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This paper reports on an exploratory study conducted to discover the potential value of a gaming service in an academic library setting. The study was inspired by reports of declining campus library use and the resulting efforts to reconnect with Net Generation students. A survey questionnaire was employed to collect data from a random sample of 250 undergraduate students at North Carolina State University. Questions were designed to explore student perceptions of gaming in the library, impact on building visitation, and overall reception of the service. In addition, the researcher performed an analysis of a library-run online forum and conducted an interview with a staff librarian. The resulting data reveal a majority of students have an overall positive view of gaming in the library and use the service for a variety of reasons. Study data may be used to establish a best-practice for gaming implementation in the academic library environment.

Headings:

College and University Libraries—Services to Undergraduates

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Echo Boom Generation

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SERVICE FOR A NEW GENERATION: IMPLICATIONS FOR IMPLEMENTING VIDEO GAME SERVICE IN AN ACADEMIC LIBRARY

by
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Introduction

Walk into any academic library today and observe how the physical space has transformed and services have changed. Technology-driven Learning Commons, computer centers, cafes, laptop lending, and collaborative spaces have become familiar features of the modern library. There are many reasons for the evolution of library as place, but perhaps none more important than an attempt to reverse the trend of declining academic library usage. New technologies, enduring perceptions of the library, and the behaviors of the technologically sophisticated students of the Net Generation have been attributed to the gradual decline in use.

The 2005 OCLC *Perceptions of Libraries and Information* report suggests that libraries are widely regarded as mere book repositories and that patrons remain unaware of the diversity of services offered. A more recent environmental scan conducted by the ACRL Research Committee (2007) suggests that student demand for "technology-related service" and "technology-rich user environments" will only continue to grow in the coming years and that legacy print collections are quickly becoming obsolete. Morell Boone (2003) noted the unshakable concept of the library as "a monastery full of books and journals for scholars" (p. 358). As libraries age, stereotypes persist, and access to information becomes ubiquitous, Net Generation students increasingly abandon the library in favor of multi-purpose, comfortable, and inviting atmospheres such as bookstores, coffee houses, and renovated dormitories (Carlson, 2001). Thus, it is important that libraries understand and provide the services that interest today's student

in an environment that supports their expectations and needs. The Net Generation comprises those born after 1982 (Howe & Strauss, 2000; Oblinger, 2004; Pletka, 2007). These students value collaboration, comfort, and convenience. Environments that provide instantaneous gratification, enable multitasking, and offer ubiquitous computing condition their learning and seeking behaviors. As Lippincott observes, the manner and environment in which this generation of student studies, learns, and accesses information directly impacts how and which services academic libraries offer (2005). Helen King (2000) suggests in her study of American and Australian university libraries, "physical space that is psychologically supportive, aesthetically pleasing and safe will be important," especially to today's students. Stephen Abram and Judy Luther (2004) suggest that Net Generation students expect an environment conducive to multitasking where information and entertainment are available to them whenever they need it and wherever they are. In response, academic libraries are constructing and renovating new spaces and turning to non-traditional services and emerging technologies targeting this complicated and unique class of students.

The decline of academic libraries has been a topic of debate for decades. James Thompson predicted the demise of the physical place due to the rise of digital technologies as far back as 1982. William Wisner (2001) echoed this sentiment, fearing that advances in technology would make the physical library obsolete. Perhaps no one has been more influential in fueling the debate than Scott Carlson (2001), whose article, "The Deserted Library," suggested the universal abandonment of the campus library in favor of spaces that appealed to the current generation of student. Recent ACRL reports

support a decline in physical library use, as the statistics reflect decreasing circulation numbers, increasing use of virtual services, and falling gate counts.

However, some researchers feel the trend is in reversal and attribute this success to a user-focused, service-oriented initiative. Albanese (2003) reported that academic library usage is on the rebound and credited the revival to a focus on what students want. Stephan (2005) observed a movement toward a hybrid community center-research center model for academic libraries. A 2007 Pew Internet & American Life Project study reported that members of the Net Generation were among the heaviest users of libraries, though the report focused solely on public libraries. A recent renovation project at Michigan State University transformed the main library into an inviting social space, complete with food, drinks, entertainment, in addition to traditional library services (Gust & Haka, 2006). Usage has since doubled at the MSU Libraries over the last decade, which has been attributed to the reorientation of the library. Saint Mary's University renovated library space and implemented new programs to promote a communal learning commons with focus on both academics and leisure (Houlihan, 2005). The Saint Mary's renovation resulted in more comfortable seating, softer lighting, and more aesthetic décor, features they hoped would encourage students to not only use the library, but remain there. Preliminary statistics reflect an increase in building and service usage.

Not all academic libraries have undergone such a renaissance, so what can be done to lure students back? Interestingly, at the same time Thompson was signaling the death knell of the physical library, Carol Emmens (1982) was reporting the first success stories of gaming in libraries. Though the article focused on public libraries and the circulation of Atari games, it is one of the first reports on the intersection of traditional

library services and video games. More recently, gaming has been suggested as one alternative service that could have potential benefits for both students and the academic library (Levine, 2006).

The 2006 library usage statistics at North Carolina State University reflect a 10% decrease in gate count numbers each of the last two years. In an effort to attract Net Generation students to the library and provide a unique service to the campus community, staff recently implemented a gaming service at the D. H. Hill Library. In a survey of new services aimed at attracting Net Generation students back to the library, gaming has quickly moved to the forefront, as both a desirable and contentious innovation. Gaming is still an untested and sparsely used academic library service, though there have been reports of successful implementation in numerous public library settings. Academic libraries reporting success with gaming have employed the service in a time-limited role, infrequently hosting gaming nights or providing short-term access to gaming equipment. Studies on gaming as a continuous service are lacking, as few campus libraries have implemented gaming in such a way. Why, though, is gaming considered a viable and potentially valuable academic library service? Research indicates that the university students of today grew up with video games, in a society where gaming has been ever-present (Oblinger, 2004). It follows that gaming should be a familiar and attractive recreational outlet to the Net Generation student; one that has the potential to attract them to the library. Gaming has also shown to have both social and educational benefits and, in certain cases, promote physical and mental health; but does it have value and application in academic libraries? This study will focus on the implications of the nascent gaming service at the D. H. Hill Library. For the purposes of this study, gaming

will defined as use of both video game consoles and computer games. Undergraduate students who have been identified as members of the Net Generation comprise the sample study population. There have been few studies conducted on measuring the success of electronic gaming in academic libraries, so the author will attempt to understand the value of gaming to both library and user, as well as discover the impact on library usage. Research questions that will be considered are: 1) What are Net Generation students' perceptions of a video game service in an academic library? and 2) How does a gaming service impact library use? The researcher will seek to discover through surveys, interview, and forum analysis the correlation between the appeal and use of the gaming service and library building use.

Purpose

The aim of this study is to provide evidence of value for a new and innovative service not widely used in academic libraries. The methods employed here will attempt to determine what, if any, impact gaming service implementation has on academic library usage through the discovery of student perceptions, awareness, and use of such a service. As the literature suggests, students are turning to alternative places on and off campus to study and conduct research, thus libraries are actively seeking to draw students back to the campus library through various initiatives. This study seeks to discover if a gaming service is one such initiative desired by the campus community, used by the students, and thus, attracting them to the physical library. The results of such a study could benefit both the academic library and the student community, as the success of a video game service could potentially impact building usage numbers and lead the library to compete with other physical spaces popular with students. At this time, there is a noticeable lack

of research investigating the viability and impact of video game service implementation in academic libraries and further examination is needed.

Literature Review

This study resulted from concern raised in several articles suggesting the decline of the academic library and the growing disconnect between students and the libraries that serve them. The literature seems to indicate that there is need for a shift in the focus and orientation of libraries to appeal to today's students. Introducing gaming into the library setting has been identified as one possible service that may have widespread appeal that benefits both library and student. The study of gaming in academic libraries is a new area of research and few studies have been conducted evaluating its use and value as a library service. Despite the relative lack of research, increasingly, more university libraries are turning to gaming as a potential long-term service, as evidenced by the creation of the Library Game Lab at Syracuse University, the extensive video game collection at the University of Illinois at Urbana-Champaign, and the video game service at the Science Library of the University of Oregon.

For the purposes of this study, gaming is defined as interactive game software played on entertainment consoles, computers, and the Internet (Levine 2006: 5). In recognition of the abandonment of the library by today's students, it is useful to understand the reasons for library avoidance. For academic libraries to develop and implement services that appeal to students, it is necessary to recognize the characteristics and behaviors that drive the Net Generation. Libraries that have attempted to reconnect with students have implemented policies and services that are innovative, unique, and

familiar. Gaming is one such service that is considered to have widespread appeal and presents Net Generation students with an alternative reason to use the library. Though gaming is considered a non-traditional library service and may not appear to have any scholarly application, research indicates that the benefits of gaming are far-reaching. Thus, this literature review is broken down into topical categories comprising the recognition of and reasons for library desertion, the importance of understanding the Net Generation as students, suggestions for gaming as a prospective library service, and benefits of gaming as an activity.

Decline in Library Usage

Academic libraries serve as centers of learning at universities and colleges nationwide, but what if no one walked through their doors? Library services and tools are essential to academic success, but what if the students were not aware of them? While it is useful to establish that there is a problem with declining library use, quantitative and qualitative research pertaining to this is lacking. There is, however, ample anecdotal evidence to suggest a decline in academic library usage; fewer bodies in the building, increased demand for virtual reference services, and diminished circulation numbers. Since 1991, circulation and reference transactions have been in gradual decline (Kyrillidou and Young, 2007: 7-9).

