constructs a competitive planting, harvesting and production process that rewards players for overcoming small challenges and learning to manage resources in order to maximize their monetary and cultural capital. The presented and developed meanings of objects are an allegory to

contemporary U.S. American neoliberal agribusiness practices that encourage individual prosperity over the local, cultural or environmental and frame these objects as a source of capital. Through the interfaces of the game, players are all together removed from the act of farming, and even labor because the production labor is outsourced to the game system, in favor of a production oriented model that emphasizes a gain in symbolic and economic capital that is reliant on a global free market system for regulation. The reliance on this system further teaches players that it is only through repetition and purchasing power that one can become better at a skill. The construction of objects and interfaces, through a neoliberal multinational agribusiness structure, removes the hard physical labor of farming and transforms it into routine. Players therefore learn that the labor of their everyday social habits can be simplified and transformed into a micromanagement of resource for profit making.

The design of *FarmVille 2* structures players to value their farm as an immaterial product and teaches them to understand their digital interactions within a neoliberal subjectivity. By relying on the design, game players create a digital product in which they construct hierarchies of power that are connected to the accumulation of economic capital and symbolic capital. Through the investment of player time, their labor and invest eternal capital, players construct a product that is representative of their success as a digital farmer. However, because players labor to construct a product that is owned by Zynga, this labor process utilizes outsourced player labor to popularize and make farms profitable in the *FarmVille 2* game. The field of the Farmville 2 game, where the presentation of a successful farm is a reward for the invested effort of a player, Zynga

constructs the player as a neoliberal subject that is both imbedded in and a producer of digital capitalism as a globalized product.

CHAPTER 5:Analysis of *ELDER SCROLLS V: SKYRIM*

Skyrim is a Role Playing Game (RPG) that utilizes a high-fantasy motif to engage players in the game design and structure. High-fantasy narratives utilize a J.R.R. Tolkienesque structure that locates the player in a feudalistic world of might and magic. In this alternate environment, Elvin kingdoms vie for power against Orcs, humans or other races, and individuals draw upon magical forces to cast spells and create magical weapons to defeat mythical creatures such as dragons or vampires. The high-fantasy structure of this game creates the backdrop for players of *Skyrim* through a third person view of the game, where they look over the shoulder of the main character, a perspective that forefronts the character's experience. *Skyrim* additionally engages the player through a first-person view that illustrates only the hands of the character and directly engages the player with the game interactions. The construction of the high-fantasy environment with the third and first-person perspective directly connects the player with their character, thereby promoting the Role Playing Game (RPG) elements of the *Elder Scrolls* series. In RPGs, players take on the role of their character and develop the skills, attributes and proclivities of this character as a way to influence the designed world of the game. In *Skyrim*, like many RPGs such as *Dungeons & Dragons* or *World of Warcraft*, players must act in accordance with their developed character role, including their speech patterns, to fully develop the role playing environment and the player-character connection.

The game designers of *Skyrim* further utilize this high-fantasy RPG structure to present players with quest lines (objectives that offer various challenges and rewards to complete them), to engage players in the control and management of objects and to

promote a free exploration of the games environment. The feudalistic high-fantasy motif situates the players within a world that is ruled through the might of Nobles and Jarls, creating an environment where the players and the non-player characters (NPC) of the game constantly fight for land and power over opposing forces. Players are introduced to these class hierarchies and power struggles through quest lines that develop their knowledge of the game environment and character skills. However, the design of the game presents a wide range of character choices and actions with the objects and the NPC interactions that create a complex environment for player agency. In addition to this, players are able to roam around an expansive game environment that can take hours to simply move through. Within the expansive environment and feudalistic structure of *Skyrim* players explore the game design through their experiences with and production of knowledge, socially situated meaning making, skill acquisition and environmental interactions.

Because the goal of this study is to explain how the medium of electronic games function as a field of cultural production and to analyze the ways game structures communicate dominant forms of acting and knowing; *Skyrim* serves as the second case study for this research. To accomplish this goal this dissertation seeks to answer these primary research questions:

RQ 1: What is the relationship between game design and the processes of meaning making?

RQ 2: How does game design enable and constrain player agency?

RQ 3: What intertextual structures are present within the cultural production of digital games?

Sub Question: What forms of social learning occur in game as a result of these structures?

These questions will be addressed throughout this chapter to develop an understanding of *Skyrim*'s game design and to show the intertextual structures present in the game. To illustrate this, I report how the introductory tutorial of the game orients players to the RPG format and what is learned in this process, then code the central elements of game objects, interfaces and interactions while connecting my coding patterns to real life social practices that promote forms of social progress and power through individually motivated position-taking within the institutional systems that grant legitimize these positions, and I identify the ways these codes inform, motivate, and constrain the game players' agency.

Learning to Play *Skyrim*

To understand the structures of *Skyrim* and the ways the game orients players into this constructed environment, I address the game's introductory tutorials and the elements that direct player action. I derive understanding of the game by interacting with the game design and using the lens of Frasca's (2007) concept of playformance, where player actions and behaviors in a game session lead to an understanding of gameplay. My experiences with the game as a participant observer are further situated within Gee's (2007) argument that game tutorials not only introduce the game structure, but they also teach players the skills necessary to advance in the game and engage in complex interactions as a way to build their skills. My participant observations are an entrance into game design, using the game designers' tutorial to understand my playformance; this offers a preliminary analysis of how game structures promote and restrict player agency and meaning making.

Fish Tank Tutorial

The introduction to the game is located within the safe learning space of what Gee (2007) calls a fish tank. A fish tank is a contained environment that allows individuals to safely manage and manipulate its structures and to understand the basic relationships at work without any harm coming to them. The fish tank is a "simplified environment that lets one appreciate an ecosystem" by stripping away the games complexity while highlighting the core relationships (Gee, 2007, p. 54). The tutorial therefore explains the basic rules and teaches the important relationships of the game while allowing players to explore the environment. However, *Skyrim* does not offer an overt tutorial or tutor for the player. Instead, game designers provide a tutorial that is analogous to the ways a teacher provides experiential assignments and allows the individuals to learn the game through controlled and then directed lessons. To introduce the controlled lesson the player moves through the start of the game shackled to a horse drawn cart, where the player can only look at the game's environment. During this five-minute introduction, the northern tundra of the game comes in and out of view showing a densely forested area that leads to a socially active castle. After entering into the castle, the player hears jeers and jests from peasants and merchants as well as the comments of various children in the area that directly addresses the characters in these carts. The vistas and commentary in this controlled lesson briefly introduces the interconnected conversations and social environment that is *Skyrim*. Put simply, the more that players engage with the virtual world of this game, the more the merchant and civilian conversations will reflect the impact of the player on this world. The controlled interaction created by game designers constructs players as seated students, the only agency the players have is to familiarize

themselves with the environment that they are in. By locating players as receptive students of the game's design, players learn to understand their position as one of developing knowledge and awareness of a situation before they can appropriately act within a given context.

Skyrim then orients players' agency by allowing them to construct their characters or game persona. The player can choose between ten different races that are part of the high-fantasy motif of beings, some of which are Nords, High Elfs, Kajiits and Argonians (a cat and lizard like humanoid). Game designers then direct players to select the character's gender (limited to either male or female), body composition, head/ face/ brow/ mouth/ hair/ war paint structures and finally the characters' name. The introduction to the characters' physical make up and the options that players have are both indicators of the open interactions that players will have access to throughout the game. The selection of a character is significant because it grants players with special attributes, such as resistance to poison or greater weapon abilities. For example, Wood Elves are better at archery while Nords are better with two-handed weapons, and the design of these characters influences player selection and the attributes that they have when playing the game. Therefore, the character selection is simultaneously an indicator of how the player should act toward the game design and a representation or avatar of the players' actions within the game structure. After the character selection screen is finalized, players are once again turned over to the control of the game designers who direct them toward a medieval trial and involve them in it. However, before the trial takes place, a dragon appears to disrupt the situation, thereby freeing the players from the game's control and formally ending the fish tank tutorial.

Supervised Sandbox Tutorial

The controlled introduction to *Skyrim* presents the general parameters of the game and introduces its complexities through the directed supervised sandbox. Once the dragon releases the player, they are able to move around in a limited game space, as contained within the castle court yard. They are told by NPCs that they need to run away and hide. At this point the "quest journal" opens up and directs the player to the "journal list quests and objectives" that are hosted on a secondary interface. Quests broadly present the goals or challenges for players to overcome and grants them narrative (plot progression) and material (gold, objects or XP) rewards for their completion. Within the introduction, quests also offer a mini-lesson for players that detail how to move and act within the game. Appearing at the top of the screen the first quest instructs players toward the castle keep, the most fortified and protected part of the castle structure. In addition to this quest, the compass icon appears at the top of the screen as a white rectangular bar that points in the direction the character is facing. Simultaneously, another icon appears on the screen telling the player how to move around in the game space while a small arrow icon appears over the NPCs that the player is directed to follow. While all of this direction for players is occurring, the environment is simultaneously on fire and falling buildings crumble around players, yet no harm can come to them here. The introductory safety of the game follows Gee's (2007) concept that introductory levels of games allow the players to orient themselves to the game design while limiting the consequences.

Directed Lessons

The directed lessons of the unsupervised sandbox teach players how to avoid the negative consequences of the game design, to listen to the voices of the NPCs and to

overcome the challenges presented to them. In following the directions of the game, the designers direct players to enter a tower, where players again encounter the dragon which engulfs them in flames and causes the character health bar to open up at the bottom of the screen, which is a red rectangular bar that decreases in size whenever the player is injured. Players can now be damaged and killed if they stand in the fire for an extended amount of time. By continuing to follow and listen to the NPC voices, the game directs players to run from point-to-point in order to avoid character damage and another bar opens in the bottom right side of the screen, called the stamina bar, which tells players how long they can run before they are tired. During this process players begin to learn the rules of this game, including the ways walls and barriers limit player action. Much like traditional education, the initial lessons that players work through construct the groundwork for approaching quests or assignments that are requirements for success. Players are unable to proceed in the game until they have learned the basic structures of the game, once these structures are understood the player can extend their actions.

The supervised sandbox therefore presents the design and rules of the game and teaches players how to understand the game structures and how to make choices when participating in the game. Within *FarmVille 2*, players were told how to manage the world, how relationships functioned and how to negotiate their resources. Within *Skyrim*, players learn to explore the elements of the game on their own and game tutorials only guide players by presenting new interactions with a structured lesson to develop the players' knowledge. For example, in the keep, players come across a locked chest and the game offers the option to pick the lock. If players opt to pick the lock, a brief directed lesson states "use left stick to rotate the lock pick, use the right stick to rotate the lock.

The closer the pick is to the correct position, the more the lock will rotate before the pick breaks. Only when it is in the correct position will the lock fully rotate and open." If players are successful in following these directions, the player will not only gain access to the contents of the chest, but will increase their lock picking skills by gaining experience points (XP), a process that is represented by a lock picking status bar that ranges from level one to one-hundred. The status bar functions as a representation of a character skill and increases in level, through the accumulation of XP, when a player uses that skill. Other tutorials tell players how to cast magic, which utilizes "mana" as a resource and is represented by a status bar on the lower left side of the player screen. Players experience the rules of the game by engaging with the game structures and by following the subsequent quests and lessons of the game design. Players therefore learn to rely on the system to teach them the fundamentals of a skill to overcome a presented challenge before they are able to accomplish this on their own.

Following Instructions

When entering into the keep, players are directed by Hadvar, an NPC who leads the player through a general set of actions that include searching and fighting, and results in character freedom. Players are first told to find armor to wear and to locate a weapon by searching through a specific chest, indicated by an arrow icon. By opening the chest, players learn about the loot and object menu, and they gain access to the weapons, apparel, potions, scrolls, food, ingredients, books and miscellaneous items that are stored in the chest. For each armor that is accessible to the player, the object menu further details the armor type, rating, weight, sale worth and details the character's current armor rating, the weight they can carry, the gold they have and their health level. In this way the

interface menu orients players to the general objects of the game and dictates how they can interact with, carry and wear these objects. Additionally, as players search for items they learn that they can pick up every item that is lying around such as cups, plates, food and cloth. The ability to pick up the majority of objects fills the characters' carrying capacity, thereby limiting their movement and objects they can carry. The acquisition of objects foreshadows the open interactions and limitations that players will have with the game objects, forcing them to manage the carrying capacity to the value of the objects. After locating the specified objects, players move to the next room and must fight their first enemy. A brief instruction menu tells players how to swing their weapons and how experience with a specific weapon increases their skill with that weapon. After players defeat the enemy, they learn to loot the corpses and to take everything, from gold to clothes, off of the body. The designed introduction to gameplay, through the game instructions and environmental interactions, opens the players' agency by empowering them to utilize their accumulated resources as a tool to further their character power over the game environment.

Gaining Agency

Player agency is further enhanced through learning various fighting styles, participation with the game design and the choices that lead to more resource accumulation. Hadvar is additionally utilized by the game designers to teach players how to utilize a bow and arrow. The addition of this offensive resource opens up the ways for players to defeat enemies by allowing them to damage or kill from a distance. In another room, players are required to pull a lever to lower a bridge as a way to connect two rooms together, an interaction that encourages players to open or close off pathways by

controlling the game environment. Because pathways can direct players down misleading corridors or direct them to the exit of an area, the choices of players, to open or close off areas or to choose one path over another, can quicken or slow their progression. The introduction of ranged weapons, as a means to change the character's fighting style and the interaction with the environment, promotes player agency by allowing them to control their character in multiple ways and to constantly alter their interactions with the game environment. The influence and control that players learn to assert over the various elements of and actions in *Skyrim* locate choice as a fundamental element in the design of this game.

