CHAPTER 3: METHODOLOGY

Introduction

The intent of this chapter is to provide an overview of the available research strategies and methods, as well as describe which strategies and methods are most appropriate for this study. This chapter is broken into nine major sections. The first section restates the research questions presented in chapter one. The second section highlights the available research strategies and methods. The third section discusses the research strategy and methods chosen for this study and their appropriateness for helping answering the research questions. In the fourth section, the context of the study is reviewed, such as the population targeted and rationale for targeting that population. Fifth, the research process is discussed in detail. The sixth section addresses concerns such as validity, reliability, and ethics; and the seventh section describes how the data analysis will be conducted. The eighth section expounds on the limitations of the study. Finally, there will be a chapter summary and discussion of subsequent chapters.

Research Questions

Using culture and theories of experiential learning and communities of practice as a guide, this study focused on four primary research questions, which included:

1. How do virtual environments such as those that exist within Massively Multiplayer Online Games (MMOGs) manifest components of subjective culture?
    a. What components of subjective culture are found in an MMOG virtual environment?
    b. In what contexts are subjective culture components found?

2. How do players of Massively Multiplayer Online Games (MMOGs) learn inside the virtual environment?"

   a. How does experiential learning occur in the MMOG environment?

   b. How are communities of practice utilized to help participants learn and build skill?

3. Where do participants learn?

4. How do experiential learning and communities of practice help players learn subjective cultural components?

Research Strategies and Methods

This section includes a description of research strategies and methods employed in this study. The research methods explored include observations, document analysis, interviews, and virtual ethnographies.

Research Strategies

In social science research, there are two overarching research strategies: the quantitative and qualitative approaches. Creswell (1994) defined the quantitative approach as "an inquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory hold true" (p. 2). The quantitative approach is characterized by an objective or singular view of reality. In addition, the researcher is independent of the research subject and his or her values are not apparent. The quantitative approach requires concepts, variables, and hypotheses to be developed prior to the start of the project and continually be referenced throughout the project (Creswell, 2003).

The second research strategy is the qualitative approach. Qualitative research can provide understanding of a variety of people and situations (Merriam, 2001; Weinberg, 2002). According to Creswell (1994), a qualitative study is "an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting" (p. 1). When a rich and descriptive set of data is sought, the qualitative strategy is appropriate (Cohen, Manion, & Morrison, 2000; Creswell, 2003).

The qualitative approach is characterized by subjective, all encompassing, and ever-changing reality views (Creswell, 2003; Merriam, 2001). Qualitative research seeks real-life experiences, meaning, rich description, and a comprehensive worldview (Cohen, et al., 2000; Creswell, 2003; Merriam, 2001). The qualitative approach is inductive; the researcher presents research questions, interprets the data, answers the questions, and draws theory from those answers (Creswell, 2003; Hathaway, 1995; Merriam, 2001; Ratcliff, 2002). Finally, qualitative research examines situations through the perceptions of the participants, not the researcher (Cohen, et al., 2000; Hathaway, 1995). In qualitative research, the researcher is the primary instrument and must actively interact with participants in the research project (Creswell, 2003; Hathaway, 1995; Merriam, 2001). The researcher must be tolerant of ambiguity, sensitive and intuitive, a good communicator, and a skilled writer (Merriam, 2001).

There are a number of criticisms of qualitative research. First, the samples are typically small and nongeneralizable (Denscombe, 1998; Ratcliff, 2002). Second, qualitative data are context-specific and difficult to compare with other studies (Ratcliff,

2002). Third, a successful qualitative study is dependent on the researcher's skill level. The fourth criticism is that the researcher's bias is present in the collection and analysis of data. Finally, there is a possibility of interpreting comments out of context when analyzing the data (Denscombe, 1998).

Despite the criticisms, there are several advantages credited to qualitative research. First, the data are grounded in reality and are applicable to the real world (Denscombe, 1998). Second, the data are rich and detailed, thereby providing more information to the researcher (Denscombe, 1998; Ratcliff, 2002). The third advantage is the possibility of alternative explanations to existing theories and paradigms. Finally, the data presented are from the view of the participant, thereby lessening the likelihood of bias on behalf of the researcher (Ratcliff, 2002).

Research Methods

According to Creswell (1994), a qualitative research problem is "immature" because there is a lack of existing theory or research (p. 146). Moreover, the research strategy and method employed should be appropriate and reasonable, and the method "choices are reasonable and that they are made explicit as part of any research report" (Denscombe, 1998, p. 3). This study falls under the realm of qualitative research in that it aimed to explore an area that is both lacking in theory and research. Furthermore, the intent of this study was to obtain rich and descriptive descriptions of MMOG virtual environments and holistic insights from those actively engaged within those environments (Geertz, 1978). The research methods used to build a thick description include observations, document analysis, and interviews. If used correctly, all three methods can yield themes and categories from the data.