New technologies, enduring perceptions of the library as place, and a technologically sophisticated generation of student have been attributed to the gradual decline in the use of the academic library. As students move away from the book and, thus, libraries, the concept of the traditional library is being challenged. William Wisner (2001) predicted that as technology continues to improve, the disappearance of the

physical library is inevitable. Wisner continued that for the current generation of user, the library experience is one of depersonalization and immersive technologies (p. 68). Following on this, Scott Carlson (2001) published a contentious, oft-cited article in the *Chronicle of Higher Education* that sparked debate amongst library professionals. Carlson observed that the current generation of student was deserting the library in favor of coffee shops, bookstores, and the virtual environment. The author cited declining gate count and circulation numbers as evidence of library desertion, giving as an example the Augusta State University library whose gate count numbers fell from a high of 402,361 in 1993 to 271,977 in 2001. Carlson also found that over the same period, the University of Idaho at Moscow suffered a 20 percent decrease in gate count and book circulation, whereas the University of South Carolina at Aiken experienced a 32 percent decline in circulation and a 77 percent decline in gate count numbers. Through interviews with library assistants and directors, scholars, and administrators, Carlson demonstrated that the library as traditional information center was an outdated concept that did not appeal to today's students. The article seemed to indicate not the end of academic libraries but a needed shift in their focus and orientation. This concept is echoed by Morrell Boone (2003) who identified a shift taking place in academic libraries, moving from "the old model, where libraries were viewed as mere repositories for materials" to "a new paradigm of libraries as enhanced interactive and research environments" (p. 358) with a new array of services. Boone suggested that current users of the library possess unique needs that require unique services which may stand in contrast to traditional library services. Attempts to redefine and reinvent the library are in an effort to stay relevant and attractive to a new generation of user. This notion is further supported by Boone

who purported, “[i]f any one statement could summarize this shift, it would be: new facilities meeting new needs for new users” (p. 358).

In a guest editorial, Charles Martell (2005) reexamined Carlson’s findings and reported statistical evidence in support of a persistent and continued decline in academic library usage. Citing the Association of Research Libraries statistics for 2002-2003, the numbers appeared to suggest that the decline in library usage was more pervasive and profound than previously recognized. Martell examined the usage statistics for several university library systems and reported that all experienced a decline in circulation, gate count, or both. From the review of the statistics and previous literature, Martell concluded that the trend is likely to continue, though the author noted reliable, empirical research on the decline in academic library usage is lacking (p. 451).

Some researchers have noted a reversal in the trend and attribute this success to a user-focused, service-oriented initiative. There has been little empirical research to support this assertion and the relevant literature is based mainly on anecdotal and observational evidence. Richard Albanese (2003), in his article “Deserted No More”, offered some empirical evidence in support of academic library revival. Albanese proposed academic library usage is recovering and credited the upturn to a dedicated effort to discover what services and features students want in a library. Albanese focused on the Monroe Library at Loyola University as an example of an academic library once in decline, now on the rebound. After a steady turn down in usage statistics at Loyola, gate count numbers rose 13.4 percent from 2002 to 2003 and circulation rose 13.8 percent over the same period. The author suggested that a focus on what current students want out of their library paved the way for the revitalization. This contention is further

supported by interviews with library directors from Rhode Island College, Western Kentucky University, and the University of Texas at Arlington.

Perhaps the most convincing argument for trend reversal is a recent report published by the Pew Internet & American Life Project (Estabrook, Witt, & Rainie, 2007). The study surveyed 2,796 adults via telephone interviews during the summer months of 2007. Though this study reported on public library usage, the data suggested that members of the Net Generation were the heaviest users of public libraries compared with other age groups. However, the results also reflected that Net Generation members turned to the Internet more than any other age group to answer questions and a large majority used public library computers to conduct research. The results also showed that about only thirteen percent of respondents turned to the public library for assistance with their problems and of those that did, a majority were members of the Net Generation. Ultimately, twenty-one percent of all Net Generation members surveyed stated they visited the public library to seek information in the context of the survey. Overall, sixty-two percent of Net Generation members surveyed stated they used a public library in the last twelve months, though the authors note that respondents overreport possessing a library card by about twenty percent. One shortcoming of the survey is that researchers relied heavily on the participants' recall abilities, as each respondent was asked to remember how they answered specific types of questions within the last two years. It is also useful to recognize that public libraries house materials and provide services that are quite different than those offered by academic libraries. The categories of query topics used in the survey were tailored to the resources of public libraries and focused on topics such as tax information, school funding, health issues, and employment. As this study is

focused on the academic library environment and Net Generation students, the results of the Pew study were not considered particularly relevant. However, the data suggested, in concordance with the previous literature, that the Net Generation relies heavily on the Internet for information-seeking. The results also suggested that there are certain aspects of the public library building that attracts members of this generation to the physical branch.

In recognition of the phenomenon of academic library desertion, it is useful to investigate why students are not visiting the campus library. The literature suggests some reasons for avoidance. Commonly cited reasons are unfamiliarity with the building and its layout, perceived quality of the collection, and the library environment (Simmonds & Andaleeb, 2001: 630). The emphasis placed on the perception of the library environment is of particular interest, and Simmonds and Andaleeb noted that the visual appeal and atmosphere of the physical space had a significant impact on how students perceived the library. This suggests that unappealing, uninteresting, and uninviting spaces influence library use, further supported by recent research.

Ruth Vondracek (2007) surveyed 3227 undergraduate students at Oregon State University's Valley Library. The study found that 29 percent of respondents considered themselves infrequent or non-users of the library. In a follow-up study of infrequent/non-users, it was reported that 0 percent of this group used the library to study alone, though 38 percent, by far the majority, used the library to study in groups. Most chose to study at home, citing comfort as the primary reason. A surprising 36 percent of participants cited inconvenience as the reason for not visiting the library. The manner in which students use the library is changing, so can the physical library adapt?

Based on a comprehensive study of 384 academic libraries, Harold Shill and Shawn Tonner (2003) measured the impact of library renovation projects on building usage. The focus of the study was on the physical space and the impact of specific facility improvements made from 1995-2002. A total of ninety libraries met all study criteria and provided usable data relating to building and service usage. Of the ninety libraries, 80 percent reported an increase in facility usage post-renovation, while 20 percent reported a decrease in gate count numbers (Shill and Tonner, 2004). This is significant as the data both reflects resurgence in library usage due to design improvements and suggests declining use is still an issue for some academic libraries. Other relevant results of the study include the identified importance of non-library services such as coffee shops, computer labs, collaborative study rooms, and information commons, in drawing students to the building. Of particular note is the increasing popularity and development of information commons, where emerging technologies and services are being implemented and tested. These common areas are conducive to socializing and collaboration, which seem to appeal to Net Generation students. This point is useful in that the gaming equipment at the D. H. Hill Library is located in the midst of a newly renovated Learning Commons; a social space that promotes interaction and provides students with access to a wide range of technologies. Other popular amenities cited in the study were comfortable seating, new carpeting, improved lighting, and pleasant color schemes. The results seem to suggest that vibrant, physically appealing libraries that offer non-traditional library services are attractive to students.

A key observation of the Simmonds and Andaleeb (2001) study is "[i]f library usage is to be increased, it is important that libraries find ways to familiarize users with

the library" (p. 631). It is important to note that to instruct students on how to use the library and raise awareness of services, librarians must first get the students in the door. Joy Potthoff et al. (2000) evaluated patron perceptions of library space at a state university in the Midwest based on the Role Repertory Grid Procedure. In one study attempting to measure patron knowledge and impressions of the library space, 65 respondents were asked to respond to a series of eleven questions concerning the library. Respondents were a mixed group comprising undergraduate and graduate students. Of specific interest, the results indicated that 14 students or 21.5 percent of respondents reported never having used the library. Though more than half of respondents reported using the library more than ten times, these students were more likely to rate the library as dimly lit, uncomfortable, or difficult to navigate (Potthoff et al., 2000: 196). The results of this study seem to suggest that students avoid the library if they can, but if they do use the facility, it is out of necessity, not because the space is inviting or attractive. This leads one to wonder how a space that appeals to Net Generation students, using the criteria established by the results of the Shill and Tonner studies, would impact usage. Recent literature reports on academic libraries that have increased usage numbers through the implementation of inventive service and space initiatives, conducive to both learning and social activities. Following are accounts of what some libraries have done to make their spaces more interesting and engaging.

Can an academic library increase building and service usage without major renovation? Elizabeth Stephan (2005) observed a movement toward a hybrid community center-research center model for academic libraries. Stephan looked at two university libraries in Mississippi that used alternative services and relaxed usage policies to raise

student awareness of the library and its resources. The J. D. Williams Library at the University of Mississippi added a coffee bar, wireless Internet access, and comfortable furniture to attract students. The Cook Library at the University of Southern Mississippi used Starbucks coffee to bring in students. Since the opening of Starbucks, Cook Library gate count numbers rose 42 percent over the previous year, which serves as an example of a new service initiative that has attracted students to the physical library without major renovation.

Kara Gust and Clifford Haka (2006) reported on the library renovation at Michigan State University. In response to a decreasing number of students using the campus library, Michigan State University took the approach of library as campus community center, complete with food, drinks, entertainment, in addition to traditional library services (Gust & Haka, 2006: 147). The renovation was viewed as an opportunity to draw students back to the physical space by redefining the university library as place. Taking cues from Stephan and Carlson, MSU looked to create a space that was conducive to both scholarship and entertainment. Through the addition of non-traditional library services, the MSU library hoped to attract a new demographic of student, one that would otherwise use virtual library services and avoid the physical space altogether. Usage was reported to have doubled at the MSU Libraries over the last decade, post-renovation. It may be questioned whether students are using the library in the traditional sense when they purchase coffee or attend non-academic events, but there is no question that these services require students to pass through the library doors and entice them to stay in the physical space for a period of time.