Through this introduction to the game, players learn to understand the consequences of their choices and to recognize that the resources and actions in the game will enhance their characters' abilities, add to their gameplay options and influence their progress in the game. The development of player choices through object interactions, play styles and experiences teaches players to navigate the increasing relationship between choices and rule constraints by rewarding the proactive decisions of players with Experience Points (XP), new skills and higher quality items. Players therefore learn to manage the game environment and character actions, much like a student would when progressing through a set of instructional lessons and then applying the gained knowledge to challenges and assignments.

Unsupervised Sandbox

Building from the increased complexity of quest and challenges and the negotiations of player actions, game designers move players into the unsupervised sandbox where they engage the full game. Each level of learning represents the stages of

a pedagogical lesson plan, where individuals are introduced to the subject material, then told what the parameters of the lesson and activity are through the illustration of examples or lecture, and then given a specific assignment for them to apply the concepts in order to solve a presented problem. Through this structure students and players are orient their attention to a given topic and then work through the problem-solving process by applying and extending their knowledge and skills. Unsupervised sandboxes follow this pedagogical process by slowly increasing the player's engagement with complex interactions, challenges and consequences that the game presents. In leaving the castle keep and the underground escape route, players enter into the full world of *Skyrim* and can follow Hadvar to the next town, Riverwood, where they can receive a new set of quests. In following the quest line, players are directed to overcome specific challenges, such as locating other NPCs or defeating specific enemies. If players choose to avoid the quest lines and explore the game world, they will encounter various enemies, such as bears, tigers, trolls or the undead and discover the various towns, caves or monuments within the geography of the game on their own. Avoiding quests does have adverse consequences as players may have to revisit locations to complete them or it will take longer to increase the character level, players therefore learn to use quests to progress through the game. After the introduction to the world and the separation from Hadvar, the introductory tutorial is over for players and from this point on the game allows players to develop their experience on their own. One of the significant draws to this game is this open-world structure, which allows every player to engage in the game in different ways. The open engagement often encourages players to spend a hundred or more hours playing without ever paying attention to the main story line.

Introductory Gameplay Review

Skyrim introduces players to the game through a controlled experience, limiting their interactions as they are oriented to the game design, and then moved to an open-world that allows them to experience the game in a variety of ways. Unlike the structured nature of *FarmVille 2*, *Skyrim* offers complexity through player choice and teaches players that each action they take influences future experiences. For example, if a player continually uses magic they will become a better mage; or if they sneak around, they will become a better thief. Players therefore learn to manage their actions, skill development and object accumulation according to their uses, a process that enables choice with the constraints of the game design. The introduction is analogous to educational institutions and structures which locate students as skill based receptacles to be filled and trained, a framework that structures the learners' body as a resource to be manipulated in accordance to established guidelines, a process that is clarified through the object analysis.

Objects

To extend the analysis of the players' gameplay interactions within *Skyrim*, I identify the significant objects or units in the game design and indicate how they create a contextual meaning for players. Each unit of reading, or lexia, is a "diffuse and multiple, subjective and situational 'unit of meaning' that is both materially bound to the authors" construction of the text and the readers resituating of its meanings (Harpold, 2009, p. 152). Within the study of games, units are the objects that engage with each other and with the player, and which offer meaning through these interactions. For example, in *Skyrim* players travel though the wilderness which is dotted with various plants, a visual

set of units that creates the scenic structure of the game. Players can also pick or collect many different kinds of plants, and once collected they can consume some of these objects, learn to craft a potion from them or sell them for a profit. An interaction with a plant therefore serves as a meaningful resource for the creation of something useful in the world as well as for the production of economic capital. Additionally, if the player combines these plants with others at an alchemy table, they can learn to craft new potions and develop their alchemy skill. The potions that they create are further connected to specific characters, so a potion that replenishes mana will be particularly useful to a mage who relies on mana, allowing them to cast more spells. The situations and interactions that players engage with develop a context-dependent meaning for objects, making players aware of how particular meanings arise from their interactions with these objects.

Using a detailed analysis of the objects of this game, I located more than nine-thousand objects, and then I clustered these objects into four core units of books, weapons, apparel, and ingredients. These core units are a signifying lexia and indicate the polysemic meanings that are fundamental to the meaning making process in the game. With the magnitude of objects within this game I selected only the core objects as clusters for my analysis, and explain the remaining units as world creation objects that gain meaning through their ability to create the immersive environment of *Skyrim*. For example, players utilize objects such as quest items or keys in one interaction within the game and are only part of the game narrative. Additional objects, such as common plates, cups, bowls, etc., while persistent throughout the game lack meaning because they are not essential for players' understanding of the environment because they primarily serve to support it. For example, various cups and plates are utilized in the houses of NPCs to

visualize a living space and to indicate ownership of this property. Other items for example books are persistent and useful because they direct players' attention and help them gain knowledge in the game. The core objects are therefore constructed as resources of power that have the ability to control the mental and physical, both the internal and external, properties of the character's body and prioritize the forms of power that exert control over player and NPC bodies.

Books are meaningful objects in the game because they create and explain the game world, enhance character abilities and provide challenges for players. Books are connected to five subcategories: skills, books that increase character attributes; spells, books that teach players new spells to cast; quests, books that offer new quest lines and challenges; journals/letters/notes, books that further develop the narrative and mythos of the gameworld; and recipes, books that teach players how to craft new weapons, armor, potions, food, and enchantments. Similar to the previously mentioned objects of cups, plates or quest items, books have the primary function of constructing the narrative mythos of the Elder Scrolls' universe. With over eight-hundred in the game, books are spread throughout the entire game and are often difficult to find. Due to this difficulty, the game design encourages players to search through piles of burned books, barrels, books shelves and desks to find these items. Once a book is found the player must open the book in order to access the knowledge stored within, which can range from story development to attribute increases. Players do not have to read through the contents of the book since the game will grant the rewards or quests to the player as soon as it is opened. The search for books is therefore meaningful for players only as they direct

players' actions and provides rewards, which is in contrast to objects such as weapons that are persistent and meaningful for players throughout the game.

The design of books are analogous to the social use of books as narrative resources, means to develop individual skills by providing a structured set of knowledge and contexts that provide individuals with information that encourages them to explore new ideas. Books are a repository of information that rewards individuals for searching them out and reading through them as a way to access knowledge. However, within this game books do not have to be fully read to gain this knowledge and are therefore meaningful in their acquisition and not their comprehension, making them a symbolic signifier, much like a personal library, that presents an assumed knowledge of content over an actual one. Additionally, because there is nothing more to do with books than for a player to open them, these items are designed to increase and develop the player's-character's knowledge only and therefore interact only with their minds, unlike the following objects which are materially represented within the game design.

Weapons

In the game design of *Skyrim*, weapons are fundamental objects that provide players with multiple symbolic meanings that impact game knowledge and players' interactions. Acquired through purchasing, looting, stealing, forging or as a reward from completing a quest, weapons are available to players as they move through the game and function to increase their characters' fighting ability. RPGs require players to engage with various enemies and other questionable characters through the act of fighting and killing as way to progress through the game. The primary ways that players fight is through the utilization of weapons or spells, with damage ranking (the amount of life

points that a weapon can take away from an enemy each time it is used) being prioritized. For example, players choose a sword that deals 16 damage points per use, over a sword that does 8 damage points because of its numerical damage ranking. At the most basic level weapons are meaningful because they increase the character's ability to impact or place an effect upon the NPCs of the game and to assert power over them. The players' understandings of weapons are complicated by the various categories, types, and attributes that enable and constrain players' acquisition and use of these objects.

Weapon Categories

The structures of weapons are divided into two categories of un-enchanted and enchanted, which develop a core meaning for these objects. Un-enchanted weapons provide players with a base rating that determines how much damage can be done. Damage ratings are then paired with character specific attributes to increase this rating. For example, if a player continually utilizes daggers, their one-handed weapon level increases and they are able to select perks, located on a skill tree, that further enhance the character's damage ratings. Un-enchanted weapons are meaningful to players because they allow players to increase the base damage that their character does. Additionally, these weapons are objects for players to assert their control over the environment and other characters by improving their value and damage output. Through the use of a blacksmith's grind stone, players can upgrade the quality of their weapons, from fine to legendary, thereby increasing the monetary value and damage value of the weapon. Players can also imbue the weapon with enchantments, a magical practice that adds additional effects to the object, such as fire or ice damage, to further increase the impact the weapon can inflict on others. Because blacksmithing and enchanting are also skills

that players can cultivate they must practice these processes on multiple objects and so un-enchanted items become a practice resource for this skill development. The utilization of un-enchanted weapons to increase players' skills also allows the character to level-up; that is, as players increase their skills their overall character level also increases. These weapons are meaningful as tools that develop character skills and increase the overall level of the character thereby developing the potential power of the player over other characters in the game. As foundational objects that exert damage upon NPCs and as objects that improve players control over them, the production and discovery of enchanted weapons further develop the significance of weapons for players.

Enchanted weapons are enhanced by magic and create new contextual meanings for players because they give them different forms of power and increase their impact on NPCs by allowing players to do more damage. For example, the Glass Warhammer of Blizzards (a name for a weapon) provides a base damage of 24 and has a magic effect of dealing an additional 25 frost damage to the character's health and stamina bar. The additional damage is meaningful in two ways: first, NPCs take damage faster; and second, the extra elements change the ways that players fight. The damage to stamina indicates that NPCs will fight back less often and adding frost damage means that they will also fight slower. The added enchantment therefore offers players additional means to control an enemy and promotes different patterns of action in the game. Further enchantments allow players to absorb health or magic from enemies, to deal fire or electric damage, or to make enemies run in fear; each enchantment alters the approach of the player to combat situations. In addition to this, many of the NPCs that players encounter are vulnerable to types of magic. For example undead creatures are susceptible

to fire and players utilize this to their advantage to slay these enemies faster. Changing from an ice weapon to a fire weapon allows players to defeat the undead easier, a process that encourages them not only carry a variety of weapons, but to switch between them depending on the context they are in. To further develop the meanings associated with the weapons, players are able to select the category of weapons that they use.

Weapon Types

Weapons categories have three basic forms of one and two-handed weapons and bows that include various subcategories. One-handed weapons consist of daggers, maces and swords, all of which can be placed in one hand, allowing players to carry a shield, cast magic or utilize a second weapon and giving players the ability to dual-wield (the utilization of weapons in both hands). With the ability to control these various weapon combinations, players are able to manage their actions in a variety of ways. For example, players can defend themselves against an opponent with a shield while attacking quickly with a dagger, or they can create more damage with two weapons. In each of these contexts players are oriented by the game design to focus on each hand as an independent force of agency, thereby constructing their hands as a source of action or power over others. The use of these objects are designed to allow player choice to develop through their selection of weapon combinations and players learn that specific weapons are better suited for their gameplay style; individual weapons gain value for individual play styles. Through the use of these different weapons, players learn that they are better with some items over others and therefore begin to focus on individual objects as a way to guide their actions.

Unlike the separation of hands for the one-handed weapons, two-handed weapons constrain the players to a single action. Consisting of warhammers, great swords, and battleaxes, two-handed weapons also limit player actions because both hands must be utilized to control them. While these weapons limit players' actions and are slower to use, they deal more damage and give a different meaning to the players' implementation of agency and power. The inability to utilize a shield with these objects exposes the player to enemy attacks and because they have to be in striking range to use them, they also force players to act within the close confines of combat situations. Playing with these objects requires players to focus on blocking with the weapon and utilizing slower attack options to engage enemies. These objects therefore give players the power to deal a large amount of damage in close contexts, to kill enemies quickly and role play a character that is strong and utilizes might over speed.

The final weapon objects that players utilize are bows, which unlike the previous weapons limit the close proximity of player NPC interaction. Because bows are long range weapons, players are directed by the game design to deal damage before they enter into close combat. Like the two-handed weapons, bows not only constrain the actions of a player by focusing on both hands, but they limit the players' view since they must focus on aiming this weapon. Because bows extend the range of interactions with enemies, this weapon shifts meaning from higher damage to protection at a distance. Additionally, when a player is hiding or sneaking they can deal more damage to their enemies with their arrows, players are therefore encouraged through game design to strategize and hide rather than engaging directly with the enemy. The design of weapons teaches players how to utilize these different items as well as how to implement their attributes in different

contexts. Players therefore learn to develop and cultivate skills that can be applied to different challenges and contexts. Weapons are the technological extension of the player-character and function much like the technologies that extend the abilities and skills of the player outside of the game. These objects, as symbolic tools, extend individual agency by connecting players to the various technologies that represent the world as resources for personal development and where obstacles can be overcome through greater tools. While weapons develop context dependent meanings because they constrain or enable various player fighting styles, these objects also develop meaning for players that depend upon their structured attributes.

Predesigned by Bethesda, the game creators construct each weapon with a defined damage attribute, a monetary value and weight attribute. The monetary value of a weapon in *Skyrim* is symbolized in the form of gold, which the player utilizes to buy and sell objects in the game. Players understand the symbolic value of a weapon by the damage that it can do, by the weapons' constructed material and by the additive magic effects the weapon has. Weapons, like armor, are created from various types of material, such as glass or ebony, and the rarer these materials are, the higher the weapons value. Un-enchanted weapons offer the player little value in gold but are frequently dropped by enemies and found around the world of *Skyrim*. The player can therefore accumulate a large portion of these objects to sell at once as a way to earn gold. Enchanted items offer players a larger amount of gold and are therefore a coveted object for sale. While these objects generate a meaning for players tied to their economic and symbolic value, players are constrained by the weight of these objects as they accumulate them. Characters are only able to carry a limited amount of weight before they are slowed down, and players

must therefore find a place to store or sell these objects. Weapons are therefore meaningful to players through their weight to monetary or symbolic value ratio.