Observations. Observations are based on what is seen in real life and natural settings, and they are useful in gaining information about a situation or culture directly rather than indirectly. Researchers can observe the physical environment, participants, activities and interactions, nonverbal cues, behaviors, occurrences, non-occurrences (Merriam, 2001).

There are four ways to observe, the first of which is as a complete participant or covert observer. A complete participant participates in all daily activities, but their researcher status is concealed. Being a covert observer can present an ethical question in that the research participants are not aware that they are being studied (Denscombe, 1998; Merriam, 2001).

Second, researchers can participate as a participant/observer. In this role, the researcher makes their research purposes known but clarifies that the research is secondary to their role as an active participant (Denscombe, 1998; Merriam, 2001). Balancing the demands of a participant and an observer is difficult and often takes time to master (Merriam, 2001). The third way for a researcher to observe is an observer/participant. In this mode, the researcher's role as an observer takes priority over their role as a participant. Similar to the participant/observer mode, the researcher makes their intentions known to those they are studying (Denscombe, 1998; Merriam, 2001). The role of the observer/participant might change over time as the researcher gains more rapport with the research participants. Eventually, the researcher might spend more time participating in the environment rather than simply observer it (Merriam, 2001).

The final way to observe is as a complete observer. In this mode, the researcher's presence is unknown, meaning they are hidden or in a public setting. The purpose of this

mode of observation is to "act as a fly on the wall" so as to not disturb the natural setting or the participants (Denscombe, 1998; Merriam, 2001).

There are a number of disadvantages to observations, the first of which is access. It is sometimes difficult to gain access to an environment or set of participants in order to observe. A researcher's skills and qualifications are often called into question as they seek access to an observation site. Sometimes having a gatekeeper vouch for the researcher can improve the likelihood of access (Denscombe, 1998). Second, observations present an issue of reliability of data. This is an issue because information gleaned from observations is often from the researcher's point of view. Therefore, the information has the potential for being skewed or biased (Denscombe, 1998).

The third disadvantage of observations is researcher deception and questionable ethics. If the researcher observes as a covert observer or a complete observer, they are collecting data without the participants' consent. While in some cases this can be acceptable, the researcher must be very careful to not deceive research participants or misuse any information collected through observation (Denscombe, 1998; Merriam, 2001). The last disadvantage to observations is time. Observations can take a long time to conduct, oftentimes spanning months (Denscome, 1998).

Observations also present a number of advantages including gaining information from a subject's point of view. Since the researcher is observing the subject, the researcher can collect direct information about what the subject was doing and experienced. Second, observations can provide context or specific incidents for follow-up interviews. A researcher will often observe an incident that warrants follow-up. In

these cases, the researcher will be able to ask interviewees about a specific incident in order to obtain the research subject's perspective (Merriam, 2001).

The third advantage of observations is the maintenance of ecological validity, meaning that research participants are observed in their natural environment. Furthermore, the researcher attempts to uphold the native environment by making his or her presence less imposing. When this occurs, the researcher is likely to gain powerful, holistic, and insightful data (Denscombe, 1998; Merriam, 2001). Finally, observations can be used in conjunction with other research methods to triangulate findings, thereby improving the validity of the information collected (Merriam, 2001).

This study extensively used observations. The research team observed the virtual environment and the participants in those environments for evidence of subjective culture, experiential learning, and communities of practice. The observation protocol was developed from the literature review. Through observation, I was able to generate themes used to help answer the first three research questions. The results of the observations, along with those of the document analysis, were used to finalize the interview questions.

Document analysis. Document analysis can show current knowledge in a given field, examine critical questions, and expose gaps in the literature (Denscombe, 1998). Intuition and references guide the search for related documents. For instance, one book or article will point to another (Merriam, 2001).

There are many types of documents that can be analyzed beginning with books and journals. The next type of documents is electronic, which can include web pages, discussion boards, chat rooms, and weblogs. Electronic documents can yield up-to date,

dynamic information, but due to the unrestricted nature of the Internet, electronic documents can also lead to misinformation (Denscombe, 1998; Merriam, 2001).