An overview of the relevant literature reveals certain libraries have experienced a successful turnaround through reinvention, reinterpretation, and rebuilding the library as place. These modern libraries have implemented comfortable spaces, interactive media, leisure programming, and relaxed policies, geared towards a unique generation of student. The existing literature also suggests that further empirical studies addressing the evolution of library as place in response to declining usage are needed and review of additional case studies is warranted. Renovation and reinvention of libraries have proven effective in attracting students to the physical space, but it is suggested that today's students require more than just a functional building with a facelift. New services have proven just as effective in luring students back to the campus library, so where do academic libraries go from here?

Needs of the Net Generation

Research into reversing the trend of academic library desertion has focused on the redefinition of library as place, replete with new services and design, but do academic libraries know what their students want? Jennifer Wells (1995) advised that "the effectiveness of libraries has often been measured by the volume of library materials available to clients, the amount of the use of services and resources, and the apparent or quantified satisfaction of clients. Very little research has taken into account the objectives of the client" (p. 121). Today's clients are the current generation of traditional-age college students. Heretofore identified as the Net Generation, the members of this group are also referred to as Generation Y, the Digital Generation, the Echo Boom Generation, or the Millennials (Gardner & Eng, 2005). This generation of students, commonly accepted as being born in or after 1982 (Howe & Strauss, 2000; Oblinger, 2004), has

grown up in a technology-driven environment and possesses dramatically different service needs, searching behaviors, and perceptions of the library than their predecessors. They are collaborative workers, graphical learners, and technologically savvy. An awareness of these characteristics affords academic librarians the opportunity to design services that meet the needs of the Net Generation and create a familiar, engaging atmosphere. Much of the literature has focused on recognizing and defining characteristics of the current generation of student and it is noted that little research has been conducted, thus far, on how to address the needs and behaviors of the Net Generation. The literature also suggests that library space and services have not evolved to meet the needs and seeking behaviors of this generation. As this generation will continue to influence the evolution of academic libraries and library services for years to come, it is important to understand what they want. To understand what users want, one must first understand the Net Generation and how these students use the library.

Kate Manuel (2002), inspired by Catherine Lee's (1996) research into the seeking behaviors and service needs of Generation X, focused on the unique learning styles of the Net Generation and attempted to discover how library information literacy classes needed to adapt to accommodate the new breed of student. Manuel, citing Neil Howe and William Strauss (2000), identified Net Generation students as a generation of video game players, conditioned by furious action and hyperactivity. Generalizations about the Net Generation presented in the article stemmed from a study of information literacy classes taught at California State University–Hayward. Over the course of the academic year 2000, the CSUH information literacy program was modified to incorporate elements of collaboration, visual and kinesthetic learning, and customized instruction to appeal to Net

Generation students. Students were asked to perform identical tasks and learn the same concepts as prior course participants, but in a manner that was more familiar and meaningful to their generation. At the beginning of the course, students were asked to take a pretest, which indicated their level of competence working with reference sources. At the end of the semester, students were given a similar test to measure the degree of improvement. An analysis of pre- and post-test results, in-class student performance evaluations, and student course evaluations was performed. The results indicated that Net Generation students were graphical learners, oriented toward images rather than large chunks of text and found traditional lecture tedious. The author suggested low thresholds for boredom and short attention spans as reasons for this (p. 205). Evaluations suggested students appreciated the active learning environment, with students learning types of reference sources via kinesthetic methods performing 41 percent better on post-test scores as opposed to only 29 percent of those who learned via traditional lecture. Evaluations also reflected a positive view of collaborative work environment that partner students with their peers. These results are in line with the findings of Howe and Strauss (2000), who reported that members of the Net Generation valued collaboration with their peers and got along well with other members of their age group. The program was considered a success and it follows that students of this generation value an engaging and entertaining learning environment, of which libraries should take note.

Deborah Sheesley (2002) examined various studies on characteristics of Net Generation students and identified a shift in information-seeking habits and service needs. The study focused on the challenges these characteristics presented to providing academic library services. Sheesley, informed by Frand's (2000) concept of "Nintendo

over logic" where a gamer loses repeatedly as a process to ultimately win, warned that librarians be aware of the Net Generation's trial and error approach to learning. The author noted a growing age and technological gap between librarians and the student populations they serve; issues that kept students from using the physical library. Sheesley presented a study conducted by Susan Curtis at the University of Georgia in which the researcher explored how students used library services. It was determined that the Internet has had a significant impact on how students use the library, as Net Generation students turned to Google as a primary research tool. The Curtis study also revealed that students utilized library resources remotely, when possible, and avoided a trip to the library as a result. Sheesley reported on Catherine Lee's research, which suggested that current students are visual learners that require sensory stimulation, interactive learning spaces, and entertainment in education. Though Lee focused on Generation X, the research comprised younger members of the generation, those who could be considered the first members of the Net Generation. Sheesley concluded that the current generation of student prefers active-learning environments that are both entertaining and educational.

How does this information relate to libraries? Joan Lippincott (2005) suggested that the manner and environment in which the Net Generation studies, learns, and accesses information directly impacts how and which services academic libraries offer. The author identified a disconnect between the culture of the traditional library and that of the Net Generation. Lippincott noted that Net Generation students were independent problem-solvers, accustomed to using multiple types of media in an interactive, collaborative environment and argued that traditional academic library environments

were not conducive to this type of learning or activity. The author also noted that this generation of student has grown up around video games and computers, which influences how they think about, search for, and use information. It was suggested that methods for teaching information literacy needed to be updated, gaming technology should be implemented, and visually stimulating instruction aids be developed to best reach students. The author seems to indicate that a comprehensive understanding of student behavior and needs is required in order for the institution to remain functional and relevant.

In their study of the Net Generation, Susan Gardner and Susanna Eng (2005) offered background into the declining usage of library facilities, indicating that students are not using the physical space as they once did. The authors cited surveys and reports that suggested college students are using the Internet and virtual spaces to seek information and, as a result, are using campus libraries less. Gardner and Eng looked at characteristics of Net Generation students that may contribute to the trend; including high service expectations, educational and social development around technology, a heavy reliance on the Internet, and an emphasis on convenience. In response, a survey was constructed by the authors to discover the level of service satisfaction and service needs of undergraduate students at the USC Leavey Library. The survey was conducted over a 36-hour period on two consecutive days of the week. Of the 1982 respondents, 1267, or 64 percent, were undergraduates. These students were identified as the sample, since they were more likely to be part of the Net Generation. Participation in the survey was voluntary and no information pertaining to the age of the respondent was collected.

The results of the 2003 survey are enlightening. Gardner and Eng found that a majority of Net Generation students used the campus library for studying and computer access. More than half of the respondents reported using computers for personal reasons, while only 36.3 percent checked out a book, 12.6 percent sought research assistance, and 2.1 percent required computing assistance. As multi-taskers, Net Generation students perform other activities while studying, but surprisingly, only 8.8 percent of students queried reported using the library to socialize. It was noted, though, that the environment was not considered conducive to collaboration. In the open-ended, free-response portion of the survey, students identified their dorm rooms and homes as the primary spaces in which they conduct research and one student suggested ridding the library of all books (p. 410). Out of all respondents, both undergraduate and graduate students, 73.8 percent reporting to spend under 30 minutes in the library were undergraduates and out of those reporting to spend between 30 minutes and 1 hour, 81.6 percent were undergraduate students. The results of the Leavey survey reflected the Net Generation's desire for access to technology and collaborative environments. The study also indicated that the library is not the primary place to conduct research for the Net Generation and visits to the facility are limited and only for brief periods of time. One shortcoming of the study was the failure on the part of the researchers to inquire why students chose other spaces in favor of the library. One could speculate that the library did not offer the convenience of multiple services valued by students under one roof, thus causing them to search elsewhere for an environment more conducive to multitasking.

Such user-centric approaches with a focus on technology are hallmarks of the evolution of the academic library, so what other services may prove useful to the

members of the Net Generation? Specifically, how do we keep the student engaged and most importantly, keep them in the library?

Students, Gaming, and Libraries

Studies have shown that Net Generation students value technology, prefer to be entertained, are open to informal types of learning, perform well in collaborative and interactive environments, and desire convenience. As a generation that has grown up around video and computer games, it seems that these characteristics have evolved from a deep entrenchment in a gaming environment. Marc Prensky (2003) reported that by the time members of the Net Generation reached age 21, they will have logged over 10000 hours of playing video games. It is further suggested that gaming has had a profound effect on attitudes, behavior, and approaches to learning (Oblinger, 2004), as evidenced by Frand's concept of "Nintendo over logic."

A Pew Internet & American Life Project conducted by Steve Jones (2003) attempted to discover the use and impact of computer and video games on traditional-age college students. For this study, surveys were randomly distributed to a wide range of colleges and universities in the United States. A total of 1162 surveys were collected from students representing 27 colleges and universities. It was indicated that participants were reflective of the national student population. In addition, a team of graduate students trained in social science research was dispatched to Chicago area colleges and universities to observe college student behavior. The resulting data seemed to suggest that gaming is an activity regularly pursued by college students, with 70 percent of respondents reporting to play video, computer, or online games at least once in a while and 65 percent identifying themselves as regular or occasional gamers (p. 6).

Interestingly, all respondents reported playing some form of electronic game at one point in their lives.

The research indicated that access to gaming equipment and the nature of the gaming environment are important factors for students in deciding where to play (p. 9). Observation of student activities suggested that subjects utilized computer labs for brief gaming sessions while socializing, as a study break, or a temporary distraction from work. This is an example indicative of the Net Generation—multitasking and use of resources due to convenience. It was also observed that the atmosphere in the labs was relaxed and that gaming in this environment appeared to offer the students a respite.