Apparel

While apparel in *Skyrim* functions similar to value process attached to weapons, apparel promotes different meanings for the player such as protection, power and prestige. Apparel consists of the general categories of armor, robes, clothing and jewelry such as rings or amulets. Armor is split into types of heavy and light armor and is divided into the pieces of helmets, boots, gauntlets and armor that cover the characters legs, chest and shoulders. Finally, like weapons, these objects are constructed from the various material resources available in the game, such as steel, iron and dragon bone. The separation of these various types of apparel allows players to mix and match various pieces to influence the abilities of the character and the player. In addition to this influence, each type of constructed material available to the players alters the aesthetics and appearance of their characters. The categories, types and materials of apparel are objects that insulate the character from opposing forces by preventing damage, while simultaneously adding to the characters' skills and appearance. To analyze the construction of apparel I first address the primary categories of light and heavy armor.

The categories of light and heavy armor direct players' agency through the designed and restricted meanings associated with improving a character's power. Light armor is a lower weight object that reduces damage absorption while allowing players to walk quietly and to maintain their stamina. Through the use of this armor players can run longer distances, sneak quietly through the game space and nimbly adapt their movements to the environment. Light armor is particularly useful for players that want to

sabotage characters, cast magic or avoid direct conflict. Conversely, heavy armor gives players the maximum amount of protection at the cost of reduced movement speed and sound. Stronger armor allows players to engage in direct confrontation with enemies and to stay in combat longer because they can resist more attacks. Players are not limited to wearing one style of armor but can combine these objects to interact with the game space according to their chosen play style. Players learn that armor selection is a material resource designed to protect the character's body, and that this game design promotes certain ways of acting or being over others. The apparel that players select, much like they do for various social contexts, promotes ways of acting that is based on their understanding of their skills and their roles in the situations as well as the social parameters of the that context. Apparel is therefore a material extension of the body that creates and reinforces social contexts. Players also learn that the selection of specific apparel will grant them certain abilities over others. As players progress through the game they are able to select perks that enhance character abilities with either light or heavy armor, a design element that directs players to invest one or the other. While the construction and selection of apparel grants individual access to ways of acting in a given context, individuals are additionally invested in dominant structuers of acting because this grants them access to greater forms of social power.

While the selection of light and heavy armor creates a binary selection for players, they can add attributes that mitigate the limitations of these armor choices. Certain armors, much like weapons, have magical powers that give the character improved skills. For example, when carrying loot, players may choose the Elven Boots of the Major Squire (a name that distinguishes the material, piece and magical effect of the apparel)

boosts the characters' carrying capacity skill, allowing them to carry more objects, over items such as the Dragonscale Boots of the Firewalker that offer a resistance to fire. Through the design of these attributes, players manage their armor selection and give various articles meanings that are dependent on the game context in which the player is engaged. The additional improvements that can be added to apparel furthers the opportunities available to players not only to protect their character, but to develop a highly contextual knowledge of what type of armor to wear. To manage a context effectively players must be able to recognize the damage type that they are facing and then be able to switch to different forms of armor. This contextual knowledge of forms of apparel trains players to know what the appropriate types of armor are for varying contexts; a social knowledge that is dependent on the individual's ability to learn about and exist in these contexts. In addition to this, players must also be able to carry and afford multiple sets armor in order to address these situations. The use and knowledge of selected armor choices is further developed through the aesthetic presentation that armor offers.

Through the aesthetic representation and differentiation across materials, game designers add symbolic value to armor, creating a secondary level of meaning for players. Consisting of 23 different armor types, ranging from hide to dragon scale and steel to glass, each type of armor changes the appearance of the character. With thousands of different options, players are able to alter the appearance of their characters in a multitude of different ways. However, one of the elements of the game design is that sets of armor, such as Vampire Armor, are designed to be a matching set. As players gain access to higher quality sets of armor, the ornate elements and intricacies of each piece increase,

giving the character a stronger presence in the game that is reflected in the comments of NPCs in a city. Additionally, players are able to select heavy or light armor perks with extra bonuses if their character wears all of the same type of armor. Game designers encourage players to wear matching sets of armor to gain an improved aesthetic representation or symbolic status, and a skill increase within the game. Because stronger and more powerful apparel share a relationship to the object's aesthetic representation, players learn that higher value items are designed specifically for this purpose. High value apparel is even embedded in a name brand association that depends on the names and classes that are present within the game design. For example, the Falmer armor offers nearly twice the protection and monetary value that the Elven armor does and both are named after a class of characters in the game.

In addition to the aesthetic, monetary and symbolic value that players attach to armor, their ability to offer different degrees of protection and their use as a means of engagement, depend on the level of the player. Within *Skyrim* a character level ranges from 1-80 and represents the accumulated XP from quest completions, skill development and enemy kills. As players move through these levels the objects presented and found in the game also level up; however, once players have acquired an item its attributes remain fixed at that level. For example, if players acquire the Nightingale armor at level 17, the item will be worth 819 gold, and its attribute fortify the lock picking and one-hand skills by 15 points and thereby makeing lock picking 15% easier. If players find this object at level 32, it is worth 1294 gold, and its attributes add 25 point to lock picking and one-hand skills, making them 25% easier. Many objects do not even appear in the game until the player has reached a certain level. For example, Daedric armor, the strongest type

available in the game, does not appear until the player has reached level 46, and dragon scale armor is so rare that players are only guaranteed to acquire them if they forge them. The higher the level that a character attains within the game, the greater the strengths and attributes of the armor, a design process that encourages players to invest their efforts into the game in order to acquire higher valued object. Players learn that their investment in the game is rewarded with greater access objects within the game, and because certain items only appear at higher levels players must invest a significant amount of time and effort into the system if they want to access these items. While armor is designed to insulate the players-characters from the imposition of forces or damage, it requires a knowledge of and access to various forms of armor if they are to appropriately apply their skills to a given context. Players therefore learn that apparel, while a technological extension of the body that is designed to protect, is also a product of social life that not only enables and constrains their ability to participate in social interactions, but grants social and symbolic power to those that already have access to and knowledge of the systems in which they are participating and invested.

Ingredients

Players utilize ingredients to create new objects in the game or to improve upon existing ones. The ingredients available to the players are scattered throughout the *Skyrim* game world, and players must search for them or buy them from the various merchants in the game. However, because ingredients are expensive or limited in their quantity, players accumulate as much as they can carry while participating in the game, and then store them in various locations within the game. To store items players must purchase a house or gain residency to a building, they can then store an unlimited number of items

within the cupboards, dressers and chests in that building. With the thousand of different object ingredients that I coded for the additional game blogs, wikis and websites have cataloged these items to help fellow players manage their attributes, values and qualities. These sites are significant to playing the game because they provide a collective source of knowledge that allows players to efficiently manage their ingredients and actions within the game. While the ingredients are primarily utilized in three processes of blacksmithing, alchemy and enchanting, they are collected through different means specific to each process. My subsequent analysis examines each ingredient starting with the necessary elements for blacksmithing.

Blacksmithing

Players utilize blacksmithing to create or improve their collection of weapons or armor. To start the smithing process, players must gather items, such as leather gained from the various animals in *Skyrim* or metals that are gathered through the act of mining ore. Much like the separation of armor types, these two gathering practices allow players to create light or heavy-armor, skills that are bifurcated in the blacksmithing skill tree. Because of this binary game design players are encouraged to collect their respective elements as they travel throughout the *Skyrim* world. Once these are gathered, a player must then turn the raw material, a fur pelt or ore, into a useable item either through a tanning rack for the creation of leather strips or through a smelter to create ingots. When creating an ingot or metal, players smelt ore at a two-to-one ratio of a piece of ore for an ingot, making items such as heavy-armor, which rely on a large amount of ingots to craft, a resource heavy object. Leather is turned into leather strips at a one-to-four ratio of

leather to strips, but strips are utilized in every design so players must manage these resources carefully.

Once players have obtained their resources, they are able to create new items or improve upon existing ones as a way to develop meaning within the game. At one level, the process of meaning making through blacksmithing is a straightforward process of manipulating the natural world and transforming ingredients into new objects, with value being attached to the resources, quantities and subsequent attributes of the product. At another level, the process has symbolic meaning that develops from the players' ability to craft specific items that are unique to the blacksmithing process, creating a visual representation of a player's skill and symbolic power. Where high value and unique objects that cannot be readily found in the game can be crafted, players have the ability to illustrate their resources management and skill through these items. At a third level, blacksmithing is analogous to a technical knowledge that emphasizes the ability of players to engineer an entirely new object for raw resources and then to improve upon this design through the application of the physical skills—players actually see their character hammer the raw material into the product.

Alchemy

Unlike blacksmithing, alchemy develops meanings for the players through the objects' abilities to influence the players-characters' body. Similar to the collection of hides and ores, players search the world of *Skyrim* to collect various herbs, plants, moss or other ingredients to create potions. One trait of this collection process is that these herbs are spread out over the entire world of *Skyrim* and often only grow in specific spots; the collection of these items is therefore difficult. In addition to these rare

locations, alchemy ingredients appear on objects that are part of the natural game world. For example, players collect various mosses and fungi that grow on the sides of cave walls or old logs and are blended into the environment making them difficult to find. Unlike blacksmithing, once the player obtains the ingredients, they must learn the four uses of each ingredient. To gain this knowledge players consume the ingredients, which will offer one attribute, and then they must combine various ingredients together (through an alchemy station) to discover the remaining three. Because the character can only learn the effects of these ingredients through their consumption, the body is connected to knowledge and requires the players-characters to experience their interactions to understand them. Even when players combine these ingredients together, there is no guarantee that the combination will work and combinations frequently produce no results. Because this trial-and-error discovery process is not guaranteed to work, ingredients must be carefully managed so that they are not wasted, especially the rare ingredients. The design of alchemy requires both an experienced knowledge of and skill with the elements of game world that are connected to phenomenology. The game requires the player to develop their knowledge of the world and their orientation to it through individual experience and self-reflection about that experience, and in this process, players come to understand the importance of interactional knowledge.

The creation of potions increases the character's alchemy skills and provides them with objects that extend their characters' lives and enhance their interactions. For example, the Elixir of Haggling increases the characters' ability to barter for goods and to purchase objects at a lower cost. Through the process of creating potions, players increase their skill in alchemy to higher levels that enable them to craft stronger and

longer lasting potions. While potions are consumed for a variety of reasons, they are primarily utilized to increase the character's health, allowing players to replace the health they lost due to an attack or to replenish their mana allowing them to cast more spells; the use of potions therefore maintains and extends the players'ability to engage with the game structure. Potions are additionally used in combination with skills such as increasing a character's ability to block and attack, or they can be used to increase players' blacksmithing or alchemy skills. Players consume potions to enhance their spectrum of interactions, and to gain an upper hand or edge in completing a given challenge. The design of the alchemy objects, through the resource ingredients and potions, orients players to develop their knowledge through the characters' experiences as they influence or impact the internal character body. Because characters have to consume these objects, they learn to manipulate the body, both the mind and the muscle, to produce beneficial results, a process that encourages a control over the internal elements of the players' body.

Enchanting

The third set of primary ingredients that players collect are soul stones used for enchanting. Soul stones are magic gems that players find laying around *Skyrim*, purchase from vendors or mine from deposits. What is unique about these ingredients is that players are able to collect and store the soul of a fallen enemy in the soul stone. Consisting of petty, lesser, common, greater, grand and black soul gems, the ranking of these gems allows powerful souls to be contained within them. For example, a petty gem can only contain the souls of a chicken while a grand soul can contain the soul of a mammoth. In order to fill a gem, players must use a magic item or spell that traps the soul

of a dying enemy. Because higher ranking gems are difficult to find, expensive to purchase, and high ranking enemies are difficult to kill, this is a difficult challenge for players to overcome. The use of valuable gems, through enchanting, increases the perks that players add to an object, whereas a lesser gem will increase health by ten points, a grand gem can increase health by one hundred and twenty. Game designers encourage players to fill larger gems, with larger souls, in order to create more powerful enchantments, a process that is difficult because larger enemies are harder to kill. Gems construct enemies as a resource not only for their material object, but for their immaterial resources. Players therefore learn that a resource is valuable for what it could offer, what the potential resources might be, and the gems encourage players to approach interactions based on what personal value they can attain from them.

Once players collect and fill a gem, they can utilize it at an enchanters' table to imbue weapons or armor with character attributes that offer skill bonuses. To enchant an item, players first learn various enchantments through the process of disenchanting other items. To disenchant an item, the player destroys it and in the process gains an understanding of its magical powers. Players are directed to disenchant items much like scientists are directed to deconstruct and breakdown the natural world in order to reconstruct it for individual or social progress. The deconstruction of a genetic sequence, to cure diseases or to produce drugs as a way to improve upon the scientific technologies that enhance the human body, is analogous to the deconstruction of enchanted items to enhance the technologies available to the player. The player can then utilize the deconstructed knowledge to imbue other objects with that knowledge, allowing them to create objects that increase the needs of players. In addition to this, an enchantment such

as fortifying alchemy is used to enhance a player's ability to create potions, the increase in skill then allows players to further extend the knowledge they have learned and the research process.

Review of Objects

The objects in *Skyrim* are sources of power that allow players the ability to develop their skills and to manipulate the natural environment for personal benefit through the control over the players-characters' bodies through the four main object categories. First, while a smaller object within the game, the use of books, as a resource of information, directs players to perpetually increase their knowledge as a resource that enhances their ability to progress. The mind is therefore represented as a means to be controlled and applied only as a resource for individual success. Second, to cultivate the control with the body, players learn to manage their weapons as a technological extension of their character and to develop skills necessary to maximize their ability to assert control over others' bodies. Third, armor not only shields the player from imposing forces, but it is a source of symbolic power through its increased aesthetic presentation. Contexts in which players are involved also give meaning to apparel by encouraging players to develop knowledge of the varied but similar combat situations, a process that structures their ability to appropriately participate in these interactions by requiring specific apparel. Finally, ingredients improve upon the players-characters' weapons, apparel and body by directing and manipulating the internal structures of the player body. The objects in this game present the use of and control over the body and teach players that a mastery of the body is necessary for progress in the virtual world of this game. Through this design the presented objects are not used as tools for resistance but as tools

that reinforce systems of power. Players are therefore brought into a false consciousness of the game system, where the introduction presents a freedom to explore the game and to extend their learning on their own by interacting with and manipulating objects; however, the objects eventually subvert this work and locate players in a system that ultimately seeks to control the players-characters' bodies.