The third type of documents is newspapers and magazines, and the fourth type is personal letters, memos, and diaries (Denscombe, 1998; Merriam, 2001). These types of documents can be subjective; consequently, they are reliable for data about attitudes, values, and beliefs (Merriam, 2001). Fifth, there are an increasing number of audio and visual documents becoming available. These documents more easily capture attention and are freely available online, but they can be difficult to interpret as a stand-alone piece of information (Creswell, 2003). Finally, there are public records and governmental publications. One caution is that these documents are often partial because some of the information is private or confidential (Creswell, 2003; Denscombe, 1998; Merriam, 2001).

When reviewing documents, one must be aware of potential drawbacks. First, documents may be incomplete. Second, many available documents are not produced for research purposes and are difficult to understand (Merriam, 2001). Finally, some documents are hard to authenticate or test for accuracy (Creswell, 2003; Merriam, 2001). It is essential that there is some level of confidence in the authenticity and accuracy of the documents.

Along with the drawbacks are advantages of document analysis. First, it is cost-effective and easy to access documents (Creswell, 2003; Denscombe, 1998; Merriam, 2001). In some cases, documents may be the only way to access information (Merriam, 2001). A second advantage of document analysis is that documents are permanent data and other researchers can access them to authenticate data (Denscombe, 1998). Finally,

documents are written in the word and voice of the author (Creswell, 2003). This often results in more descriptive and detailed information (Merriam, 2001).

This study also used document analysis reviewing community documents such as forums, fansites, guild Web sites, discussion boards, game designer-produced documents, community-produced documents, and walkthrough documents. By examining these documents, I was able to generate themes, which were used to help answer the first three research questions. In conjunction with the observation data, I constructed the interview protocol.

Interviews. When the researcher wants to answer the "why" question, an open-ended survey provides some information, but an interview may be more useful (Cohen, et al., 2000). Most social science research employs interviews in one form or another. Interviews are interactive and aim to obtain life information from the participant (Holstein & Gubrium, 2002). In addition, interviews can be positivist or interactionist, with the latter focusing on "meaning, understanding, authenticity, and participation" (Wilson, 2002, p. 2).

The interviewer plays an integral part in the interview process. If the interviewer is not adequately prepared or if the questions are not thoughtful and neutral, the interview data are worthless (Holstein, 2002). In short, "the trick is to formulate questions and provide an atmosphere conducive to open and undistorted communication between the interviewer and respondent" (p. 115).

There are three interview formats: structured, semi-structured, and unstructured (Denscombe, 1998; Merriam, 2001). The structured format is very rigid and is simply a survey administered orally (Denscombe, 1998; Cohen, et al., 2000; Merriam, 2001).

Structured interviews are useful when personal feelings or values are not wanted (Newman and McNeil, 1998). The semi-structured interview is similar to structured interviews, but they are more flexible. In this interview format, there is still a set of questions, but the interviewer will also inquire about the reasons for some answers (Cohen, 2000; Denscombe, 1998; Merriam, 2001; Newman and McNeil, 1998). Finally, the unstructured format is open to go in any direction, as there is no formal agenda. The unstructured interview is in-depth and personal, allowing participants to speak their minds (Cohen, et al., 2000; Denscombe, 1998; Newman & McNeil, 1998).

Interviews can be conducted in three ways: face-to-face, via telephone, or electronically. Face-to-face interviewing is the most common form of interviewing and involves direct contact (Denscombe, 1998; Merriam, 2001). The face-to-face interview generally takes more time, costs more than surveys, and generates more rich and descriptive data (Denscombe, 1998).

The second format for interviews is by telephone. Telephone interviews are generally less expensive and faster than face-to-face interviews, and the rich, descriptive data are comparable to that of face-to-face interviews (Cohen, 2000; Denscombe, 1998). The telephone interview loses the visual component but still allows a personal connection (Cohen, et al., 2000; Denscombe, 1998). Telephone interviews can be very intrusive to participants, so it is wise to keep them short (Denscombe, 1998).

The third way to conduct interviews is electronically, including email and Internet chat. Electronic interviews have a number of advantages. First, an electronic interview is immediately transcribed. When the interview is over, the interviewer can draw conclusions and immediately forward them to the interviewee for verification (Alt, 2002;

Conducting, 2000; Crichton & Kinash, 2003). Second, electronic interviews are acceptable when it is problematic to contact the interviewee due to location, time differences, and scheduling difficulties (Crichton & Kinash, 2003; Tips, 2002). The third advantage is that electronic interviews can be especially effective if the interview participants are already interacting in a virtual environment (Crichton & Kinash, 2003). Finally, electronic interviews also have the advantage of honoring the participant's voice, allowing for well thought out questions and responses, and obtaining rich, interactive, and pertinent information (Conducting, 2000; Crichton & Kinash, 2003).