Responses relating to the impact of gaming were surprising. Respondents reported that gaming had little impact on academic performance, though nearly half admitted that gaming negatively impacted study time. The data suggested, however, that the amount of study time reported by gamers is on par with national averages. In the social sphere, gaming was reported to have had a universal positive effect:

- Respondents associated positive feelings with gaming (gaming was pleasant, exciting, challenging)
- Feelings of boredom, stress, and frustration were limited
- 20 percent felt gaming helped with building new relationships
- 65 percent felt gaming did not negatively impact current relationships with friends or family
- 60 percent reported that gaming helped ease boredom when friends were not available

Despite the pervasiveness of gaming and its desirability, it is worth noting that 69 percent of those surveyed reported to have had no exposure to games in the classroom, and this can be extended to libraries.

A noteworthy deficiency of this study was the exclusion of questions pertaining to why students play games, though reasons for not playing were provided. Observational data resulting from this study should also be questioned, as it is difficult to ascertain a reason for playing games in a computer lab strictly through observation. Setting and time of day also introduce bias to this method data collection. It is also worth considering that the data concerning the impact of gaming on studying may be skewed due to the nature of the issue, a conscious effort on the part of respondents to combat existing stereotypes of gamers, and survey question wording.

The literature seems to indicate Net Generation students, conditioned by a lifetime spent using technology, including video games, access and use information differently from their predecessors. This concept has seeped into the consciousness of librarians and, as a result, countless blogs devoted to gaming in libraries, such as *The Shifted Librarian* and *Game On: Gaming in Libraries*, have flooded the Internet. Yet, where does gaming fit at an academic institution?

The research has established that gaming has widespread appeal among members of the Net Generation and attracts students to spaces that provide access to the necessary equipment, so is gaming a viable and potentially valuable library service? Those associated with the ALA Games & Gaming Member Initiative Group argue the implementation of gaming in an academic library environment has the potential to benefit both the institution and students who may otherwise not visit the library building. At the

2007 American Library Association Annual Conference, James Paul Gee and George Needham spoke in support of gaming in libraries as a means to attract students to the physical space and a service that may help libraries better understand their students. Gee offered learning principles that result from gaming and suggested that libraries recognize how gamers learn to best instruct their student populations. According to Gee, games shape identity, strengthen relationships, promote performance over competence, condition users to the concept of information on demand and encourage learning. In his address, Needham cited a study conducted by the OCLC that identified self-service, disaggregation, and collaboration as three important service trends in libraries. Gamers, comprising a majority of the Net Generation, were used as an example of a population that drives these and other library trends.

Increasingly, libraries are experimenting with video games as a service addition, as evidenced by the fast-growing Gaming Collection at the University of Illinois-Urbana Champaign and the establishment of the Library Game Lab of Syracuse University. Scott Nicholson, an associate professor of the School of Information Studies at Syracuse and Director of the Game Lab, was instrumental in introducing video games into his campus library environment. Speaking to the student newspaper, *The Daily Orange*, Nicholson suggested gaming was the next big trend in popular media and "in order for libraries to remain relevant, they will have to find a way to support games, as they have books, music and movies" (Jiang, 2008). Furthermore, Nicholson plans to establish a course centered on gaming in libraries to be included in the School of Information Studies curriculum in order to promote study and research into the burgeoning trend.

According to Diana Oblinger (2004), the potential use for gaming in higher education is evident. Oblinger recognized the role video games have played in the lives of the Net Generation, noting, “children [grew] up playing computer, video and Internet games and continue the practice throughout college” (p. 16). The article indicated that aspects of gaming correspond to certain characteristics that define the new breed of student. Much like their approach to collaborative learning, Oblinger observed that today’s students play games in groups and participate in online gaming communities. Gaming, it is noted, is also a highly interactive and social endeavor that promotes the use of technology and fosters relationship building through a common interest. A key argument worth noting is that games, in an entertaining and engaging way, inspire information seeking in order to achieve success. Oblinger proposed that gaming in higher education is a growing trend that has both a social and educational impact. Can libraries afford to ignore a service that has significant potential for the social and educational development of students?

Interesting questions raised in the article should be considered before implementation and addressed in future research. Will entertainment be valued above all else? How will games be used in traditional educational methods? How will games be evaluated or their benefits documented? (Oblinger, 2004) Concern over the use and content of games in education is well worth noting and a broad generalization that gaming in academia is a positive evolutionary step should be met with skepticism. Associated costs involved with incorporating games into an educational setting were also not discussed in the research and may prove prohibitive to such an endeavor.

Perhaps the most comprehensive report to establish gaming as a valuable library service was *Gaming & Libraries: Intersection of Services* by Jenny Levine (2006). Citing Jones' Pew study, Levine established that gaming is ingrained in the everyday life of the college student and suggested that libraries needed to adapt or implement services to meet the needs of this generation. Why is it important to accommodate this generation? According to Levine, these are the students of today and tomorrow that make up a generation larger than the baby boomers, numbering some ninety million people, and gaming is one of their most common experiences.

Several case studies focusing on academic libraries that have implemented gaming services were presented and evaluated. In one case, staff at the Z. Smith Reynolds Library at Wake Forest University hosted a gaming night to draw in students in order to raise awareness of other library services. Gaming, in this case, was implemented as an outreach program focused on bringing students back to the library. Feedback from the event was reportedly positive and staff was surprised at the lack of negative response. It was further suggested in the feedback received by the administering librarians that the gaming event attracted a student population that would not have otherwise visited the library. The host librarians also intimated that the gaming activities helped librarians connect with the participating students. The study also reported the same positive response to gaming events held at the University of Illinois-Urbana Champaign Library. The Illinois event had a modest turnout of 60 students, but equipment was limited and the event was held near the end of the semester. The results of the case studies suggested that those who participated in the events had a uniformly positive view of the service and eagerly awaited the next event, while negative comments were minimal and centered on

budgetary issues. Campus community outreach and game research opportunities were also cited as benefits of providing such a service. The lack of negative responses to gaming in the library setting is of great import and worth further discussion, as it warrants the question, why not? Detractors of gaming in libraries ask why implement such a service, but the benefits to both library and student appear to significantly outweigh the risks, so, why not?

Why Gaming

To address the question of "why gaming," a review of the literature concerning the effects and benefits of gaming follows. First, it should be noted that the gaming industry generated revenues of approximately $13.5 billion in 2006, which represented an 18 percent increase over 2005 (NPD, 2007). The sales numbers reflected growth in all aspects of gaming hardware and software, having set a new sales record in the process. Video game console hardware saw the most dramatic rise, a sales increase of 88 percent over last year. What do these numbers reflect? People with purchasing power consume games and it is a growing industry.

In their book, *Got Game: How the Gamer Generation is Shaping Business Forever*, John Beck and Mitchell Wade suggested gamers are acquiring skills, through gaming, that are applicable to the business world. As a result, it is indicated that businesses are forced into a position to adapt in order to exploit the new skill sets and ways of thinking. In games:

- The gamer is the boss and in-game actions influence the virtual world.
- The gamer is the customer with a game designed to entertain, satisfy, and challenge.

- The gamer is the expert with the ability to hone and sharpen skills at their own pace and potential to develop into a leader.

Though the book addresses implications for the business environment, of specific interest to librarians are the ideas that gamers pursue multiple paths to discovery and achieve goals through trial and error. These concepts may prove useful to librarians designing information literacy tutorials or considering new service initiatives.

Aside from developing applicable real-world skills, gaming is reported to have other benefits. A report by Gareth Schott and Darrin Hodgetts (2006) suggested that gaming activities were beneficial to one's health. Research indicated that gaming peripherals offered modes of fitness training, citing Sony's *Eyetoy* and the interactive video game, *Dance Dance Revolution*, where users are required to perform dance steps while positioned on a sensory mat. The authors cited several instances where gaming was used to distract patients in pain management interventions and utilized as a tool for stress reduction. A previous study conducted by Schott and Maria Kambouri (2003) noted the social benefits of gaming. In the context of an observational study, participants recorded video footage during game play, in the gaming environment. Interestingly, games specifically designed for single players were transformed by the gamers into a social activity. The research challenges the notion of gaming as a sedentary, solitary activity.

An empirical study conducted by Richard Wood, Mark Griffiths, and Adrian Parke (2007) focused on the phenomenon of time loss among video game players. The results suggested that time loss was experienced by all 280 participants, irrespective of age, gender, or other identifying characteristics. Surprisingly, a majority of participants

reported positive views of the time loss phenomenon, with 71.8 percent citing relief of boredom and stress as one positive aspect. One subject attributed her ability to quit smoking to the distracting nature of gaming. Though losing track of time can have negative consequences, the study suggested that losing oneself in the game is one of the primary reasons for playing. This is significant because it demonstrates that distraction and relaxation are highly valued experiences of game play, yet such endeavors may not be considered academic.