Interfaces

Interfaces are a locus for player attention that constructs (both enables and constrains) their access to the different sources of power within the game and connects them to a dispersed set of ideological state apparatuses or fields of power that are guided by logic based knowledge. I utilize ideological state apparatus to mean the "number of realities which present themselves to the immediate observer in the form of distinct and specialized institutions," and which are forms of ideological power (Althusser, 1971, p. 142). And I pair the broad construction of these state apparatuses with the understanding that the structuring of players' positions in the interface is developed through relations of power and the structuring of dispositions for player practice (Bourdieu, 1993). The structuring of these varied interfaces are designed to guide the practices of players toward the relations of power that are present in each interface and that connect to institutions and relations of power that are external to the game. The significant interfaces in *Skyrim* consist of the primary interface with four central sub-interfaces of objects, skill levels, magic and world map which are always available and accessible to the player; and the speech interfaces guide players through the frequent interactions with merchants. This primary interface section connects players to broader ideological apparatuses, such as economic systems, primary and secondary educational systems, legal structures, the

military and market structures that create the fields of power for player knowledge. In addition to these primary interfaces, players utilize supplementary interfaces to access the processes of alchemy, enchanting, blacksmithing and a secondary interface that offers players quest access, players' statistics and game options. The supplementary interfaces constrain players' access to knowledge through deductive and inductive logic. To clarify this process I provide an analysis of each interface that describes their construction, their internal and external meanings and the ways player agency is enabled and constrained.

Primary Interfaces

The primary interface is the central means for players to orient their gameplay and consists of items, skills, magic and map. *Skyrim* presents the players with a general play screen that allows them to focus on their interactions; however, how to utilize any object or manage their character's inventory using a complex set of interfaces is presented to players. To access this interface the player pauses gameplay and brings up a grey overlay that presents the information on top of the gameplay screen (see Figure 18). The primary interface presents players with a cross that presents each sub-interface, allowing them to easily navigate between them. Once selected the game brings players into a secondary interface with different choices and actions. The sub-interfaces therefore contain knowledge for the players to access that allows them to focus on individual interactions rather than requiring them to remember detailed game design information. In addition to the central options, the interface details the current health of the character (utilizing a red status bar and a

Figure 18: Primary Interface

numerical value), the current carrying weight and capacity, and the current armor rating of the character. These overlays provide sub-category options while presenting players with pertinent character information. I further explain this interface by starting on the right of the cross and moving counterclockwise to the first, and most content heavy sub-category of items.

Items

The majority of the objects in *Skyrim* are available for acquisition or interaction, all of which are stored in this menu, to interact with interfaces players learn to manage these objects through a market based orientation. The design of the interface lists nine sections along the left side of the screen, consisting of weapons, apparel, potions, scrolls, food, ingredients, books, keys and miscellaneous that allows players to select the general objects and then opens a secondary layer that presents the individual objects (see Figure 19). For example, the items interface hosts only the object categories but once players select the weapons category then every sword, ax, dagger, etc. that the player is carrying becomes accessible to them. Each of the categories also offers different interactions. For example, in the weapons and apparel section, the player can equip their character with different items; in the potions or food section players can consume and gain its attributes;

Figure 19: Object Interface

scrolls allow players to cast a spell; and books, keys and miscellaneous store one time use objects such as quest or narrative items. The design of this interface structures each object group through a catalogued inventory that ranks items according to their utility and monetary value.

The presentation of the weapon and apparel menu is the first sub-menu that communicates the significance and importance of these groups to players. Within these menus individual items are ranked via their armor or weapon rating through a numerical indicator that presents a higher protection or higher damage dealing rating in comparison to the character's currently equipped objects. To further this comparative process, a small triangle next to items appears in the player's inventory that indicates all of the items that the game designers feel are best. For example, in Figure 20 below, the character has nine weapons and the game communicates through the triangle which weapon offers the best damage; the damage is illustrated at the bottom of the screen with a green number (+39) for the Greatsword. While this interface enables players by allowing them to manage, use and access their current objects, game designers structure player practices through a system that values items according to their predesigned ability to improve the character. The items are presented as material sources of power that help players in their struggle to

Figure 20: Object Comparison

occupy dominant positions through the item's value and capital.

The item interface further organizes a player's inventory into categories of ingredients, potions, books and miscellaneous objects that extend or limit the agency of players'. The hundreds of potions or ingredients available in the game attend to the specific needs of the player-character within a given context. For example, characters relying on their strength to swing an ax, rely on strength potions to improve their abilities that carry these over to other potions. The storage of these items is also related to the weight of objects, in which some ingredients weigh a fraction of a pound but a sword weighs twenty pounds. Because weight is a limiting trait for objects, as it leads to the constraint of a character's movement, objects develop meaning in accordance with their value-weight ratio (see Figure 21). To alleviate a weight burden a player can drop items according to the player directed value-weight ratio, the monetary or damage value of items is then prioritized, where dropping several small items may be more useful than dropping one large item if it is valuable. Games designers teach players to value items according to their ability to improve their skills, the object's symbolic and economic value, and because players do not have to manually manage this system, they rely on the interface itself to present the necessary information to them.

Players learn that items and their interactions with them are located within a

Figure 21: Object Value and Weight

larger institution or economic meritocracy that emphasizes the value and worth of items for individual prosperity rather than other systems of meaning making. The item interface is designed to legitimate players' understanding of game objects as more or less valuable based on the merits they offer, a process the locates players in a meritocratic based system. Connected to forms of democracy, meritocracy is a social system in which individuals earn rewards according to their autonomous abilities, actions and efforts, and equal opportunity for success applies to everyone regardless of social identity (Hochschild, 1995). The meritocratic system is developed in the introduction where every player starts off at level zero and then learns to navigate the game system and the presented objects, in order to develop and apply their skills. Built into this market structure, however, is a necessary recognition and legitimization of an individual's abilities, if the value of these abilities to be turned into profit (Bourdieu, 1993). The meritocratic system in the game therefore parallel a player's social knowledge of capitalist structures that give rewards to those that exhibit socially valued skills, such as computer programming, or to those objects that promote a greater skill development, such as an advanced computer system. The recognition of value is inherently bound to the legitimizing powers and the social forces of the system in which individuals are vying for power. Because not all players or computer programmers have access to equal training or equipment, nor are all individual skills socially recognized as profitable, the construction of meritocracy in this game is furthered by the implementation of skill based enhancements.

Skills

The top section of the primary interface is the skills menu that directs the skill development of the character and focuses the processes of leveling up for players. Divided into three archetypes of warrior, mage and thief, the skill trees offer eighteen skill sets (Archery, Heavy Armor, Bock, Two-Handed, One-handed, Smithing, Light Armor, Sneak, Lockpicking, Pickpocket, Speech, Alchemy, Illusion, Conjuration, Destruction, Restoration, Alteration, and Enchanting) to the player allowing them to follow one of these predesigned character archetypes, or to construct their own (See Figure 22). In addition to the general skill category, each skill offers a subset of perks for players to use that further enhance their abilities. For example, within the archery skill, nine perks that can be selected to enhance the players' skills, allowing them to shoot faster or to do more damage to enemies. With 250 selectable perks, and only 100 available points for the character, the players' selection choices are limited and they must therefore plan out the investment of these points. To acquire perk points a player must increase their character level, where one point is granted for every time they level up.

Characters level up in the game through individual actions or the completion of

Figure 22: Skill Menu

quests, a process that is represented by various status bars. Every time that a player utilizes a skill, or defeats an enemy, they gain XP (Experience Points) that is added to their character's skill or level status bars. The more that a character utilizes an action or skill, such as attacking with a one-handed weapon, the more points they will receive and the higher their skill level will become. The increase in skill level is represented by a status bar that corresponds to a skill tree in the interface menu and has a limit of 100 (See Figure 21). The individual bars present reminders of the skills that the players most frequently used, a visual way of encouraging a meritocratic recognition of skills. The increase in level, through the represented status bars, legitimizes players' progression within the game world and teaches them to recognize skill improvements as a form of success. Completing quests also gives players XP and gives them more points for the destruction of enemies, and further increases their skills. Through the process of using skills to defeat enemies and to complete quests, players earn XP that fill their character level bar and every time this is filled they are granted one perk point to invest in their character.

Because skill points are limited in quantity, players must plan out and carefully select the skills that they want to invest in. To account for this selection process, the game designers allows players to continually gain XP and level up, thereby earning perk points, without having to spend these point right away. The player can therefore save their points to expend them when they have fully settled on their player style. While the selection process is one of nomination by the player, this act is an illusion of creativity as the skill menu functions to establish the mutually reinforcing belief that invested efforts into a knowledge system will be legitimized by the system or institution of this investment. The

design of the game and the interactions with the skill menu function through competition and rewards, a process that is analogous to the academic ideologies of merit based training, where "hierarchies [are] linked as much to seniority as to competence, and their curricula with strictly defined stages and programmes" (Bourdieu, 1993, p. 241). The player is granted access to forms of progress only in as far as they are obedient to the system that provides this access, a system that is hierarchically premised on the granting of rewards and progress for overcoming competitive, merit based challenges.

The skill interface represents the visual development of a players-characters' merit based skills through a primary school institutional structure that legitimizes students' (and players') positions only to the extent that they are able to invest their efforts into the instructional structures that rewarded them for doing so. Akin to the presumed access that American citizens have to a primary education, all players are also able to access the basic skill development structures of *Skyrim*. Built into both the game and educational systems is the recognition of a performance that is premised on the merit and abilities of a student. Progression through the primary educational system is grounded in students' performances that are legitimized through the processes of grading and their competency in developing and applying a skill set that coincides with preset standards for educational and social mobility. Because the educational system grants legitimacy to the teachers and the students, as products of a state institution, it holds the ability to recognize the merits of individuals and maintains the power to say who is competent and who is not (Bourdieu, 1993, p. 250). The design of the skill menu locates the players within an educational context that legitimizes their progress and skills through a merit based systems. Merit based progress is further developed within this institutional

context along standardized and singular lines of learning. The skills sets provided in this game present players with silos of information that offer little to no overlap in their development, thereby promoting a specialization in a given area. The players' grade, and therefore success, in a given field is communicated through status bars that are representative of the knowledge which is supposedly acquired. As players progress in the game their overall grade level increases, giving them more power within the game and granting them symbolic capital through a hierarchy of grade levels, seniority and represented competency.

Magic

The third menu presents players with the available magic powers, called magika in the *Skyrim* world, which players have learned. Magic is a non-material skill that allows players to attack and defend themselves without the use of weapons (although they can still use weapons and conjure mystical weapons). Rather, players can cast fire and ice spells, conjure Atronach beings (living creatures made form elements such as ice or fire) or raise the dead to fight for them. This interface presents knowledge about the different spells and schools of magic that are available in the game as well as any additional powers (runes that add special abilities), active effects (such as a poison or potion

Figure 23: Magic Menu

enhancement) and shouts (a learned skill specific to this game) that the player has acquired (See Figure 23). Magic is an innate ability that is presented to players as they start the game, and while all characters have access to this, it must be cultivated and learned through the process of reading books about magic. The magic interface presents the learned knowledge of game elements that can be turned into a source of power for players to progress in the game, allowing them to assert or deflect the various forces of the game.

The magic interface directs players to four broad categories of magic, shouts, powers and active effect, all are types of effects that players can impose or that have been imposed upon them. As previously discussed, magic abilities allow players to create various spells that can impose or deflect the external world. For example, the destruction, conjuration and illusion schools of magic allow players to create forces, such as an animated corps or lightning bolt that will damage an enemy, while the restoration and alteration school can protect players with a magic shield or restore their health. Because players must read through a library of books to learn these spells and that not all players choose to go through this process, the magic interface is analogous to the higher level learning that takes place within institutional structures and state apparatus of higher education; players can even go to the College of Winterhold in the game to learn magic. Through the interaction with magic, players learn to transform their knowledge into material forces that can influence the world around them. Additionally, shouts are gifts bestowed upon players from their genetic ancestry that allow them to speak the language of dragons, a language that manifests itself in the physical world, such as making the character run faster or parting a mist that may limit a character's movement. While magic

allows players to utilize their knowledge to influence, shouts teach players that what they say has power and that it has impact. Finally, the power and active effect sections list the special abilities of players that have been blessed upon them, such as learning skills faster, or the effects of potions, poisons and curses that have been inflicted upon the character. This menu develops meaning for the players since they represent the internal influences that impact the character's ability to function and act within the game world.

Map

The bottom menu presents the map of the game world and allows the player to travel between discovered points. The map presents the boundaries in which players can travel and presents thirty different markers for exploration that range from camps, strongholds and towers to caves, ruins and mines (see Figure 24). Traveling through the *Skyrim* world allows players to stumble upon and explore these various markers and places, an icon of these locations on the map. These explored locations allow players to "fast travel" between explored markers quickly rather than walking between these points. The presence of the map therefore encourages players to explore and travel to the various points in this game's virtual world and serves as a visual marker for exploration progress. The map is also interconnected with the quest menu, in which a quest indicates where the player should travel in order to complete the given challenge. Because the map is a repository of the movement of the player through the game, it also

Figure 24: Map Menu

demarcates where and what they can access. Additionally, the representation of major cities, rebel camps and citizen farms provides an established set of parameters for property ownership. The map interface is analogous to the ideological apparatuses of the political and legal systems that dictate land boundaries, access, ownership and state control. Players can only access towns by being invited to them or enter stores during certain hours, a design structure that promotes a legal system that is only present when property rights are paramount.