Electronic interviews also have a number of disadvantages, including its mode of delivery. Because the primary communication method online is text, electronic interviews often lack audio and non-verbal visual cues. This can lead to miscommunication and misunderstandings (Conducting, 2000; Crichton & Kinash, 2003). Second, in order to participate in electronic interviews, one must have a certain level of technical skill. Without this skill, some possible interview participants are excluded from the research. Finally, many electronic interviews are linear in nature. This means that the interview follows a question/answer format and may not allow for extraneous or peripheral information to be exchanged (Crichton & Kinash, 2003).

Regardless of what type of interview is used, interviews in general have a number of disadvantages. The first disadvantage is that there may be a lack of information quality because participants want to move quickly through the interview (Denscombe, 1998; Wilson, 2002). Second, interviews require a lot of money and time on behalf of the researcher and the participant. This can be a deterrent for conducting and participating in interviews (Denscombe, 1998; Newman & McNeil, 1998). Another disadvantage is that

because of unreliable or unique answers, interviews are harder to analyze (Creswell, 2003; Denscombe, 1998). Finally, the presence of the interviewer can inhibit participants from responding completely or truthfully (Creswell, 2003; Denscombe, 1998).

For qualitative research, interviews have many advantages over observations and document analysis. First, because the researcher is in direct contact with the participant, there is opportunity for follow-up questions and verification of answers (Denscombe, 1998; Newman & McNeil, 1998). This increases the validity of the data. The second advantage is the flexibility for the researcher and the participant (Denscombe, 1998; Wilson, 2002). Another advantage is that the information conveyed is insightful, in-depth, and from the participant's point of view. Finally, there tends to be a higher response rate connected with interviews than with surveys (Denscombe, 1998).

The interview questions for this study were generated using themes derived from the observations and document analysis. The interview questions were reviewed both by a layperson and a person who has been trained intercultural theories. The interviews were open-ended and conducted entirely over email. Email interviews were chosen because participants were located in various places around the world and to conduct face-to-face or telephone interviews would have been logistically and financially difficult.

The purpose of the interview was to follow-up on observations and the analysis of community documents. In addition, the interviews provided more in-depth information than could be drawn from the observation and document analysis. The interviews gave me and the participants an opportunity to have a conversation about incidents discovered through observation and document analysis, as well as the issues raised in the research

questions. The data from the interviews were used to answer the first three research questions.

Virtual ethnography. This study is very similar to a virtual ethnography. Virtual ethnographies record text-based conversations between the researcher and research participants, as well as between research participants (Crichton & Kinash, 2003). In addition, virtual ethnographies collect data from online collaborations, discussion groups, online journals, web communities, and video recordings showing non-verbal cues (Aarseth, 2003; DEW, 2006; Steinkuehler, 2004a; Steinkuehler, 2005; Steinkuehler, 2006a). According to Crichton & Kinash (2003), "virtual ethnography, then, suggests a method in which one actively engages with people in online spaces in order to write the story of their situated context, informed by social interaction" (p. 2).

Research Context

The research context comprises a discussion of MMOG virtual environments and a description of the game chosen for this study.

MMOG Virtual Environments

This study focused on MMOG virtual environments and their participants. MMOGs were chosen for this study for four reasons. First, MMOGs are capable of simulating social situations. Through studying MMOGs, one can observe how behavior, politics, and economics evolve, and how cultures and worlds evolve and devolve. As a result, MMOGs are useful to study because those cultures and worlds can be simulated (Steinkuehler, 2006b).

The second reason for choosing MMOGs was because they promote online community and learning. According to Steinkuehler (2005), "they (MMOGs) serve as

naturally occurring, self-sustaining, ingenious versions of the kinds of online learning communities much present research seeks to design and understand while, at the same time, providing a 'highly visible medium' for the collaborative construction of mind, culture, and activity" (p. 55).

Third, MMOGs provide opportunities for problem solving, critical thinking, completion of community-defined goals, and constructing strategies and meta-strategies for game play (Steinkuehler, 2006b). All of these opportunities can contribute to learning and development in the MMOG virtual environment.

Finally, MMOG virtual environments provide ample opportunity for interaction between players in the environment. These interactions occur between players of varying age and skill level. They also promote teaching and learning between members of guilds/clans through apprenticeship and enculturation. Lastly, the balance of collaboration and competition push players higher and promote continued engagement (Steinnkuehler, 2006b).