Summary

Academic library numbers may be rebounding from years of decline, but the literature suggests that it is a result of a few libraries implementing services and policies aimed at the attracting and appeasing the Net Generation. The literature also seems to indicate that there is a shift taking place; one that sees the campus library moving toward a more welcoming, inviting, and social space. The authors of "The Library as Place" in their discussion of the library as a third place, observed that the campus library "has become a social environment, a place to be, and a destination, where students can experience the company of fellow students" (Waxman, Clemons, Banning, & McKelfresh, 2007: 429); a shift from the traditional role of book storehouse. It has been established that today's students, the Net Generation, possess a unique set of characteristics shaped by use of computers and video games. If libraries hope to connect with students and make the physical space relevant, the services they offer must appeal to what students want. Libraries are now taking notice and beginning to make use of these resources to connect with their students and draw them back to the physical space. The research of Shill and Tonner (2004) seemed to indicate that non-traditional library

services, such as collaborative labs and ubiquitous computing, are important factors in luring students back to the library. Gaming has now joined the ranks of those services considered as non-traditional being offered to students. Jones' (2003) study suggested that students are familiar with video games, socialize around them, and use them frequently. Levine (2006) has offered cases of successful gaming implementation in a number of academic libraries. Though traditionally not considered an academic pursuit, gaming has been demonstrated to have positive effects on health and proven to be useful in education. What the literature does not address, however, are evaluative studies of gaming as a library service, its potential, and effects. Furthermore, most articles concerning gaming in libraries have reported on the success of individual gaming nights, but do not address the significance of gaming as a long-term service. Questions that remain: 1) What are Net Generation students' perceptions of a video game service in an academic library? and 2) How does the implementation of a gaming service impact library use?

Description of Video Game Service

The following is a description of the D. H. Hill Library video game service, including policies of use and an inventory of the available equipment. It is useful to establish that all gaming-related activities take place in the library's Learning Commons; a multi-functional space that, according to the library's web site, promotes both scholarship and social activity. The gaming service is continuously available to university faculty, staff, and students with valid ID cards. Video games and gaming equipment are circulated from the Learning Commons service desk with a loan period of

four hours on a first-come, first-serve basis. Games and accessories are available for in-house use only.

According to the *Gaming* section of the Learning Commons web site, the decision to implement a video game service was the result of an extensive effort to identify what services students desired and how similar libraries were using their spaces. Input was collected from students, faculty, library staff, the University Library Committee and the Student Advisory Board. Research into the behaviors of Net Generation students, the possible educational benefits of gaming, reviews of other Learning Commons spaces, and potential outreach opportunities with the university's Digital Game Research Center were also cited as influential factors.

The library currently provides eligible users with a choice of four video game consoles, each connected to a dedicated flat-panel LCD television, hereafter referred to as gaming stations (Figure 2). The consoles currently available are one Microsoft Xbox 360, one Sony Playstation 2, one Sony Playstation 3, and one Nintendo Wii (see Figure 1). The consoles and televisions are centrally located, grouped in the middle of the Learning Commons space, side-by-side. The offering of games and accessories varies by console.

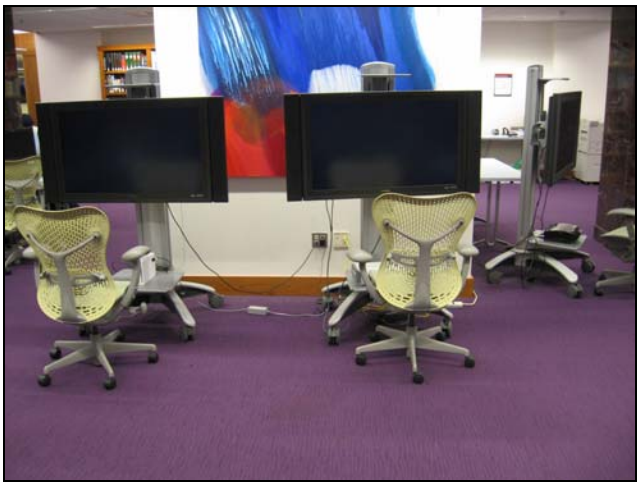

Figure 1 – Gaming Central
(left to right) Nintendo Wii, Xbox 360, Playstation 3

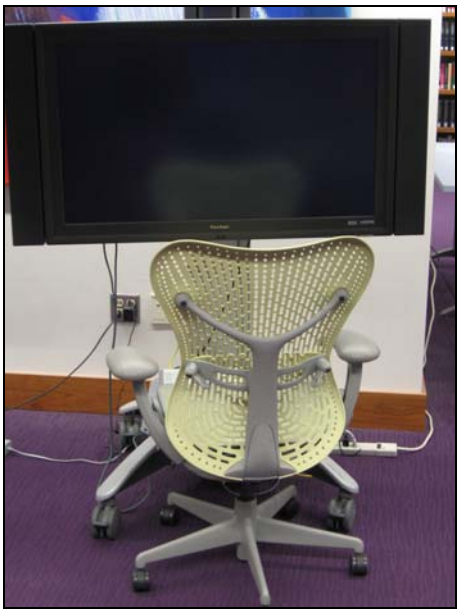

Figure 2 – Gaming Station

Methodology

As the debate continues concerning library usage and the development of services targeting Net Generation students, it is useful to recognize that student behavior and opinion influence academic library trends. According to Rea and Parker (2005), opinions are the key to shaping and influencing public policy. Thus, it is important to construct an instrument to gauge student opinion in an effort to measure satisfaction with the library and its services, understand student needs and behavior, as well as identify areas of service in which the library may be lacking. The collection of survey data has become one of the primary methods of social investigation in testing hypotheses and studying causal relationships between variables (Czaja & Blair, 2005; Babbie, 2007). Well designed sample surveys are cost effective and require less time to organize and implement than other data collection methods (Rea & Parker, 2005). Perhaps the greatest

strength of the survey method is the ability to generalize about the attitudes and orientations of a large population based on the data collected from a smaller sample population (Babbie, 2007: 244).

The questionnaire used in this cross-sectional exploratory study was intended to discover the Net Generation's perception of the physical library and available services, as well as gauge their views of and attitudes toward gaming in the academic library environment. The survey was administered in two forms, via an online questionnaire and telephone interviews.

In addition to surveys, a content analysis was performed on student comments posted to the Learning Commons' *Talk* web forum, a communication outlet hosted by the sample's campus library. Furthermore, an interview was conducted with a librarian responsible for implementing and monitoring the gaming service within the library's Learning Commons, in an effort to discover anecdotal evidence that may provide insight into student use and perceptions of the gaming service.

Sampling Frame, Study Population, and Study Sample:

This study was conducted at a large, 4-year university in the southeast with a student population of 31,100, of which, 23,730 are undergraduate students. The population for this study comprises currently enrolled undergraduate students. Undergraduate students were chosen because they were more likely to match the criteria for participation, as the study targeted those students born after 1982 and thus, designated as members of the Net Generation. The most up-to-date version of the student directory was used to randomly select the study sample for the online and telephone surveys. A total of 250 students (200 online and 50 telephone) were selected to participate in the

questionnaire. All students targeted for participation in this study had access to gaming equipment in an academic library setting. Recruitment was performed solely by the researcher and no compensation was offered for participation.

Instrumentation:

Questionnaire:

The primary instrument used for data collection was a questionnaire designed by the researcher. As Blaxter, Hughes, and Tight (2006) observed, "[q]uestionnaires are one of the most widely used social research techniques" (p. 179). The aim of the questionnaire was to discover student perceptions of the academic library and the implementation of a gaming service in such an environment. The questionnaire was administered in two formats: Online and via telephone. The number, structure, and order of questions remained the same for each format. The questionnaire comprised a combination of open-ended and closed-ended questions, which were derived from the study's research questions. The only demographic data collected were year of birth and student class status to determine that respondents were both currently enrolled students and members of the Net Generation. Matrix questions comprised Likert-type items, using a 5-point scale from "strongly disagree" to "strongly agree". The block of matrix questions was designed to measure students' level of agreement concerning the role of the campus library and their perception of library services. Closed-ended questions were employed to discover the level of awareness, attitudes toward, and use of the video game service in the campus library. Open-ended questions provided opportunities for respondents to elaborate on their attitudes toward gaming in academic libraries. Specifically, open-ended questions were used to encourage students to provide richer

qualitative data concerning the appropriateness of a video game service in an academic library.

The instrument was pilot tested by a group of 10 undergraduate students who were asked to read and evaluate a draft of the consent form, then complete a paper-based version of the online questionnaire. Those students who participated in the pilot testing were instructed to annotate the questionnaire and provide verbal feedback to the researcher. Informal interviews were conducted with members of the test group to clarify any unclear comments or suggestions. The questionnaire was revised according to the feedback. The questionnaire was then submitted to the Institutional Review Board at the University of North Carolina for approval. Upon IRB approval, the online survey was activated and telephone surveys were conducted. Please see Appendix A for a copy of the questionnaire.

Self-Administered Surveys:

Online Survey:

The application of a web-based questionnaire offers the researcher several advantages over the distribution of paper-based surveys. Distribution of electronic surveys is fast and economical. As there will be an absence of face-to-face contact, the sense of respondent anonymity allows for more honest answers to open-ended questions. Typed responses to open-ended questions allow for more expeditious parsing of the data as penmanship issues will be eliminated.

Qualtrics (http://www.qualtrics.com) survey software provided by the Odum Institute was used to construct and implement the online questionnaire for this study. A random sample of 200 students was selected from the student directory to complete the

online questionnaire. Students who did not have an e-mail address listed in the directory were excluded from participation. Those with invalid e-mail addresses were considered non-respondents. E-mail invitations containing the researcher's contact information and affiliation were sent to the targeted sample with a link to the survey. A consent script (Appendix B) was included in each e-mail invitation and potential subjects were instructed to read and agree to the terms of the study, prior to participation. Thus, the researcher considered all data collected from completed forms was with the consent of each respondent. Data were collected via web form over a period of three weeks, March 3-March 24, 2008. The initial batch of 200 e-mail invitations was sent during the first week. A follow-up e-mail reminder was sent the second week and thank you e-mails were sent during the final week of data collection.

Data collected via web form were transmitted to the researcher's password protected Qualtrics account, analyzed, recorded, and deleted. Respondent names, e-mail addresses, nor IP addresses were associated with form submissions, thus protecting the identities of the participants. No other identifying information was collected.