Speech Interfaces

The final interface of *Skyrim* consists of the common interfaces that players frequently rely on, such as speaking, storage, looting and searching, processes that teach players about the elements of the environment and how to perform a mastery over them. Throughout the game, players encounter hundreds of characters with whom they can interact even though many only say a specific phrase from a dialog box. Dialogs allow the player to gain information, access items for purchase or sale and to earn quest lines. By following the same format across the dialogs, players are able to select from a designed set of statements that make their interactions pragmatic. Players learn that other characters in the game are only available to speak if they are able to provide relevant game information or if they can offer an economic transaction (see Figure 25). Character interactions therefore construct other NPCs as sources for meaningful content and resources for interpersonal interactions. The design of

Figure 25: Speech Interface

common interfaces presents human interaction as a process of individual development and profit gain that turn the communication process into a capitalist system of economic profit. Players are able to develop speech skills that are implemented to persuade, influence merchants, to increase the gold they gain from selling items and decrease purchasing prices. The speech interface is meaningful to players only in so far as they are able to maximize their profit by reducing the merchant's power, indicating that the more erudite or verbose an individual is the better they will be at market based interactions. Speech is designed as a form of persuasive rhetoric and a means of coercion, where the players utilize this skill to bend the will of others, a reward only offered to players that invest into the skill, a process that grants them access only by knowing the appropriate language. The construction of voice in the game only offers individuals purpose or benefits if they are able to utilize it against others and if they know how specialized languages or discourses can be utilized to accomplish this.

Supplementary Interfaces

The supplementary interface section is composed of three sections that develop different forms of knowledge within the structures of the game. Comprised of alchemy, blacksmithing and enchanting, each section presents the player with an orientation to a knowledge that enhances character abilities. Connected to the development of skills and perks, these interfaces allow players to cultivate their characters' skills and power through the enhancement of the body, the technological extension of the body and the improvements placed upon this technology. Each of these interfaces additionally supports a pedagogy that emphasizes a reliance of logic. The following section will detail each

section and present the ways that these interfaces serve as a structure that enforces a logic based knowledge for the player.

Alchemy

Alchemy is one of the first interfaces that players encounters in the game and furthers the use of the alchemy process, as one of exerting control over the body, by constructing player action through a process of inductive reasoning. Interacting with potions and ingredients in the opening sandbox of the game, players are introduced to the core elements of alchemy early, that is, drinking a potion can save, alter or enhance the character. To craft potions, the player must find an alchemy table and combine collected ingredients together, a process that consists of selection and creation. To accomplish this process the interface presents players with an alphabetical listing of ingredients and their quantity, players can then select up to three different ingredients and combine them together in an attempt to learn their properties and to create a potion (see Figure 26). Through this trial-and-error process, players learn the properties of ingredients as well as how to combine them. The design of the interface relies on a scientific paradigm that encourages players to hypothesize about appropriate combinations and then encourages them to test these hypotheses. While this is a trial-and-error process, where many combined ingredients do not craft a successful potion and where ingredients can often be

Figure 26: Alchemy Interface

wasted, the scientific paradigm ensures an eventual success or verified solution. Alchemy presents an approach of inductive reasoning to learning that allows small observations to be utilized as a means to develop a final and true generalizable conclusion.

Blacksmithing

Blacksmithing, much like alchemy, utilizes the resources of the external world to construct objects for the improvement of the character that rely on processes on reasoning by authority. The general process of blacksmithing consists of smelting, forging, improving and grinding that depend on players' abilities to collect various items, smelt them down and then craft and improve them. This process is necessary to convert a natural resource into something useful. While each of these separate actions provides players with different outcomes and object, they each select and combine resources to create new objects, such as pieces of armor and weapons that technologically extend the abilities of the player-character while relying on previously established systems of knowledge for their creation (see Figure 27). While blacksmithing is a technological development, it depends on the game designers' knowledge about the smithing of items to create useful objects. Unlike alchemy, where players must learn formulas, players are given a set of blacksmithing patterns which they can follow, thereby utilizing the knowledge of blacksmiths that have come before them. Players then implement this

Figure 27: Blacksmith Interface

authoritative knowledge in order to continually produce better items, thereby developing their skills through a practice-makes-perfect learning process. There is no final truth that players can attain through this process; rather much like an engineer, players are perpetually building their knowledge by improving upon their product. Players therefore rely on the authority of the game designers and other blacksmiths to produce any item, thereby forcing them to learn through authoritative and deductive reasoning based on the premises that others supply them.

Enchanting

The final supplementary interface is enchanting, a source of power that uses magic to alter and improve upon the material objects in the game by first deconstructing or destroying enchanted items. For example, if a player destroys an armor of extreme alteration that increases the alteration school of magic by twenty-two points, the player can then enchant other armor pieces with this attribute increase. To place a learned enchantment on an object, players first fill a soul stone with a soul, which is accomplished by trapping a creature's soul after it is killed, and then using an enchanter's table to combine the spell with a selected weapon or piece of apparel and a soul stone. Like the other interfaces the enchanting skill increases through practice. Additionally, there is a hierarchy of soul stones, ranging from petty to grand, that increases the power and duration of the enchantment. Enchantments can increase character abilities or increase the damage that weapons can inflict.

Enchanting, much like the casting of magic, is part of the magical elements of the game and teaches players how to control or employ their learned and critical knowledge in the game. Both the magic and enchanting skills are learned through the process of

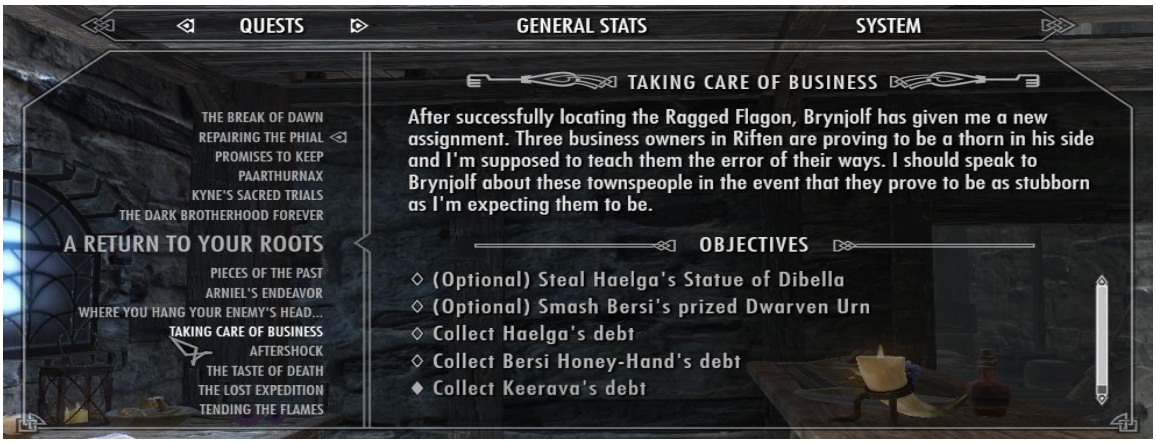
Figure 28: Enchanting Interface

doing, either by destroying or by reading, where the character has to learn a process before they can replicate it. Once an enchantment is learned the player can infuse material objects with the understood magical properties and repeat this process across a multitude of objects (see Figure 28). The game design forces players to deconstruct a complete object as a way to reveal the underlying structures and elements of that item, which is a kind of analytical reasoning process where players learn to apply the acquired knowledge in order to understand additional objects or contexts. Player learn that objects and interactions can be deconstructed into their foundational parts, thereby gaining knowledge that can be applied to future contexts in which the individual can improve and exert their power within.

Quest Menu

The quest menu presents a secondary interface that includes the quest menu, player statistics and game options that host the available game structure interactions and frame player goals and actions that are analogous to an educational process of completing assignments and receiving grades. The secondary interface is similar in design to the primary but offers different access options for players. The first interface that players use is a quest menu that allows them to access the various collected quested (the challenges that the player must overcome for a reward) which are organized as primary,

Figure 29: Quest Interface



miscellaneous and completed (see Figure 29). The menu allows players to select a given quest, a process that brings up the details and objectives, and then places a marker on the map which players can access. The secondary interface also presents the player with their general statistics of game play, allowing them to see results or get feedback from their general interactions, quest completions, combat actions, magic casts, crafting production and criminal actions (see Figure 30). The third system section presents the options for the player to save and load the game or to access general gameplay controls. All of these sections are designed to track players' progress and actions, giving them some quantifiable measurement about the effects of their game interactions. The quest menu is analogous to an assignment system that hosts the core topics for the player to address, the assignments that are most directly useful for their character and the side quests or homework assignments that will help the player progress in the game. Each assignment lists the core objective,

Figure 30: General Stats Interface

where the player must go to accomplish the task and what is required of them to finish the assignment. While there is no direct grading system in this game, the general menu presents the activities of players in the world of *Skyrim*, detailing how they have spent their game time. Both of these menus provide players with immediate feedback, allowing them to know where they stand in the progress of a quest or their individual actions.

Summary of Interfaces

These interfaces are analogous to the interfaces of knowledge formation, skill development, grades, job specializations, diplomas and the merit based labor that underline institutional systems and which communicate dominant forms of social learning. Through the primary interfaces players are directed toward a stored repository of knowledge that grants them access to sources of power within the game and that are connected to larger institutional state apparatuses outside of the game. Players learn that these interfaces are structures that generate and organize the practices and actions that a player has access to. Through this process players are inculcated and brought into the broader social fields that encourage them to invest in a varied set of fields of power that function to control their knowledge of and actions within them, a process that is analogous to the social systems and institutional structures that exist outside of the game. The secondary interfaces perpetuate a reliance on the institutions by constructing a pedagogy that is grounded in science and technology processes that emphasize logics based learning and knowledge. The interfaces therefore work together to develop meaning for players, which enable and constrain their agency, through three intersecting processes of 1) gaining access to and reinforcing systems of power through an investment in the institutional state apparatuses that provide this power; 2) engaging knowledge

building and learning through value or merit based comparative practices; and 3) struggle for positions of power and to institution and social structure investment that is grounded in logical processes of thinking. The intersecting structures that are present in these interfaces not only give players access to various forms of power and social knowledge but encourage players to continually improve their social power through positioning-taking; a process that is further illustrated in the interaction section.

Interactions

The previously described object and interface sections identified the elements of the game available to players and my subsequent analysis of interactions provides insight into the ways that game designers direct the actions of players through the objects and interfaces. Fundamental to game design and player interactions are rules, which provide the formal parameters in which players gage the impacts of their interactions within the game environment, overcome challenges and move through the progressive states of the game. The analysis of interactions therefore looks at the specific ways in which game rules allow players to engage with the objects and interfaces and offers a broader analysis of the way the games express meaning. Within *Skyrim* players can engage with the rule structures in a multitude of ways, my analysis uses two primary interactions of combat and exploration. To code for these interactions patterns I describe the game rules and environment, explain how game states develop, and explicate the processes of action present in the game and how feedback functions within these three categories.

Combat Interactions

From the start of the game players learn the central interaction process of the game is one of combat. At the start of the game, players avoid combat because their

hands are tied and they are faced with an overpowering dragon. Players can continue this process of running away or avoiding combat, but the game rules do not allow them to complete presented tasks, level their character up or gather the vast array of game objects if they do so. The formal rules of the game therefore force players into combat situations in order to develop their characters' skills by overcoming challenge through the defeat of an enemy. To negotiate these forced interactions players learn to navigate the continually shifting or emergent game states that are presented to them. For example, when a player swings an ax into the body of a troll a slicing sound occurs and the player visually sees the life bar of the troll to deplete. The player is reciprocally being attacked and struggles to stay alive. The game therefore consists of a dynamic set of states that are perpetually changing due to the combat interactions, between character and enemy, and is represented through several feedback systems that guide player interaction.

When engaging in a quest or exploring the world of *Skyrim*, players are constantly under attack from various creatures, warriors or dragons and are directed toward this combat through four significant feedback systems of music, life bars, magic and blood

Figure 31: Combat

(see Figure 31). The game design first presents combat events through the use of music to prepare the players for combat. While music is present throughout the game, the volume and pace is intensified before a player engages in combat. Music serves as a warning to players that danger is near and functions to orient player actions whether toward or away from combat. The game designers implement music to focus the interactions of players, much like the ways a bell at a school, or an opera, direct individuals to the appropriate contexts. Music further functions through the Doppler Effect where the intensity of the music indicates the proximity of the player to the combat context; the louder the music the closer they are and the further away the softer the music. Once the player is directed toward and in visual range of an enemy, a status bar appears at the top of the screen indicating the health of the enemy. Positioned through the concepts of life or death, players are directed to reduce the enemy health bar while keeping their life bar full. The visual feedback of player and opponent life bar symbolically represents the character's ability to exert their force over other characters, where the greater the developed skills and the higher the damage value of a weapon is the quicker an enemy health bar will deplete. In addition to this contextual and visual overlay in the game design, enemy combatants often have a glowing aura surrounding them or their weapons, a visual indicator that these objects have a magical attribute and are therefore more powerful. The presence of magic on an enemy functions much like it does for players, as a representation of the developed experience and knowledge which grants greater strength and makes the enemy more difficult to defeat. Additional magical overlays, such as fire or frost that are cast on the ground or at the player, indicate the magical powers of an enemy and tell the player to equip different apparel or to act in ways that avoid this type

of damage. Magical enemies therefore present feedback indicators that require players to prepare for combat if they are to successfully defeat them. Each of these elements informs players of the ensuing contexts and directs them to prepare for combat, other feedback systems function to communicate meaning to players as they are engaged in combat.