Description of the Game Chosen

To choose a game for this study, a set of criteria was developed (see Appendix A), including popularity, interactivity opportunities, guild formations, presence of community documents, in-game skill development, and realism. Using these criteria, the research team selected *World of Warcraft*. *World of Warcraft* has approximately eight million players worldwide with approximately 225 servers, each running their own instance of the game. The server selected for this study was Blackwater Raiders, which was a new server created in October 2006. Presently, this server has approximately 20,000 players.

World of Warcraft is a fantasy-based game where mages, warriors, hunters, rogues, warlocks, druids, paladins, and shamans cooperate and compete to continually progress through the game. Players select not only their class, but they also select their faction (alliance or horde). These factions are at odds with one another and are unable to communicate directly with each other. Players also chose two professions (enchanting, blacksmithing, leatherworking, engineering, alchemy, etc.), which are used to help fellow players of the game and to support the economy of the game.

Because the virtual environment is very large, *World of Warcraft* players can have any number of goals including completing quests, networking with other players, gaining economically, practicing role-playing, and competing in player-vs-player competitions. To attain any of the above goals, players must cooperate with others in their guilds or social networks. Guilds and social networks play a major role for most players in the game. Guilds serve as a support group for players to ask questions, work on quests, and build common goals. According to the *World of Warcraft* (2007) Web site, "you do not have to be a member of a guild if you do not want to but if you find a good one it will make the game experience much more fun."

In order to cooperate, players must interact with many other players throughout their gameplay. Players talk using various chat channels, which incorporate a form of instant messaging to support discussion. In addition, some players utilize voice over IP (VoIP) products such as Ventrilo and Teamspeak to talk with other players. Without cooperation and communication, progressing to the higher levels of the game is impossible. More information about *World of Warcraft* can be found in Appendix B.

Research Process

The research process for this study consisted of five different steps. These steps include participant observer selection, game selection, observation, analysis of community documents, and interviews. The research process order was selected because not much was known about MMOG culture or virtual environments. The research team played the game and observed for approximately four months. Once we were more comfortable with the culture and virtual environments, we identified interview candidates and I conducted interviews (Aarseth, 2003; Bhuwak & Triandis, 1996). Data obtained from each of the steps was used to inform the next step in the research process.

Selection of an Additional Participant Observer

One additional participant observer was recruited to help conduct observations and interviews. A research request was sent to a listserv dedicated to students in the Comparative and International Development Education department at the University of Minnesota. The participant observer was recruited based on knowledge of subjective culture, experiential learning, and communities of practice. In addition, this person had familiarity with video games but was not familiar with MMOGs. Because both of us were new to MMOGs, part of the research time was spent learning the game.

The research assistant was paid $2500.00 and the cost of the game software and game subscription costs were reimbursed by the lead researcher. In return, she played the game for approximately 400 hours. During that play, she was required to observe, take copious notes, and identify potential interview subjects. In addition, she was asked to validate themes generated from the observations to insure consistency in the research.

Selection of Game

One game was selected for this study. The criteria used for selecting this game included popularity, interactivity opportunities, guild formations, presence of community documents, in-game skill development, and realism (see Appendix A). These criteria were selected because it was important to find a game that many people played. In addition, we also wanted to observe interactions, guilds, and learning, so the presence of interactivity, guilds, community documents, and in-game skill development were also important selection criteria.

Each of us independently examined video game websites and used the game selection criteria to identify five possible games. The lists were compared and we selected *World of Warcraft* because it was the most popular MMOG on the market, had many opportunities for interaction and in-game skill development, had a vibrant guild community, and had a number of community documents available outside the game. The other games not selected included *Guild Wars*, *Second Life*, *Everquest*, *Final Fantasy XI*, and *Ragnarök*. Each of these games included some of the selection criteria, but *World of Warcraft* met the most criteria.

Observation

According to Steinkuehler (2004), "through participation in a community of practice, an individual comes to understand the world (and themselves) from the perspective of that community" (p. 3). Without observation, one is unable to view culture revealed through community member behavior and action (Geertz, 1978). Therefore, participating and observing game play were important to this study.

Once the research assistant was selected, I met with her and discussed the observation protocol and rubric (see Appendixes C and D). The protocol was developed using information found in the literature, and the rubric was designed based on the protocol. The protocol and rubric included definitions and examples of subjective culture, experiential learning, and communities of practice. In addition, the research assistant was instructed to observe individual players, conversations, interactions, social formations of players, examples of teaching and learning, social community, language, what people do, and gestures or expressions (Aarseth, 2003; Bhuwak & Triandis, 1996; Kolo & Baur, 2003; Steinkuehler, 2005; Triandis, 2002).