As the data from the web forms were submitted anonymously, it is possible that the location of the web form may have been divulged to third-parties and respondents may not have been members of the identified sample. Potential for a low response rate existed due to issues of spam, privacy concerns, and sophisticated message filtering. It has also been suggested that e-mail users are conditioned to ignore unsolicited mail (Czaja & Blair, 2005).

Interviews:

To potentially increase response rate and elicit more meaningful responses, both interview surveys and a field interview were conducted.

Telephone Survey:

Telephone surveys are considered to have several advantages over other methods of survey and are the most widely used survey method today (Czaja & Blair, 2005). Phone surveys are convenient for both researcher and subject, they are cost effective if the sample is local, body language and dress do not introduce bias into the survey, and subjects feel a greater sense of safety and security (Babbie, 2007). Thus, it was determined that telephone interviews would be a valuable method to include in the study.

An additional sample of 50 students was randomly selected from the student directory to participate in a telephone survey. Students selected to participate in the online survey were excluded from selection for phone interviews. Students without published telephone numbers were also excluded from participation. Those with disconnected or wrong telephone numbers were considered non-respondents. Names of respondents were not recorded and no identifying information was collected that could potentially link a respondent with the resulting data.

A telephone script (Appendix C) was composed by the researcher and read to those willing to participate in the survey. The script included all of the researcher's contact information to counteract questions of survey authenticity and reduce the number of hang-up occurrences, something Babbie (2007) suggests subjects do if researchers fail to provide such information. Those willing to fully participate in the phone interview were read, verbatim, the instructions and questions from a print version of the online

questionnaire. Respondents were encouraged to take their time in replying and all responses were collected and transcribed by the researcher. If the researcher felt salient information was missed, respondents were asked to repeat their answers. Length of telephone interviews varied and ranged from 15-25 minutes.

The researcher conducted the telephone surveys over a three-week period, February 25-March 17, 2008. Calling times were staggered to increase the potential for establishing contact, as the sample population comprised students with fixed class schedules. The first week, calls were placed between the hours of 9-11 A.M. The second week, calls were made during the hours of 3-5 P.M. The final week of data collection, calls were placed between the hours of 7-9 P.M. The researcher cycled through the list until all selected respondents were contacted or it was established that the telephone number was incorrect or disconnected.

There are several factors that influence telephone survey response rates, including Caller ID, answering machines, and pervasive telemarketing solicitation (Tuckel & O'Neill, 2002). As people have been conditioned to be wary of telephone solicitation, every effort was made to emphasize the authentic and academic nature of the survey, though response rate was expected to be low.

Results of the surveys were analyzed to produce descriptive statistics that reflect student perceptions and use of gaming services in academic libraries. A qualitative analysis was performed on data resulting from open-ended questions.

Librarian Interview:

The researcher prepared a brief interview schedule of 3 multipart questions (Appendix D) for the purpose of eliciting specific information regarding student

reception and use of the gaming service from a librarian involved in the implementation and monitoring of the service. The librarian was contacted in advance of the interview and asked to sign a consent form (Appendix E). An individual meeting time was then scheduled for a single afternoon the week of March 10, 2008. The interview was expected to last 30 minutes. The interview schedule was composed entirely of open-ended questions designed to discover student response to the gaming service and anecdotal evidence of the service's impact on library usage. The librarian was permitted to skip questions if they were not comfortable answering or could not provide a response. Responses were transcribed during the course of the interview and analyzed at a later date.

Forum Content Analysis:

Additionally, the data collected via survey and interview was supplemented by an analysis of comments/posts concerning the gaming service submitted to the Learning Commons *Talk* page forum. The *Talk* page is a publicly accessible online forum run by the staff of the library's Learning Commons. All contents and comments may be viewed by the public simply by following the forum link from the Learning Commons homepage. Non-affiliated visitors to the forum may view and search its contents and no password is required to gain access. To post replies and create threads, however, requires a Unity ID issued by North Carolina State University. Thus, participation in the forum is limited to NCSU students, faculty, and staff.

The online forum has become a popular outlet for students to voice their concerns, opinions, and suggestions for gaming in the library, thus an analysis of this forum was considered an unobtrusive method of discovering student perceptions of the gaming

service. *Talk* page thread topics and individual posts were examined for comments concerning gaming in the library and organized according to a coding schema. The basic coding schema was crafted to identify comments as either positive (pro-gaming), conditional (marginally positive), or negative (against gaming in the library). The resulting qualitative data was scanned for patterns, relationships, and related themes. Questions or comments concerning video game/equipment requests, location of service, specific games assistance, off-site help questions concerning video games/equipment, and general responses to the service are terms/concepts that were considered as positive views of gaming in the library. Posts mentioning noise and profanity resulting from gaming, requests to move/remove gaming equipment, and general criticism of the gaming service are examples of what were considered negative views of the gaming service. Permission to analyze and use data from the forum was granted to the researcher by the Director of the Learning Commons. All coding and analysis were performed by the researcher.

A discussion of the results follows.

Results

Talk Forum Analysis

The video game equipment is located in the library's Learning Commons; a high-trafficked, interactive social space. All gaming activities are confined to this area.

An online forum was created by Learning Commons staff as an information-sharing outlet. The aim of the forum—the Learning Commons *Talk* page—is to encourage students to provide input concerning the use of the newly renovated space and

the services offered therein, as well as inform the campus community of library news and events. The online forum has become a popular outlet for students to voice their concerns, opinions, and suggestions for gaming in the library, thus an analysis of this forum was considered an unobtrusive method of discovering student perceptions of the gaming service. Though forum content is publicly accessible, it is important to note that posting is restricted to individuals with university-issued e-mail accounts.

The *Talk* page was launched March 10, 2007 during the opening week of the Learning Commons. Threads are listed in order of last reply date, thus older threads are bumped to the top after a new reply is submitted. Currently, access is available to all threads created since the forum's inception.

During the initial stage of analysis, all thread topics were first examined for keywords and concepts that could be associated with the gaming service. The forum was then scanned for thread titles that related to noise and lack of study space, as the researcher considered these byproducts of gaming activities. There are currently 101 active threads in the forum, comprising a broad range of topics; including class assignments, computing issues, and breadth of services. Of the 101 active threads, approximately thirty percent, or 30 threads, relate to gaming as defined in the coding schema. After identifying all gaming-related threads, thread titles were analyzed for concepts and terms considered positive (pro-gaming service), conditional (marginal acceptance), or negative (anti-gaming service). Terms and concepts considered positive were game requests or general praise for the service. Threads identified as conditional concerned the placement of the equipment or offered a mix of praise and criticism. General criticisms of the service or requests to remove video games from the library were

considered negative threads. The results of the analysis, shown in Table 1, reflect an overwhelming majority of the gaming threads were considered positive views of the service.

Table 1. Thread Title Analysis

Perception	Number of Threads (Out of 30)	Percent
Positive	26	86%
Conditional	2	7%
Negative	2	7%

The numbers also suggest that gaming is the most discussed topic in the *Talk* forum and gaming threads, on average, receive more views per thread. An aggregate total of 119 replies were posted forum-wide, of which, fifty-seven percent of posted replies were gaming related. A total of 59 replies were posted to the gaming-related threads and a total of 69 gaming-related replies posted forum-wide. At the time of writing, the total number of views forum-wide was 145094, of which 47537 viewed gaming-related threads.

Table 2. Gaming-related Replies and Views Versus All Forum Content

Threads	Total Replies	Avg. # of replies per thread	Total Views	Avg. # of views per thread
All	119	1.17	145094	1436.57
Gaming	59	1.96	47537	1584.56

Currently, the most popular active thread is gaming related. Entitled, “Why are there video games in the library commons,” this thread accounts for nearly twenty-five percent of all forum posts (28) and five percent of all views (7501).

After completing a survey of thread titles, individual posts were then scanned for terms and concepts considered positive, conditional, or negative. Questions or comments concerning video game/equipment requests, location of service, video game chat, video game/equipment troubleshooting, and general praise for the service are terms/concepts that were considered as positive views of gaming in the library. Posts mentioning noise and profanity resulting from gaming, requests to move/remove gaming equipment, and general criticism of the gaming service exemplify negative views of the gaming service. Conditional responses were those comments that intimated a general acceptance of gaming in the campus library under specific conditions. The researcher began by surveying replies to all gaming-specific threads, then threads concerning noise and the Learning Commons space, and finally all remaining threads. Again, replies were overwhelmingly positive, as shown in Table 3.

Table 3. Analysis of Thread Replies

Type of Comment	Number of Replies (Out of 69)	Percent
Positive	45	65%
Conditional	8	12%
Negative	16	23%

Frequency tables reflect the types of comments made, by category.

Positive Replies

Positive replies comprised a variety of comments from students. Table 4 reflects a breakdown of all positive category headings.

Table 4. Frequency of Positive Replies (N=45)

Positive Category Headings	Total # of Posts
Equipment/Game Requests	12
Specific Game Comments	9
Leisure/Study Break	7
Equipment/Game Troubleshooting	6
General Positive Gaming Comments	3
Collaborative Nature	3
Directional	3
Offsite Gaming Help	2

The following discussion centers on the four most common categories of positive comments.

Equipment/Game Requests

The most frequently occurring positive comments were requests for the procurement of specific video games and gaming equipment (12). Equipment and game requests were considered positive in nature as requests of this nature implied that the gaming service had been accepted by the student submitting the request and illustrated an implicit desire on their part to continue and grow the service. As an example, one student posted, “I suggest Metroid Prime 3. It would be a nice addition cause [sic] it's a more serious game with an awesome 1st person view experience.” The Microsoft Xbox game *Dance Dance Revolution* and its corresponding equipment also proved to be a popular request, with one student inquiring, “when are you gonna [sic] get DDR set up?!” and another posting, “I [sic] heard DDR was out one day, will it be making a return?” Requests for the installation of Ethernet ports for Xbox Live service, new console game

controllers, and additional guitars for the Xbox 360 and Playstation 2 game, *Guitar Hero II*, were also noted.