Once players are engaged in combat an additional feedback of blood, indicated by red splotches on the screen, appears to show when the player is damaged. The visual overlay of blood as damage connects players with the game character in a direct way and encourages them to protect their character in order to avoid death. If the character dies, players must start the game over from their last save point, a function that allows them to restore their previous game states and avoid losses in progress. Because the avatar character is an extension of the players within the game world, players are directed to perform actions that exert force and that protect their character from receiving damage. Through combat players learn to apply all of their skills and struggle through overt forces of violence for positions of power. The systems of feedback in combat therefore construct a relationship between players-characters and players-environments that locate player action within the field of the game design through position-taking.

While the position-taking process is between the player-character and enemy combatants, the struggle is inscribed in larger institutional conflicts of authority and freedom. In following Bourdieu, Johnson (1993) asserts that "the relationship between positions and position-taking is mediated by the dispositions of the individual agents," their *habitus*, inclinations and developed forms of capital and skill that represent an individual's dispositions to "play the game" (p. 16). Games designers construct the

combat interface through a rule-by-might paradigm that encourages players to assert their power over others and thereby take a more powerful position in the game. The player and opponent competition that is present within *Skyrim* is analogous to the social struggle which individual agents struggle for power within a given field. Thorough the learned *habitus* and acquired forms of capital of an individual they learn to control and employ their skills and resources as a way to increase their forms of capital and power.

To complicate this process and to allow players to put into action their knowledge, game designers encourage players to acquire multiple objects to help them in enemy interactions. Through the rules players learn that different weapon combinations, such as two daggers, can do a significant amount of damage while casting magic helps them to fight from a distance. These rules allow players to manage their interactions based on the resources the game allows them to have. For example, a player may use a spell to attack from a distance and then utilize the primary interface to switch their weapons or armor to attack the incoming enemies. As the character takes damage players then open the items menu to select a health potion to revive the lost life and then return to combat. By continually negotiating their combat interactions and interfaces players learn to preserve their character's life by giving meaning to the game state and their access to the interfaces resources. Player interaction, within a combat situation, employs a social position-taking process that requires a utilization of the accessible resources of a player as well as their knowledge of the game state as a way to negotiate their agency within a conflict or social context. Players learn that a site of struggle, where individuals occupy a position that can be improved upon through an engaged competition with others over the control of resources, granting power to those whom have access to higher valued

resources and, more importantly, to those that can legitimate, based on their social position, the value of these resources within the given field.

Exploration as Interaction

The parallel interaction to combat is the players' exploration of the game space which does not force them to follow a directed path. Once players leave the tutorial phase of the game, they move through the game freely, engaging with or running from enemies, discovering caves or gathering ingredients for later use. In this process, players encounter the game structure randomly, collect quests in no particular order and defeat enemies without this defeat having any quest value for them. The open exploration that this game offers is one of the largest motivators for players to engage with the game. Evidence that this occurs comes from the game reviewers who note that they and others have spent up to one-hundred hours wondering throughout this game without ever paying attention to the game's main story. The focus of the map interaction furthers this process as players can discover more than 350 locations across the map. In each of these locations, there are additional portions of the game that add to the explorative possibilities.

Through the design of the game players are able to explore the game and pursue creative interactions, such as having the freedom to travel where they want. Part of the design that encourages this exploration is the aesthetic elements, which offer players a grand view of the entire world in which they are traveling through. The presumed autonomy of the player is represented through this process of traveling and sightseeing. However, even the players' creative explorations are restricted because they are not free to engage the game in any way they want. Rather, the rules of the game force players to return to combat interaction if they are to progress in the game. The autonomy or

independence promotes a creativity that positions progress or success only through the ability of the player to reproduce the dominant rules of the game. Player autonomy is therefore reliant on the system which allows this freedom to exist. Players learn that the relations of interaction between the game designers and player practices, which constitute the game field, produces a hierarchy of dependence in which players are only able to recognize their progress because it is legitimized by the game and which is only possible if individuals play it.

Interactions Summary

The interactions within *Skyrim* connect the player to their character through direct forms of competition that rely on the designed objects and interfaces of the game to overcome the presented challenges and to legitimize the player skills. The feedback systems utilize indicators that prepare individuals for confrontations and teach players to seek out these confrontations as a way to increase their position of power within the game field. The evaluation or success of these interactions is then legitimized by the system that grants them access and agency, only as far as players are able to follow the inscribed rules of this system. Players therefore learn to construct a world view of competition, where they rely on and utilize the resources available to them to increase their individual social position and power, thereby participating in and perpetuating the systems that grant this power.

Conclusion

Through this chapter I have coded the information present within *Elder Scrolls V: Skyrim* through several clusters of information which presents the core units of this text. Because this game had over 9,000 different objects, various interfaces and numerous

interactions to be coded, this analysis selected the most dominant clusters of information as a way to summarize and manage the information within this game. The clusters selected to be coded for presented players and the researcher are not only the most significant and overlapping elements of the game design, but are the most primary elements for character progress in the game.

The four core sections of this chapter, which consist of the introductory gameplay, object, interfaces and interactions, were selected as the most dominant clusters for analysis. The introductory tutorials introduced players to the general game design, their character in which they control and the open choices the they have access to as they work their way through the open environment of the game. While this presents an open sense of agency to the player, the game design regulates this agency by presenting educational lessons which structure and encourage specific ways of acting and knowing. The presented objects in the game communicate various meanings to players as they learn how and when to employ their use as resources of power. The objects gain meaning through their ability to control and regulate the mental, external, internal and extensions of the player-character body. The mastery of these elements and the body grant players with greater power in the game and communicate to players that a mastery over the elements of the body is a necessary element of progress.

The design of interfaces locates players' access to resources of power and connects them to larger institutional forces. Players are located in a set of primary interfaces that are analogous to larger state apparatuses, such as the educational system, and apparatuses that encourage an awareness of and reliance on these systems as environments which legitimate appropriate forms of knowledge and actions. Throughout

this interface the game design structures player actions through various forms of logic based agency.

Interactions finally negotiate between the use of objects and the access to them by encouraging a competitive player based agency. Players are perpetually pitted against other characters that they must defeat if they are to progress in the game. In order to accomplish this players learn to navigate their access to their stored objects of power, as a way to utilize whatever means available to them to succeed. While players are able to freely navigate the world, the competitive nature of this game forces them to engage in combat based contexts.

While each of these coding levels works as a progressive analysis, the various levels are interconnected. The introduction, objects, interfaces and interactions are present from the start of the game and only increase in their difficulty rather than adding perpetual layers of complexity. It is therefore important to see these levels are perpetually interacting with each other then as separate layers. The coding of the *Skyrim* game design therefore reveals that this game creates meaning for players through their continued ability to control the character body as it is (re)positioned into a given field and where they can vie for higher valued social positions of power through their access to and implementation of resources, a process of position-taking that can only occur through the individual's participation and investment in the institutions that provides these positions.

CHAPTER 6: CONCLUSION

The primary goal of this study is to explain how the medium of electronic games function as a field of cultural production and to analyze the ways game structures communicate dominant forms of acting and knowing. To achieve this goal, I followed a four part analysis that: 1) explored the ways that game design oriented and developed players' knowledge of the game environment; 2) investigated the ways objects constructed meaning for players; 3) dissected the interfaces present in games by looking at how game design enabled and constrained players; and 4) analyzed how interactions present in the design of digital games influenced the choices, outcomes and performances of players. These four levels of analysis were further influenced by a fifth level of analysis that integrated an intertextual analysis of the external forms of social meaning in which the selected games were imbedded. Each of these levels provided a deep structure analysis of digital games by explaining the players' interaction as a subjective micro analysis and the game design structure as an objective macro analysis.

In addition to the primary and secondary goals, this study addresses several overarching goals of: 1) understanding the medium digital games; 2) extending the cultural traditions of game research to digital games; 3) offering an interpretive-critical analysis of digital games; and 4) situating game studies within the communication discipline. This chapter summarizes the study by revisiting the research questions, identifying the contributions to the communication field, noting the contributions of the theoretical development and the methodology, and providing final thoughts.

Answering the Research Questions

The summary of findings related to the analysis of digital games as field of cultural production derives from the analysis of the *FarmVille 2* and *Skyrim* case studies. Because these games offer two different texts, I answer the first two research questions using a comparative process that deductively answers the questions. I answer the final research question through contrasting analysis between the external relationships of the games and their broader social context.

RQ 1: What is the relationship between game design and the processes of meaning making?

To answer the first research question, I utilized a symbolic interactionist perspective to develop a definition of meaning making and then integrated this into game studies through the construct of the joint attentional scene. From a symbolic interactionist perspective, meaning making is a socially constructed product of the definitions we ascribe to things, the social interactions and changing structures that create these meaning, and the symbolic processes that guide one's actions toward these things. Following the symbolic interactionist perspective, and in order to integrate this definition of meaning making with games, I utilized Murray's (2006) construct of the joint attentional scene as a formative element of human history that is foundational in the elements of symbolic communication (p. 188). First, there is a shared focus on external objects because individuals are aware of them and learn how to act toward them; second, there is a witnessed intentionality among participants within a context; and third, there is a symbolic communication among participants, allowing them to adjust to the interaction. Games are participatory and develop of knowledge for players; they are a means of "coevolving our minds and our media, of assimilating new technologies of inscription through exploration of their capacity for symbolic representation, and of preserving and

expanding symbolic expression by making symbolic systems the explicit focus of activity" (Murray, 2006, p. 197). Games and the joint attentional scene therefore provides processes of organizing behavior and provides a context for practice by using symbolic communication to synchronize players' expectations and performance.

Through the relationship between the game design of *FarmVille 2* and *Skyrim* (case studies of games), the process of meaning making develops from four primary elements that identify the contextual meanings that emerge from object-player interactions. I explain the investment of players into the game system and show how it reciprocates representations of players' success, rewards and incentives for overcoming challenges and indicate the improvement player actions can make in order to influence the game structure. The first salient items of games that gain meaning for players are the presented game objects, which are defined through both their designed merits and their ability to provide value(s) to the player. Objects first orient players' understanding by defining attributes that the game has given them. While it is meaningful to understand the objects with which players interact, the objects continually take on different meanings and value for players. In both games, objects functioned as resources for the crafting of new objects, providing monetary capital and used symbolic representations of progress. In addition, players utilized various objects that benefited them and depended upon what they needed to accomplish in a given context, either to heal themselves or to gain XP quicker by planting a specific crop. The game design promotes a reciprocal and dependent relationship between objects and the meanings they offer players because objects require the player to engage with them and the player is dependent on the game design to recognize and this object use.

The second relationship that develops across these two case studies and contributes to meaning making is developed from the players' investment in the game, which provides them with signs of progress and representations of success. Through the design of both games, players are directed to repeat processes countless times as a means to improve upon their character and/or their standing in the game. For example, in *FarmVille 2* players habitually planted specific crops, and in *Skyrim* players repeatedly smithed the same items. Through this process players invested their time, effort and resources into skills or resources that provided them with greater rewards in the game. The game rewards the investment by players through forms of XP and their related status bars, higher player levels, greater armor, and blue ribbon crops—symbolic representations of this invested energy. Game design therefore provides players with signs and symbols of their progress and success based on their invested effort, energy and time in this environment, and it thereby legitimizes this investment through the symbolic representations of progress.

The third emergent element of meaning making is the relationship between the presented challenges or quests that the game design offers and the players' transformation of rewards into incentives from this process. The presented challenges of these games are designed to direct the gameplay of players because they offer an elaborate system of rewards of gold, XP and additional resources such as crops or weapons. The presentation of these rewards provides players with value based incentives for following the requests of the system. Because challenges are not required to progress, the game design relies on the intrinsic motivation of the players to complete them, a process that is spurred by the reward incentives. The most significant of these rewards is the presentation of XP, which

allows players to level up, gain access to more resources, expand their farm and invest in more perk points for their character. The relationship between quests and meaning making occurs through the presentation of rewards for challenge completion, a process that offers players challenge based incentives. The interaction with and completion of challenges is therefore meaningful to players because they gain rewards for doing so, and challenges or difficult endeavors are thus only undertaken by players based on the incentives they have for doing so.

The final broad relationship between the design of the games and the process of meaning making for the players is to recognize the impact of their actions. Across the two games player actions impacted the game in various ways, such as through long lasting effects of farm land cultivation and narrative development, or through short term uses of water and enemy deaths. Players not only learn that their actions will have an impact on the game environment, but they also learn their actions are meaningful through better implementation. While not all actions are meaningful because the player is wining something, players must learn to better manage their resources and combat interactions if they are to progress through the game. Player interactions are therefore made meaningful by the game design since the game structure helps players to become better at playing the game. The game design thus constructs a process of meaning making for players where interactions, objects and knowledge are valued because of their associated capital and their ability to improve a player's position.

RQ 2: How does game design enable and constrain player agency?

To answer the second research question, I locate the construct of agency within a definition of play and its structuration through the development of *habitus*. Play is an

engaging activity in which the player believes s/he is an active/ adaptive participant who can interpret and tolerate a heteroglossia of meanings within scenarios that can open her/his immediate future to new experiences. This definition emphasizes that play is not a limiting process, but creates new experiences that allow for the unseen or hidden to become present to players. Play is the agency used by players to engage and interact, while games are the formal elements and structures that guide play through a player habitus. *Habitus* consists of the practices and learned dispositions of individuals, the rules for interaction that generate, reproduce and maintain the social conditions to which they adhere. *Habitus* is a person's developed knowledge of how to act in a context as understood through the relations between groups, systems of disposition and objective structures that create practices of interaction which can be activated across different fields. Bourdieu describes *habitus* as cognitive schemas that are generative and durable. Schemas are categories based on a configuration of information that create a flexible network of human knowledge for players that parallel the structures of a games and guide an individual's agency within a similar context while simultaneously inscribing the self into social structures and reaffirming those structures in the process. Agency is therefore the freedom of play and gameplay in a game context, where players are constrained and enabled by their learned dispositions and practices, developed from the negotiation with the rules and design of a game, that construct context or game. Players' agency is granted legitimacy through the actions they take, and the rewards they secure from the game in the process.