The rubric was adapted from the protocol to make recording observations easier. No substantive changes were made other than adding the context section, which was used to describe a given situation. To make the rubric easier to use, each of the items on the protocol was converted to question form. For instance, on the protocol under experiential learning, the first item was "evidence of mentor/mentee relationship". On the rubric, that item was called, "is there a Mentor/mentee relationship?"

As participant observers, we met nearly every day in the game and once a month outside of the game. At these outside meetings, the research assistant provided observation notes and the two of us discussed how to proceed the next month. Each of us spent approximately 4 months (approximately 400 hours each) in MMOG virtual environments. The data collected from the observations were used together with the document analysis data to finalize the questions for the interviews. In addition, the data were used together with the document analysis and interview data to answer the first three research questions.

Both of us disclosed our roles as participant observers, meaning that we made our purpose known to fellow guild members and the guild leaders. Not only were guild leaders consulted prior to entering the guild, but a guild message was generated so all members of the guild knew our purpose. In addition, a more detailed description of the research project was included on the guild website. While guild members were informed of the research purpose, not all players with whom we interacted knew our purpose. Because some interactions, would only last a short time, the purpose was not disclosed or discussed.

Analysis of Community Documents

In addition to playing in the MMOG virtual world, players spend a significant amount of time outside of the game interacting with various community documents. These community documents include, but are not limited to, discussion boards, guild Web sites, fan-sites, user manuals, fan-generated stories, chat rooms, fan art, video clips of game play, and walkthrough documents (Aarseth, 2003; Kolo & Baur, 2004; Steinkuehler, 2004). These documents were chosen because as I played the game, I learned what documents were important to players. In addition to importance, these documents were chosen because they were popular and diverse in content, helped develop or instill norms, and provided information about culture change (Bhuwak & Triandis, 1996). A list of documents analyzed is included in Appendix E.

As with observations, a document analysis was conducted for each set of community documents associated with each MMOG. A document analysis protocol was used to evaluate each document (see Appendix F). This protocol was developed using the structure of the observation protocol and using information gleaned through

interactions with other players and playing the game. The data collected from the analysis of community documents was used together with the observational data to finalize the questions for the interviews. In addition, the data were used together with the observation and interview data to answer the first three research questions.

Interviews

After the third month of observations and analysis of community documents, the interview questions were developed. The questions were developed using the content of the observation and document analysis protocols. In addition, the questions were constructed using the data collected through observation and document analysis. The interview questions were given to a layperson and to the research assistant to insure clarity, understanding, accuracy, and appropriateness. The interview questions were revised based on the comments received from the two readers.

Once the interview questions were set, the interviewee selection criteria were developed. The first two criteria were chosen due to access. I could only contact people who played on my server and who were part of the same faction (Alliance). The third and fourth criteria were chosen because it was important to have guilds that were active and had external websites. This allowed me to not only interview a guild leader, but also analyze that guild's community documents. The fifth criterion was chosen because guild leaders would likely have more information about the guild than would a guild member, though the sixth criterion allowed me to interview a guild leader-designated member if necessary. Finally, each interviewee had to be willing and over the age of 18.

Through analyzing guild Web sites and using the interviewee selection criteria (see Appendix G); I identified a list of 22 potential interviewees and labeled each guild

with letters A through V. We split the list and attempted to contact each potential interviewee using the in-game mail system. After one week, I sent a second request to each of the potential interviewees who had not yet responded. A total of nine guild leaders responded indicating their willingness to participate.

Each interview participant was then sent an email that included the list of questions (see Appendix H) and the Consent Information Sheet (see Appendix I). Of the nine who were sent the questions and the Consent Information Sheet, only six ended up completing the interview process. The remaining three were sent one reminder email, but chose not to respond to the questions.

The interviews were semi-structured and done entirely over email. Since the interview was conducted over email, the responses were transcripted verbatim. This ensured the accuracy of the answers and eased data analysis. The interviews yielded data, which in conjunction with the data compiled from document analysis, observations, and content analysis, were used to answer the first three research questions.

Data Analysis

This portion of the paper contain a description of the overall data analysis strategy and details about how the research questions were answered using the constant comparative method.

Overall Strategy

According to Merriam (2001), one can only learn how to analyze qualitative data by actually doing it. However, there are many general guidelines that one can use when analyzing qualitative data. One of the goals of analyzing qualitative data is to develop

themes and categories. This study utilized the constant comparative method and triangulation to develop themes and categories of data (Merriam, 2001).