Specific Game Comments

This category includes requests for competition in a particular game, game reviews, and game or console discussions. Some student comments corresponded to the intersection of specific games and real-world events, such as the NCAA Tournament and the start of college football season. One student posted, "with the NCAA going on being able to play it was great. Too bad it's not out today," while another replied, "NCAA football 08 would be great since the new football season in upon us." Such responses were considered positive as they seem to indicate that the students are inspired by external stimuli to make use of the gaming service, and, by extension, the physical library. Other comments were of a more general, yet explicitly positive nature: "Nintendo Wii?!?! AWESOME!" In one post, an open challenge was issued to the campus community for a head-to-head duel in the Xbox 360 game, *Halo 2*; whereas another student used the forum to post "cheat codes" to aid other students in unlocking songs for the game, *Guitar Hero II*. Posts, such as these, were considered positive because they suggested that the students had invested or were willing to invest time in these specific games. These posts were also considered to promote community and collaboration through gaming activities.

Leisure Activity/Study Break

Many of the posts in this category were in response to negative comments about the gaming service, though some students simply expressed appreciation for the presence of the gaming equipment as an option for a study break. After one student questioned the

benefit of providing a gaming service in an academic library, another student responded, “It's called taking a break. Try it.” In another reply, a student posted, “In a library you are able to take out books, journal arcticles [sic], research things online, etc. making it a very useful area to both do research and enjoy leisure time. So then why can't we do other things such as - taking out mp3 players or take out video games?” Other less contentious posts were submitted, as one student suggested, “The addition of the video games to the Learning Commons is an excellent source for relaxation, community, and friendship.” Some posted replies were multifaceted and could be placed into a variety of categories, “I was in the learning commons working on a project and wanted to take a study break, only to find that the X-Box 360 was gone. Is it coming back??” This post could be categorized as Directional, Equipment Request, or Study Break. However, since the student explicitly mentions the desire to use the gaming equipment for a study break, the post was considered to best fit in the Leisure Activity/Study Break category, though categories are not meant to be mutually exclusive. One student comment provides a sufficient summary for this category: “The games are a really nice touch that go with the idea of a place for students to learn and meet, after all students could use the game to take a break from their studies so that they can recoup then get back hitting the books!”

Equipment/Game Troubleshooting

Requests to fix consoles, gaming equipment, and online service connections were considered positive as such requests implied that the service was being used and the health of the service was a concern of students. A majority of the posts in this category centered on connectivity issues with the Xbox Live service, a service which allows subscribers to play video games online via broadband connection with other service

subscribers, regardless of location. "I'm having trouble with xbox live. I keep getting the error about the dns. What do i do to fix this problem," is an example of such a request. In response to a staff posting that informed students of the library's effort to get the gaming systems registered with ComTech so they will have IP addresses to enable Xbox Live service and student simply replied, "Hooray!" Troubleshooting requests for gaming equipment not provided by the Learning Commons were also included. Though the library does not circulate handheld gaming devices, such as the portable Nintendo DS, students aware of the gaming service use the forum to ask for assistance with such devices: "Is there any way that I can connect to the NCSU wireless using my DS?"

Other positive category headings with fewer replies include comments of general praise for the gaming service, posts that laud the collaborative/social nature of gaming, directional questions as to the location of the gaming consoles, and offsite requests for assistance with gaming equipment. Table 4 reflects the frequency of all positive posts.

Negative Replies

Though sixty-five percent of all gaming-related replies were positive in nature, nearly a quarter were considered negative views of the gaming service. The most heavily cited reasons for removing gaming equipment from the library were noise and the non-academic nature of the service. As seen in Table 5, noise and the nature of gaming are of the utmost concern to those students participating in the forum.

Table 5. Frequency of Negative Comments (N=16)

Negative Category Headings	Total # of Posts
Noise	7
Not Academic	7
Profanity	1
Money/Cost	1

Noise and Profanity

A majority of the negative replies posted to the *Talk* forum involve some type of noise complaint or general commentary on the distracting nature of those participating in gaming activities. In response to a previous comment on the noise produced by "gamers" in the library, a student offered, "I can see what your [sic] saying. I am distracted often when studying in the learning commons. After all, its not called the 'Hangout' commons -- and during the day thats whats [sic] going on. People . . . cheer on those playing video games which can be utterly distracting to those who are trying to learn in the learning commons." Though staff respond to such complaints with an explanation that the Learning Commons is meant to be a social space as much as a learning environment, students still express a desire to have the gaming equipment removed from the library in favor of more quiet study space. One student posted, "There are no truly quiet areas to study anymore" and after a brief discussion of the noise in the Learning Commons continued, "Are you kidding me?! Really I'm not asking for much. Can there really not be just ONE area that is for TRULY quiet study." These types of comments are usually met with some resistance, as one student retorted, "I think you're taking things a little too seriously, you could do to lighten up. Additionally, I have never been bothered by these video games, they're not loud at all, and they're fun to watch others play. If you have a difficult time concentrating while people are talking or playing games, perhaps you should find a different place to study or do whatever it is you're doing." Despite the resistance, other students point to the library's own policies on noise and disruptive

behavior. Taken from the NCSU Libraries policy web page and posted to the *Talk* forum by a student, examples of disruptive behavior are:

- Creating excessive noise;
- Harassment of others, including verbal or physical attack;
- Odor constituting a nuisance or health or safety concern;
- Bringing in personal belongings not essential to the research undertaking (bedrolls, carts, frame backpacks or large duffel bags); and/or
- Behavior that disturbs others or interferes with the appropriate use of the facility, including inappropriate sexual behavior.

The student further stated, "The library staff and administration have, themselves, broken this basic rule by bringing in videogame systems that are not essential to the research undertaking" and continued later in another reply, "It is absolutely undeniable that, according to the current rules, videogames are not allowed in the library and the lack of enforcement of these rules constitutes a wanton disregard to the demands imposed on the staff and administration by the rules and regulations. This must be changed." The researcher found the vehement nature of this comment surprising as there are numerous quiet study spaces located throughout the library, an additional computer lab on the second floor, and a reading room down the hall from the Learning Commons.

Though profanity was considered a separate category heading, such a comment is considered relevant to a discussion on noise. Though the student citing excessive profanity as a reason to remove gaming consoles from the library goes into explicit detail as to what constitutes "excessive," citing several examples, in the interest of modesty, the comment in its entirety shall not be quoted here. However, the student does state "screaming profanities out loud in everyone else's earspace [sic], is by no means acceptable. i [sic] have my headphones on and I can still hear the gamers make more ruckus than necessary. this [sic] needs to end immediately.

Not Academic

Another point of contention for students concerning the gaming service seemed to be a question of its purpose and place in the mission of an academic library. Some students suggested that video games have no place anywhere in an academic library, but are better suited for other spaces on campus: "It's not like this is some crusade against the games, for I am an avid gamer myself, only that there are many more appropriate places on campus for such non-academic activities." Other students were more explicit in their condemnation of the gaming service: "We need the console video games to just go away. They are wholly inappropriate for a university library." Still others approached the topic with a more traditional view of the library and consider the employment of video games to be inappropriate: "Nowhere in the Definitions of library does it say videos games. I am really wondering why NC state is promoting video games which we know are a leading cause of obesity and a huge distraction." One of the more interesting replies came from a distance education student who had never set foot in the physical library, yet questioned the gaming service from a philosophical standpoint, inquiring, "Are there really xboxes in the library? What is the educational value of that?" These comments suggest that though most of these students have grown up around gaming and may themselves be gamers, traditional views of the library and the pursuit of scholarship influence their concept of what constitutes appropriate library services. These results were unanticipated. As the literature suggested, Net Generation students embrace technology, prefer multitasking, and are attracted to environments that are familiar and promote collaboration. It was unexpected that traditional concepts of library as place endure and are idealized by today's students.

Cost

Surprisingly, only one student mentioned the cost of providing a gaming service. The researcher anticipated that more students would question the library's decision to purchase the newest generation of consoles and video games, as they are the most expensive and have a higher fail rate than previous generations, resulting in higher maintenance costs. In addition, all consoles are connected to dedicated flat-panel, LCD or plasma televisions, which also come at a high per unit cost. In the aforementioned post, the student noted that there was a large plasma television connected to a game console and questioned the need for such a setup in an academic library, simply adding "Expensive."

Conditional Replies

It was determined that some gaming-related replies could not be identified as positive or negative in nature. These posts were considered *Conditional* comments, in that gaming in an academic library was not wholly embraced, but was considered appropriate if certain conditions were met. These posts accounted for approximately twelve percent of all gaming-related replies. Table 6 shows a breakdown of conditional replies by category.

Table 6. Frequency of Conditional Comments (N=8)

Conditional Category Headings	Total # of Posts
Placement	5
Sound	2
Audience Noise	1

Placement

Most conditional forum posts concerned the placement or location of the gaming equipment. Comments in this category ranged from suggestions for more ideal locations of the equipment to a call for the establishment of a dedicated video game room. One student posted, “I love video games. I'm a very avid gamer and religious DDR player. BUT I have to say that the library learning commons isn't a good place for video games. Granted, most of the time they are not that loud, and most of the time the observers are well-behaved and not cheering like the student section at a football game. The only flaw in this is that the video games have been placed in the area of the library with THE MOST computers.” In response, students replied, “I completely agree that the middle of the learning commons is not a good location for the video games” and “it would be nice to have them in a separate and perhaps enclosed space to avoid distracting students as they work at the nearby computers.” This prompted a third student to offer “Create or convert a room to a 'video game room'” as their ultimate solution. Again, noise is suggested as a concern, with one student stating, “With the recent addition of the game console at the back of the learning commons wall, I am extremely frustrated. While I understand the purpose of the learning commons, and I dont [sic] expect complete peace and quiet, the placement of that game console is ridiculus [sic].” However, the student concluded the post with a conditional acceptance of the gaming service, continuing, “Its [sic] great we have these games available to unwind and relax here in the library, but the placement should really be reconsidered.” Comments of this nature reflect a desire for or acceptance of gaming in the library, but in a less intrusive area.