The design of *FarmVille 2* and *Skyrim* enables and constrains player agency through four constructions of access points, player investment into the system, resource

management and feedback systems. The four elements promote a way to engage with games and to act within similar social contexts through a gameplay schema or *habitus*. Player agency is first structured through the design of access points that store game knowledge and resources. Within both games various interface menus grant players access to the items they have collected, showing them what they have and could have access to, and provide the necessary information for their use. In combination with their access to resources, the game structure utilizes character levels to allow players to accumulate larger, stronger and higher valuable items. Greater degrees of agency are thus opened up for players as they progress through the game and as they collect more resources. In addition to this process, players are only able to craft or create items when the game design grants them the ability to do so; agency is further regulated through the players' access to processes, skills and abilities that can grant them agency. Game design therefore promotes agency when it makes knowledge and resources available to players. It is through this practice that players learn to utilize the resources available to them, to plan ahead to gain access to the next level of resources and to enact their agency within the game design in order to progress.

Players' agency is interconnected to progress through their investment and participation into the game system. Each game allows players to freely mange their gameplay through selected actions; *Skyrim* offer this to a greater degree because players are able to roam around a larger game world than *FarmVille 2* where players are confined to their plot of land. However, while this freedom enables players to choose a variety of actions; if they are to progress, level up, earn rewards or gain forms of capital in the game, they must always participate within the constraints of the specific design elements.

In both games, players can wonder around their allotted environment and figure out the game system, but to play the game they must invest their efforts into the process of harvesting or combat. Game design grants player an open, but not entirely free agency because it places them within a structure in which they must participate. Progress is therefore located within the designed constraints of the game and therefore directs players to learn, acknowledge and understand the game design if they are to exercise their agency in a legitimate manner.

Game designers additionally constrain agency through the accumulation and use of resources and the players' ability to manage what resources designers provide them. While this process occurred differently in the two games, *Skyrim* players had to search for resources and in *FarmVille 2* players had to wait for resources according to a time constraint, both games forced players to rely on the game system to provide them with the necessary resources to progress in the game. The availability of resources controls players' agency by providing a limited quantity or weight-to-value ratio, a design that promotes a hierarchy and prioritization of resources. Resources therefore provide the parameters in which players can act toward in a given context and the outcomes that are associated with their implementation. Players learn to utilize resources as a means to reach a desired outcome in order to enhance the player-character position in the *Skyrim* game or to allow for the crafting of a higher value items in *FarmVille 2*. These are examples that show how game designers enable and constrain the choices and actions available to players in a given context.

Player agency within a given context is finally enabled and constrained through the design of feedback systems that alert the players to upcoming contexts. While games

allow players to engage with their structure, the design also limits players' action through directed procedures. In both games players learned to deal with upcoming interactions by first being told how address a situation and then learning the various interfaces such as music shifts or the appearance of status bars and icons to confront the emergent forms of gameplay in which each interaction creates a new game state and therefore new agentic possibilities. However, due to the complexity and variability present within *Skyrim* players had to adjust to a larger range of developing contexts or game states, while the limited design of the *FarmVille 2* environment had a smaller range of contexts. To direct player agency, the design of games provided a set of visual and auditory feedback systems that not only made players aware of what to expect but also showed them how to act toward the upcoming game state. For example, in *FarmVille 2* a water icon directed players to the singular actions available to them after they planted a seed while *Skyrim* offered a general orientation toward combat, through music or health bars, that directed players to a new context where they could employ their actions. The game design therefore directs players toward the appropriate actions for a given game state and constructs contexts as the legitimating factor for player agency.

RQ 3: What intertextual structures are present within electronic games?

To answer the third research question, I utilized a textual analysis of games that moved beyond the level of description to analyze the ways texts create the lived world and realities through the construct of intertextuality. On one level Intertextuality functions within games, where the tutorials, objects, interfaces and interactions have specific codes and meanings that players learn to understand in order to progress in the game. Players therefore understand these various categories and meaning as intersecting

and intertextual codes that are imbedded in the game design and reference each other as a way to develop a working knowledge of the game and the player's interactions within it.

On a second level, games are reflections of the socio-political (ideological systems) structures that exist outside of the game. To explain my analysis and the second level of intertextuality I located this textual analysis within Hall's (1981) understanding that cultural forms do not have an intrinsic meaning but are an active product of social articulations of meaning embedded in a web of socio-political connotations and codes; they are a complex symbolic entities with structural, systemic, visual and organizational features that when taken together produce coherent social meanings and structures for those who create and respond to texts (Grossman, p. 157). I then paired this with the way that "Bourdieu treats social life as a mutually constituting interaction of structures, dispositions, and actions whereby social structures and embodied (therefore situated) knowledge of those structures produce enduring orientations [of people] to action which, in turn, are constitutive of social structures" (Postone, LiPuma & Calhoun, 1993, p. 4). Through this process, sets of power relations, knowledge structures and belief systems are negotiated and stabilized, making players active participants in dominant forms of social meaning. I therefore used Bourdieu's understanding of intertextuality; that is, "texts must be analyzed both in relation to other texts and in relation to the structure of the field and to the specific agents involved" (Johnson, 1993, p. 17). I use intertextuality as a way to explain how players and their actions are positioned within the game, as well as to show how games and the structured actions within them overlap with larger social and political structures in which power relations among people are produced within the

institutions that legitimize dominant forms of meaning and which are embedded in capital based systems.

The design of *FarmVille 2* integrates external references of neoliberal capitalism that force players to value their farm as an immaterial product. The game design of *FarmVille 2* emphasizes money and profit as part of capitalism in ways that blur the "the lines between work and play, production and consumption, voluntary activity and precarious exploitation… and make becoming a neoliberal subject fun" (Dyer-Witheford & de Peuter, 2009, xxix-xxx). Within information based economies such as digital games, economic transactions and production occur through information manipulation rather than the physical labor, the physical labor of production thus is replaced with voluntary activity. Players engage with FarmVille 2 voluntarily, spending their free time and earned income on building and buying their digital farm using an immaterial labor. Lazzarato (1996) describes immaterial labor as actions where the outcome of work is not to produce a physical object but to produce the social and symbolic associations to a commodity. Immaterial labor creates products such as knowledge, information or relationships and, in the case of digital games, a successful commodity "creates a relationship: the willingness of a player to identify, perhaps for hours, perhaps for the span of an entire lifetime, with a" virtualized form of subjectivity (Dyer-Witheford & de Peuter, 2009, p. 5). By playing, game players experience the challenges, failures and successes with their interactions thereby making players the laborer and producer of content to which they are attached, a process that outsources the labor of the product to the player. Players of *FarmVille 2* are positioned as a contemporary neoliberal laborer

that work to produce a digital product which is valued only through the system in which it is produced, and in which their labor creates the existence of this value.

The design of *Skyrim* functions differently than *FarmVille 2* since it provides a micro context for the player to engage which utilizes three different intertextual codes for its construction. First, players are directed to the game design through a direct control over the character's body, a process that establishes success through the control and mastery of this body. Through the control over the mind, the external body and the internal body, players are located in a mathematical, technological, engineering and scientific framework that locates the body within a scientific paradigm, where it is a resource for manipulation and in which this manipulation is necessary for human progression. Second, the control over the bodies located in this game is placed in a larger intertextual reference of ideological state apparatuses that work to position this body within institutionalized systems of power. Institutions, such as education and law, direct the body to engage in actions and perform normative roles, and expect people to conform to acceptable and institutionally sanctioned behaviors that are made legitimate through a rewards based system of meritocracy. Finally, players are expected to use their actions and their bodies to conform to expectations of the system in order to have their participation legitimated. This conformity is the result of logic based knowledge systems that mirror the systems that influence social behavior outside of the game.

The integration of ideological structures in these two case studies shows that games are a social practice where macro and micro level power relations, knowledge structures and belief systems are negotiated by players. The macro ideological structures present in *FarmVille 2* are those of a neoliberal capitalism that relies on an immaterial

labor force to produce its structure and its commodities that are the result of individual investments by the laborer. The micro intertextual structures present in *Skyrim* resemble a scientific/political paradigm that legitimizes the actions only of those that participate in and progress or success through their investment in a system of meritocracy.

Sub question: What forms of social learning occur in game as a result of these structures?

To approach social learning I integrated Frasca's (2007) and Gee's (2007) concepts of learning to play a game with Bourdieu's (1993) discussion of education and cultural capital. Frasca (2007) argued that meaning arises through the interactions that "forbid, encourage or discourage" performances within a game and notes that signs are not just interpreted through visual senses but through the ways that one performs within a social system (Frasca, 2007, pp. 139-145). Similarly, Gee (2003) stated that "literacy and thinking—two things that, at first sight, seem to be "mental" achievements—are in reality also primarily social and cultural achievements" (p. 5). The playing through of a game therefore orients players to the games' structures, exposes the ways the games' structure guides the players and serves as an entrance into the ways that meaning is made through the interrelating positions between players and their socially constructed practices of learning. The processes of learning are further connected to the acquisition of cultural capital as a form of knowledge, or a set of dispositions that equip social agents to use cultural codes effectively. Cultural capital consists of the dispositions and practices "of domination by legitimizing certain practices as 'naturally' superior to others and by making these practices seem superior even to those who do not participate" (Johnson, 1993, p. 24). Social learning is the practice of engaging with a social system as a means to gain knowledge and to understand what practices and forms of capital are legitimated

by that system. Within the two case studies both games structured player action through level increases, as represented by status bars, and the visual aesthetic of the characters or their farm. These symbolic indicators were grounded in the disposition of players that seeking a higher level, gaining XP and creating a better character or farm was a natural part of progress and success. The development of cultural capital within games consists of progressing toward higher levels, and accumulating the resources and means to do so, as the legitimating practice for gameplay.

Playing through the *FarmVille 2* players learned that progress is fundamentally tied to practices of capitalism that emphasize profit oriented models of production and which value monetary and symbolic success as parallel outcomes. These structures were both overt, such as using the market stand as a profit center, and covert, such as the outsourcing of labor through the crafting process. The practices of capitalism are a foundation for the game because they constitute both the organizing structures of the game as well as the embodied dispositions of players' actions. Players therefore learn that their everyday social routines, provided by and through the game design are constructed as habitual labor practices that perpetuate wealth based forms of power relations. Located within the social networking structure of Facebook, players further learn that their interactions with their farm friends can be turned into profit resources which further mark their Facebook interactions as another potential resource for capital. Through this process symbolic capital becomes a significant source of value because it grants individual players legitimacy within this digital context and demonstrates the importance of monetary capital to progress in the game and in society outside of the game.

Playing through *Skyrim* players learn that interactions are located within a process of position-taking that is required if they are to be successful and progress in the game. To engage in this process the players must first learn the rules of the game since this allows them to utilize the resources available for personal benefit. They must then prepare themselves for various encounters by developing their skills and cultivating their resources. Players are then directed to engage with their opponents to assert their force upon them, while deflecting the opponents' force, as a means to gain various forms of capital and power within the game. Players learn to approach contexts and situations based upon the resources that they have available to them and their ability to participate in that context by asserting their force over others in order to increase their position in the game. While this process offers an overt competition based mode of pedagogy for human interaction, this process also presents a covert pedagogy that communicates the importance of players' investment into competitive actions and institutions. Because players have to invest their efforts into the systems that allow for competitive position-taking to occur, they therefore learn that the systems of legitimation, such as higher education or even logic based thinking, are what gives them access to progress and define what social success means.

Contributions of the Study to the Communication Field

This project adds to the established research on game design and its significance, and contributes to the growing literature on the role of game studies. This study therefore makes several contributions to the development of digital game research within the communication discipline by 1) adding an interpretive research approach to game studies; 2) extending symbolic interactionism to apply to digital environments; and 3) developing

a game studies research method to explain the communication within games and its social significance.

Interpretive Research

This project connects game research to the communication field and allows for deeper meaning to be explained through the content and structure of games. Because games are a social context in which symbolic interactions create meaning, enable and constrain agency and show the larger intertextual fields of power, they are a significant text for communication scholars to study. Within both games that I analyzed, players were directed to accumulate resources, to gather their wealth and to manage their time efficiently in order to maximize this process. Because games are both a social and symbolic context that connect intertextual fields, it follows that the social knowledge developed within games parallels daily experiences where individuals learn to use and implement social rules as a means to maximize their personal gain. However, much of the previous research from the communication field has focused on a narrative or quantitative analysis of games. By offering an interpretive-critical analysis of the ludic structures of two games, this project explains the complex design of games and offers insights into the ways digital games, as a communicative practice, inform the construction of social life as it is constrained by the social rules that grant power and privilege to some social actors and take it away from others.

Symbolic Interactionism

This dissertation extends the concepts of symbolic interactionism to digital games and digital environments. By identifying the objects and the meanings that are a part of games and showing how they transform the interactions within them, I establish digital

symbolic interactionism as a focus for my study. While other researchers utilized symbolic interactionism to study online interactions, they only emphasizied digital social networks or forums as the primary symbolic structure. This project approaches digital interaction by emphasizing the meaning making potential of gameplay that resembles other learning environments outside of games that also constrain players' agency and their choices. My research specifically accounts for the complex process of meaning making that occurs when players engage with objects and interfaces in digital contexts. My study also shows how players navigate the external socio-political meanings that are embedded within game design and explains how these structures influence knowledge building in and out of the game.