The constant comparative method continually compares incidents from one interview, observation, or document to other incidents (Creswell, 2003; Denscombe, 1998; Merriam, 2001). From these comparisons, categories and themes are developed, which are then used to form comparisons with other categories and further incidents. This process occurs until a general theory or construct is conceived. This study utilized concepts from the observations and compared them to concepts and ideas extracted from the document analysis and interviews. These comparisons led to themes, which were present throughout the data (Merriam, 2001).

Triangulation utilizes two or more data collection methods to obtain a fuller and more accurate picture (Cohen, et al., 2000). In addition, triangulation can improve the internal validity of a study. Triangulation was used in this study to address the above concerns, but it was also used to compare and contrast the conclusions drawn from document analysis, observations, and interviewing. As a result, the results provided consistent themes and categories in the data.

Merriam (2001) suggests that analyzing data while data collection occurs can be beneficial for two reasons. The first reason is the savings in time. Rather than saving all data to analyze at the end of the collection period, the researcher can save time by analyzing the data as it is collected. The second reason is to be able to modify and devise new questions and categories as the study progresses. In this study, I collected data through observation and generated themes. These themes helped develop the document analysis protocol. The themes from the observations and analysis of community

documents helped develop and finalize the interview questions. Analyzing the data while collecting it not only saved time, but it also kept the data collection focused on the purpose of the study (Merriam, 2001).

Answering the Research Questions

Using the constant comparative method of analysis and triangulation, I was able to produce themes that could be used to answer the first three research questions. Additionally, the same data used to answer the first three research questions were also used to respond to the fourth research question.

Concerns Addressed

If validity, reliability, and other issues are not addressed in a research project, the research is worthless (Cohen, et al., 2000; Merriam, 2001). For qualitative data, these issues can be addressed if "honesty, depth, richness, and scope" are found in the data (p. 105). This section describes how certain issues were addressed in this study.

Triangulation

As mentioned above, the literature defines triangulation as using two or more methods to explain phenomena more fully and to view behavior from more than one perspective (Cohen, et al., 2000; Triandis, 2002). Data from one method can be used to validate comparable data retrieved from another method (Bhuwak & Triandis, 1996; Denscombe, 1998). This study employed observation, document analysis, and interviews to obtain data, generate themes, and to answer the research questions. Themes from each method were compared with those from other methods. As a result, answers to each of the research questions were based on themes validated by each research method.

Internal Validity

Internal validity means how well findings match reality and how well they describe the issue at hand (Blake, Helin, & Curtis, 1996; Cohen, et al., 2000; Creswell, 2003; Denscombe, 1998; Merriam, 2001). According to the literature, internal validity can be strengthened by triangulation, participant verification of conclusions, long-term observation, peer examination, and presentation of biases early in the study (Creswell, 2003; Cohen, et al., 2000; Denscombe, 1998; Merriam, 2001).

This study utilized triangulation to validate data and themes compiled through multiple methods and to answer the research questions. In addition to triangulation, each of us recorded our own observations. The observations were compared and ultimately combined to generate themes. The research assistant then verified that the themes I generated reflected her thoughts and recollection.

Additionally, both of us spent four months in MMOG virtual environment. Peer examination was used to verify the observation and document analysis protocols in addition to the interview questions. Finally, researcher biases and assumptions were outlined in chapter one.

External Validity

External validity is described as the ability of the results to generalize to the population (Creswell, 2003; Blake, Helin, & Curtis, 1996; Cohen, et al., 2000; Merriam, 2001). It is difficult to generalize from a non-random, isolated sample (Merriam, 2001). However, the literature suggests that providing rich, thick descriptions of personal values and thoughts can reinforce external validity (Creswell, 2003; Cohen, et al., 2000; Merriam, 2001).

This study provided detailed descriptions of the research methods and of the data obtained through the research methods. In addition, a thorough description of how each step of the research was done and how the data were analyzed is included in this study. As a result, the reader can decide if the findings apply elsewhere.

Reliability

Reliability is defined in the literature as consistent, precise, accurate, and replicable over time (Cohen, et al., 2000; Merriam, 2001). "Reliability includes fidelity to real life, context- and simulation-specificity, authenticity, comprehensiveness, detail, honesty, depth of response, and meaningfulness to the respondents" (Cohen, et al., 2000, p. 120). By providing a detailed context, a list of biases, selection criteria, and assumptions, the chance of replicability increases (Creswell, 2003; Merriam, 2001). This study addressed reliability by utilizing triangulation and by providing a detailed description of the research context, biases, assumptions, research methods, and selection criteria.