Through this extension of digital symbolic interactions that the normative grounding of rules in games reinforce pre-existing ideas about what objects, and the interactions with them, have symbolic power outside of games and how normative motivations relate to the constructed meanings of objects. The implementation of rules, by the game designers and those in external social contexts, therefore constrain individual choices that promote individual achievement and position taking rather than collective gain. While this research took a limited sample of games, the construction of individual motivation as part of a collective progress should be taken seriously since games are connected and influence external social structures and interactions.

Game Design Approach

This project not only contributes to the analysis of game design as a communicative structure, but it allows researchers to apply this type of analysis to communication practices more generally. While scholars such as Wittgenstein, Bourdieu,

and McLuhan utilized games as a metaphor for describing communicative practices, my research extends the work of these theorists and utilizes game design as a central model to analyze the process of symbol using, meaning making and social learning as it takes place in and outside of the game. This project therefore extends the concepts of Wark, Bogost and McGonnigal, who assert that games are resources to explore what it might mean to be human, by showing the ways that meaning is made within the broader social contexts that inform the design of the game and thereby inform the player about meanings of other social interactions. In this way, game design can become a resource to study what it means to live in contemporary society. By extending the use of game design to communicative interactions researchers can develop new approaches to analyzing the ways that power is constructed and reinforced and to show how social and organizational systems are influenced by larger social/political systems.

This research looked at two separate platforms of games, the XBOX360 and social networking or HTML games, both platforms influence the construction of digital games and influence how they apply to learning contexts. Major gaming consoles such as the Nintendo, the Xbox and Playstation can create a hurdle for individuals since they are not only expensive hardware devices to purchase but they create a learning curve for players to understand the basic control of the system as well as the necessary actions within a selected game. While computers offer a more inclusive means to develop players, complicated machines and games can create a similar boundary as consoles. Because of these physical interfaces, many players hold a socially significant power over non-players because they hold the technological knowledge and ability to play these games as well as the knowledge of how the social systems and games work. This

technological knowledge grants accustomed players a privilege that many individuals, for various socio-economic, age or gender related reasons, do not have. It is therefore important to consider the technologies that individuals need to access games as well as the simplicity or complexity of the game design itself. Games not only create and reinforce dominant socio-political struggles, but these technologies grant access to players to help them participate in resolving these struggles. To develop games that offer a critical insight into and question normative paradigms of contemporary society, developers, researchers and educators must utilize and question the mediums that construct play and develop schemas for players to use in other social interaction.

To incorporate games and their associated medium into pedagogical environments I suggest that educators both use games as a learning tool and as a theoretical framework for analysis. First, games should be analyzed as social resources and cultural texts that communicate specific messages and schemas for interaction, knowledge and meaning making within contemporary society. Implemented into classrooms, games serve as a valuable resource for critical discussions. Second, because games function as a joint attentional scene players not only learn to understand the rules, but they bring in their previously established schemas of interaction that thereby infuse the game with external social structures as a part of gameplay. Games can therefore serve as a reflective resource for players to understand the ways they participate in, reinscribe and abide by soci-political structures and how social systems grant and take away social power and the resources associated with this kind of power. Finally, game theory can help explain the dominant rules that students apply to varied contexts. Rather than presenting a game to students, a lecture, assignment or activity can be utilized to address educational content

and then game theory can be applied to understand the ways that rules, outcomes, rewards, or feedback are applied to that content.

The implementation of games and game theory in educational contexts should be further extended within game design so that players can reflect on their gameplay practices. While some games attempt to address the morals of game play or allow moral choices to sway the development of the players-characters, this is rarely a point of critical reflection. For example, in many of the Star Wars' video games players may select evil actions and kill another character or choose good actions and save them. In this way they become a dark Sith Lord or a positive Jedi Knight, which grants them access to different skills or powers. However, these kinds of games never provide a deeper reflection on the reasons or broader presentation of the moral and social impacts this may have. The use and implementation of games in educational settings should consider the larger questions of the consequences of the game design and the learning processes involved. To implement games into an online course, for example, students can be asked to participate in course/game design, told about the objectives of the course, informed about the rules necessary to accomplish the outcomes, and given the necessary peer feedback to understand their knowledge acquisition. In this way, games are a useful method for teaching and learning……

Methodological Contributions

The methodological contributions of this study, while situated within the four layers of analysis offered by this research project, through the introduction, objects, interfaces and actions, I establish a unique methodological frame work that bridges game and communication studies. The implementation of this coding schem revealed the

intricacy of the game design, the external structures that were imbedded within this design structure and the influences that this had on the position that players took within the game. As a coherent system this methodology offers a complex and nuanced analysis of the various ways games and players learn to develop ways of knowing and acting within and from games. For a longer project this is a useful and expansive tool for analyzing game design, for shorter projects it recognizes these elements while spotlighting communicative features of gameplay. In total this methodological frame work integrates game studies with communication concepts by offering researchers multiple ways to analyze the various levels of digital games while accounting for the communicative processes present in the player-game interactions. By explaining the levels of introduction, object and interface design, and interaction analysis, I provided a unified, systematic and empirical data gathering process. Each of these levels can also offer researchers a method for analyzing games and for explaining the connections between what happens inside of the game and what takes place in social systems outside of playing games.

Because the introductory tutorials situate the player as a student, they allow the researcher to understand the ludic ways in which gameplay is directed. Unlike other mediums such as books or TV there is variability to gameplay which must be understood within each game and the introductory process situates this variability and tells players what each new game expects of them. While games may have similar objects, interfaces and interactions, as premised through the definition of games, each game implements these in different ways. With the rapid growth of the games industry, not just digital games but with sports, table-top and card games, researchers can learn about developing

communication processes used in games by studying how people learn to play the game, navigate the rules, construct meaning, and use their own agency within the game. The explanation of how game design orients players to a particular context, and how it motivates them to progress through the game via the use of resources and rewards can therefore offer a deeper understanding of the ways in which digital games and communicative interactions in digital spaces are developed and regulated.

The analysis of objects within a game further contextualizes the design of the game environment and allows researchers to analyze the ways meaning is made and transformed through gameplay. By analyzing the design of objects and how they create value for the player, researchers gain a deeper understanding of the ways that games focus the intent and choices of players. Because game designers guide players through the structure of game objects, players learn to orient their actions toward gameplay through the meanings the game provides to the objects in the game space and then they learn how to negotiate these meanings in various contexts. To understand the relationship between game design and meaning making within games, researchers must explain the associated properties given to and constructed from game objects, a process that can further uncover the underlying meanings of the game design. The analysis of these objects additionally extends the research of symbolic interactionism by offering insights into the designed meanings of object, the ways individuals learn to act towards objects through game design and how players develop new meanings through their interaction with them. This analysis therefore offers a further grounding of the importance and significance of studying symbolic interactionism within digital environments as it takes

these digital constructs as meaningful items by which actors negotiate their interactions in the game and the social systems outside of games.

The analysis of interfaces allows for a deeper understanding of the ways the game design bridges the meanings constructed by players and directs their actions to the presented objects. My analysis of interface design explores the ways players are directed to act within a given game. Designers grant access to players at various times thereby promoting an investment into the game system itself over player based skills. Through an analysis of these interfaces researchers can uncover the deeper social meanings that game developers rely on to motivate players' motivations which are interconnected to broader social structures outside of the game. The development of an interface analysis should explore both the overt interfaces present in games such as menus, as well as the covert interfaces and feedback systems such as music or lighting which are engaging players in new ways. With the increasing development of hands free game play, motion recognition systems such as XBOX Kinnect and swipe gestures that many use to control mobile applications and games, the interface analysis will increase in importance and become central to the study of not only games but of digital interactions in general; a specific case is the development of the XBOX One since it utilizes these interfaces to control entire home entertainment systems.

The analysis of interactions allows researchers the ability to explain the ways game design helps to enable player agency. How players learn to act within game design, what they learn to value and how they are directed to act towards these values is a significant process in the development of player agency, a process that is interconnected to the structural elements of the game design and also to the larger social constraints of

the games' production. By focusing on the development and implementation of player interactions, researchers can explore the ways player agency is construed as meaningful within a given game context, and what this communicates about human interaction in analogous contexts. Paralleling Bogost (2010), this analysis asserts that games can tell players as much about what it means to be human, what is valued in human interactions and how individuals make sense of their world as any other medium can. While some researchers have utilized similar arguments to address the ways that *First Person Shooters* (FPS) are violent and therefore make players violent, what this method reveals is that individuals are not simply motivated by the actions themselves, as these are rather a means to an end, but that player agency is developed through a deeper set of motivations. These motivations help players to gain value or to exchange positions and thus are a broader reflection of the motivations and values of the social conditions in which a game is created. This is therefore a broader extension of Bogost's (2010) argument that addresses the hegemonic practices in game design and their exploration and recapitulation by game players.

Directions and Future Research

This dissertation provides a significant source of data and analysis that I plan to extend further. Through the design of this dissertation I offered four layers of analyses to the selected case studies via their tutorial structure, the designed objects, the interfaces and the interactions. I anticipate utilizing these four kinds of analyses as singular research projects that will serve for journal publications. In addition, I plan to clarify and solidify the developed methodology so it can be used as a guide for future research projects.

Finally, I provided a comparative analysis of two genres of games that I hope to convert into journal articles.

I plan to extend the research on social networking in games as well as the social development of RPGs. With the recent increase and transformation of online social networking games, this project serves as a spring board to address the social impact of these games. One significant factor is the transformation of digital social networks into a game space, a point that I plan to further pursue. In addition, the utilization and development of micro-transactions present in *FarmVille 2* is a growing phenomena across the game industry that is a significant part of the development of mobile gaming. I plan to further pursue this recent development and explain how it can transform the gaming industry as a whole. While RPGs are often a single player adventure, many companies including Bethesda offer large community forums for players to communicate. Part of this community is the development of modifications or modding with which individuals are able to engage. This process consists of game companies allowing players to manipulate and restructure the game environment to their own purposes and *Skyrim* is one of the largest games to promote this process. I want to extend my research to address the larger social community that develops around games and their modification. I plan to extend the purpose of this research project to explain the communicative structure of games by analyzing several other genres of games, such as *First Person Shooters* and independent games.

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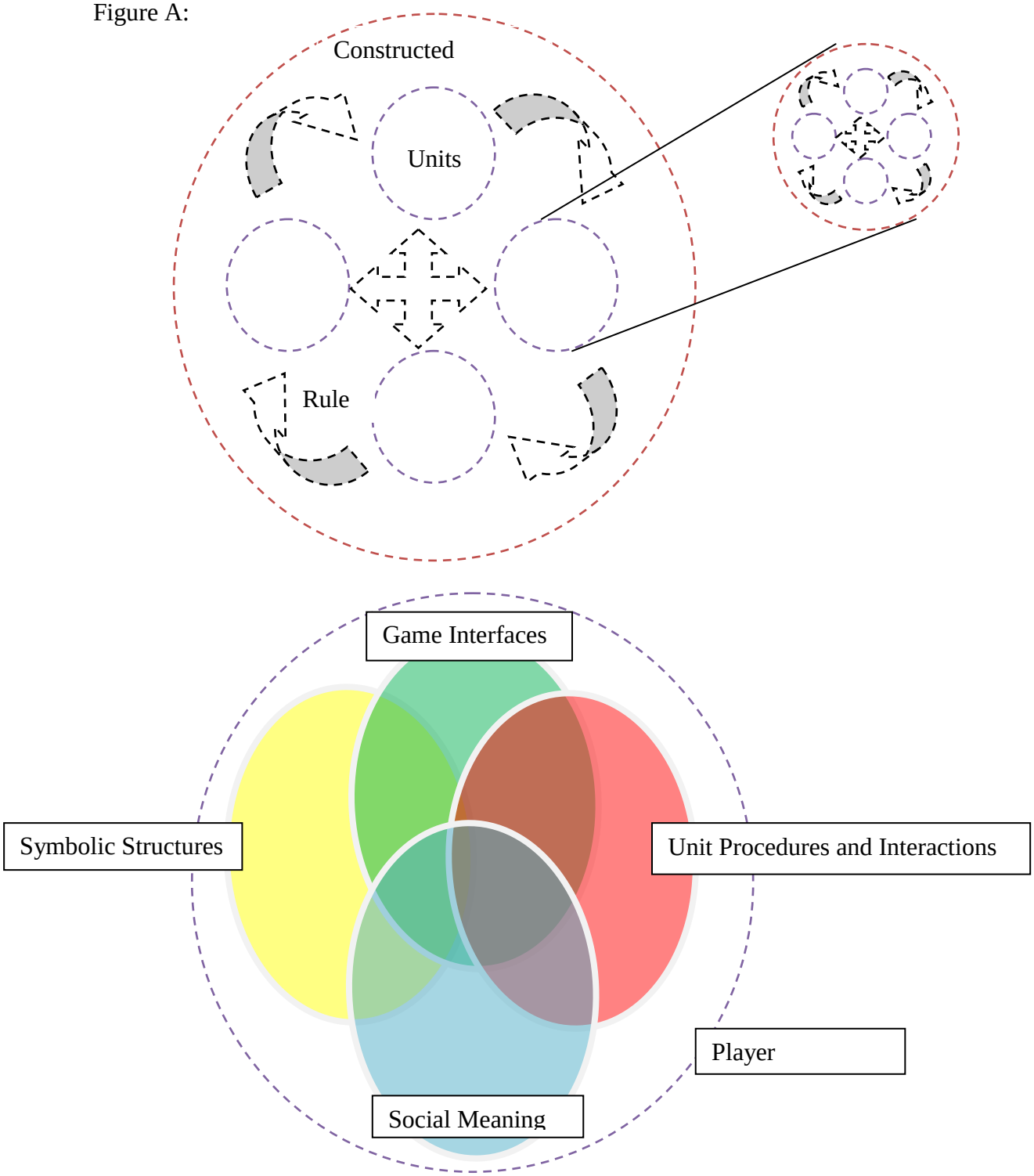
Figure A:



Figure