Confidentiality

Confidentiality means that the identities of research participants are not revealed to the external community. The privacy of participants should be respected and maintained (Cohen, et al., 2000; Creswell, 2003; Fowler, 1993; Merriam, 2001). This study maintained and will continue to maintain the privacy of the participants. The observation data and the interview transcripts will be kept in a locked safe for a period of five years. This safe is only accessible to me.

Ethics

According to the literature, there are a number of ethical factors to consider when conducting research. The researcher should not abuse his or her power (Merriam, 2001). In addition, the researcher should provide adequate information to all participants so they can make informed choices about participation. This means that the benefits, if any, are clearly laid out, as well as the procedure for withdrawing from the study (Creswell, 2003; Cohen, et al., 2000; Fowler, 1993). In addition, information obtained should not be misconstrued, skewed, or modified to serve a particular purpose. Finally, the researcher should obtain any necessary institutional permission before undertaking the study (Cohen, et al., 2000; Creswell, 2003; Merriam, 2001).

For this study, we did not abuse their power when dealing with participants of this study. In addition, information was provided to all guild leaders and guild members so they were informed of the researchers' dual purpose. Furthermore, every guild member was given the opportunity to ask questions at anytime about the study and many guild members did. In addition, all interviewees were asked to give consent prior to conducting an interview, were allowed to ask questions at anytime, and were given the opportunity to withdraw at any time. Three of the nine interviewees who had originally agreed to be interviewed withdrew from the study.

I also did my best to not skew or misinterpret results for an ulterior purpose. Themes generated through observation were validated by the research assistant to insure that the themes were accurate and reflected the observations she had made. Finally, the University of Minnesota's Institutional Review Board (IRB) also gave permission to conduct this study. The study number given by IRB was 0607E89968 (see Appendix J).

Limitations of the Study

Limitations describe potentially weak or biased aspects of the study (Creswell, 2003). The first limitation of this study is the number of MMOGs studied. I chose to study only one MMOG because of time and resource concerns. Considering there are dozens of MMOGs on the market, studying just one MMOG virtual environments is a limiting factor. However, while the themes differ between MMOGs, all include players interacting with one another synchronously, completing quests together, and forming social networks. Therefore, it is reasonable to make some generalizations about the MMOG genre based on the conclusions of this paper.

Another limitation of the study was the interview process. While every attempt was made to interview as many players as possible, not all identified interviewees consented to be interviewed. Furthermore, some of the interviewees who agreed to be interviewed withdrew from the process before it could be completed. However, the purpose of these interviews was to find leaders of structured and active guilds. The six guild leaders interviewed were in charge of guilds that focused on member and guild development, so the interviews yielded rich information.

The third limitation was the status level of the participant observers inside the games. Personal identity and skill level can affect how one is treated in game and the answers to interview questions (Denscombe, 1998). At the time of the interviews, both of us were relatively high levels and one guild leader agreed to an interview only because of our high levels. Our high levels may have influenced the data we received and the interpretations when analyzing information. On the other hand, if we had been lower

levels, we may not have been able to get anyone to participate in the interviews and we would not have understood the game well enough to ask intelligent questions.

Fourth, interviewees volunteered to participate in the interviews, which may have led to self-selection bias. It is possible that those interviewed varied significantly from those who selected not to participate. Nevertheless, prior to contacting the interviewees to participate in an interview, I examined each their respective guild websites. Many of the guilds had similar goal and objectives, while their guild websites were similar in content, layout, and contained information. Therefore, while each of the guild leaders that did not interview may have provided some additional insight, many of their answers would have likely been similar to those given by the interviewed guild leaders.

The last limitation is researcher bias present in the study. First, all observations, interpretations, and analyses are made through my own cultural perspective. Second, I am currently involved in online education and believe strongly in technology's ability to supplement people's learning as they prepare for their careers and lives. Finally, I have been playing video games for the past 25 years and believe that video games have the potential to bolster learning, especially for those people who grew up playing them. These biases may be weaknesses, but they are also strengths. I have the experience necessary to speak intelligently about online education and gaming culture. This experience also helped me converse with players inside and outside the game, which may have helped me extract more valuable data from the research participants.

Summary

This chapter described the research strategies and methods available and which were chosen for this study. The study employed a qualitative approach and utilized

observations, document analysis, and interviews to answer the four research questions. In addition to the strategies and methods employed, this chapter outlined the steps taken to conduct the research, as well as those taken to address internal and external validity, reliability, and confidentiality. The following chapter will present the data obtained through observations, document analysis, and interviewing. The fifth chapter will analyze the data obtained, draw conclusions, and offer suggestions for future research.