Sound and Audience Noise

Though these are to be considered two distinct category headings, sound and audience noise are interconnected. Together, these categories account for over a third of all conditional comments. Sound emanating from the game controllers or televisions accounted for twenty-five percent of conditional responses and was cited by two students, while conversation between audience members or those watching their friends play a video game was considered a distraction by another student, accounting for nearly thirteen percent of conditional responses. The guitar used in playing the video game, *Guitar Hero II*, was specifically mentioned by both students, one posting, "I don't know if you've heard someone playing guitar heroes [sic] yet, but the clicking of the guitars is very audible and very distracting," and the other, "The last thing I want to deal with is the clicking and clacking of people strumming air guitars 5 feet from me when Im [sic] trying to work." In both replies, the students suggest either moving the gaming equipment, using a sound dampener, or call for less vigorous guitar playing. The employment of headphones was suggested as an option for reducing or eliminating television noise. In each case, there was no explicit call for the removal of the equipment or condemnation of the service, so the responses were considered conditional. Audience noise was suggested by one student as a byproduct of video game play and called for library staff to enforce noise policies to keep those watching their friends play from becoming disruptive.

Conditional responses all seemed to point toward a desire to have the gaming equipment moved from the middle of the Learning Commons to a more appropriate location in the library. Some students offered alternative locations, while others

suggested new construction to house the gaming. What is interesting here is that though these posts were in response to negative byproducts of the gaming activities, the students implicitly acknowledged a desire to keep the gaming service in the library, as long as it did not continue to interfere with the pursuit of scholarship. This suggests that the intersection of services can coexist, under the proper circumstances.

Forum Analysis Summary:

Overall, comments posted to the forum were positive with some students forcefully defending the gaming service against criticism. As the library is foremost considered a place to study, a broad spectrum of forum participants, even those considered pro-gaming, did cite noise as an issue. A number of students suggested moving the video game consoles to another location in the library, which seems to indicate implicit acceptance of the gaming service, but under certain conditions. The results of this analysis suggest that students use the service and see a variety of benefits to having the service in the library. Comments concerning location of the service indicate that placement of the service should be a primary concern of libraries considering adding a video games to their breadth of services.

Surveys

The survey was intended to collect qualitative and descriptive data from a random sample of students in order to measure their use of a gaming service provided by their campus library and any resulting impact on library usage. In addition, the researcher set out to discover student perceptions of both the academic library and a video game service in the library environment. The questionnaire employed a mix of closed-ended, open-

ended, and Likert-type items. The survey was implemented via telephone and online, using the same questionnaire for both methods.

Demographics:

Students were randomly selected, using the online student directory. Participation was limited to currently enrolled undergraduate students born in or after 1982, the commonly accepted cut off for the Net Generation. Thus, the only demographic data collected were birth date and enrollment status. Participating undergraduate students were not asked to further specify their class standing. All but one respondent were born in or after 1982 and 4 total respondents were not currently enrolled students.

Gender was not a variable to be measured for this study, thus efforts were not made to achieve equal representativeness across the sexes. The aim of sampling was, instead, to seek representativeness from the general undergraduate population, regardless of gender or academic class standing.

Sample and Response Rate:

Phone:

A total of 50 students were randomly sampled to participate in a phone survey. After cycling through the sample list four times over the course of two weeks, all potential respondents were contacted and 21 agreed to participate in the survey for a 42 percent response rate. Out of 21 respondents willing to participate in a phone survey, one was not a currently enrolled student and one was a non-traditional aged undergraduate

born prior to 1982. These two response sets were eliminated from analysis and are not reported in the *Results* section.

Online:

A total of 200 students were randomly sampled and invited to complete an online questionnaire composed by the researcher. The initial batch of email invitations were sent the first week of data collection, a reminder email was sent during the second week, and a thank message was sent the final week. At the end of the data collection period, the researcher received 81 completed questionnaires for a 40.5 percent response rate.

All online respondents reported to be born in or after 1982. Three respondents were not currently enrolled undergraduate students and thus, their response sets were eliminated from analysis and reporting. This left the researcher with 78 completed surveys.

Total Survey Response:

In sum, the researcher collected 97 completed surveys via telephone interview and online questionnaire out of an aggregate total sample of 250, for an overall response rate of 39 percent. The researcher had hoped for at least an overall 50 percent response rate and expected the completion of more online surveys. As time was a limiting factor, the online survey only remained active for three weeks, one of which was the university's Spring Break. This may serve as one explanation for the lower response rate.

The results of both survey methods are reported as group data in the following *Results* section. As the same questionnaire was used for both phone interviews and online surveys, the decision was made to combine the resulting data into a single report.

Telephone interviews differed only in that participants offered unsolicited comments to closed-ended questions, some of which are reported in the results that follow.

Survey Results

The aim of the survey method was to shed light on how Net Generation students use and view their campus library, as well as discover student perceptions of a gaming service in the academic library environment. In addition, students were asked to report on their awareness, use, and opinions of video games in their campus library in an effort to discover whether or not the implementation of a gaming service has the potential to impact campus library usage. A report of the findings, broken down by question, follows.

- Do you consider yourself a frequent visitor to the campus library?

A discussion of the literature suggested that libraries had suffered a recent decline in usage, reflected by falling gate count numbers and anecdotal evidence of abandonment. This study, in part, set out to discover if gaming was a service that could potentially draw students to the physical library. It was therefore considered useful for the researcher to attempt to discover the frequency of visitation by the selected sample. The researcher made the decision to allow respondents to define “frequent” for themselves and no definition of the term or guidelines for frequency were offered.

Of the 97 respondents, 55 percent (53) considered themselves to be frequent visitors to the physical library. Though no attempt was made to quantify frequency, this

data reflects nearly half of respondents, by their own estimation, do not frequent the campus library.

- Please indicate your level of agreement to the following statements concerning the campus library building:

Students were asked to indicate their level of agreement to a series of statements about the campus library, using a 5-point Likert-type scale. The means reported in Table 7 represent the overall level of agreement to each statement, based on the 5-point scale.

Statement 1: The library building is a place for conducting research and studying

Not surprisingly, 77 percent of respondents (75) strongly agreed that the library is a place for research and studying. Not a single student remained neutral or disagreed, with the remaining 22 students agreeing with the statement. It is worth noting that most respondents who participated via telephone answered emphatically when offering their response to this question. One telephone respondent further added that academics have been the sole purpose of the library since its inception and librarians should not tinker with a proven formula. The researcher expected that an overwhelming majority of students would offer some degree of agreement to this more traditional view of the library and included this statement to use in comparison with students' level of agreement with the following statement, which suggests the library's evolving nature as a social space.

Statement 2: The library building is a place for social and leisure activity

Overall, students responded to this question positively, with 59 percent (57) in agreement with the statement. Though 24 respondents were either neutral (17) or

disagreed (7) that the library is a place for social and leisure activity, 9 strongly agreed with the statement. Though qualitative responses were not solicited, several of those surveyed via telephone offered comments to qualify their answers. Overall, the comments were generally positive and suggested that the promotion of collaborative learning and social activities were appealing aspects of library service. Three students who participated via telephone suggested that they often meet with friends in the library between classes and one student commented that the library is the ideal space for group projects. Only one student offered a negative response, stating that the library should not be expected to entertain students or provide them with a place to "hang out". Though respondents were not prompted to provide any qualitative data in response to this question, the researcher considered the comments useful in the overall context of the survey.

According to previous reports, various academic libraries based their decisions to renovate and implement alternative services on changing student needs and perceptions. This resulted in efforts to make buildings multifunctional and more conducive to both social and academic activity, moving toward a model of edutainment. These results seem to support the hybrid library model introduced in the literature. A majority of students agree that the library is a place to both study and socialize, which also fits well with their reputation as multi-taskers who like to collaborate and often combine work and play.

Statement 3: The library offers services that attract me to the building

What is surprising here is that a slight majority of respondents (49) either disagreed (11) or were neutral (38) on the subject of library services. Though 47 percent of participants (46) agreed that certain library services attracted them to the building, only

2 strongly agreed with this statement. Over the course of a phone interview, one student stated that they were proud of the fact that they had reached their senior year having never set foot in the library building.

Statement 4: The library should offer services that may no be considered academic or traditional

Again, respondents overwhelmingly agreed with this statement. Approximately 77 percent of those who participated (75) would be open to alternative and non-traditional services. About 22 percent (21) were neutral in this matter and one respondent strongly disagreed with this statement. Two students suggested during telephone interviews that the library has evolved beyond just books and reference and needs to "reconnect with its users". It should be noted that no respondents strongly agreed with this statement and this was the one statement with which the highest number of students strongly disagreed (7).

Table 7. Please indicate your level of agreement to the following statements concerning the campus library building: (N=97)

Statement ***The library…***	**1** **Strongly Disagree**	**2** **Disagree**	**3** **Neutral**	**4** **Agree**	**5** **Strongly Agree**	**Mean**
Is a place for conducting research and studying				22 (22.7%)	75 (77.3%)	4.77
Is a place for social and leisure activity	7 (7.2%)	7 (7.2%)	17 (17.5%)	57 (58.8%)	9 (9.3%)	3.56
Offers services that attract me to the building		11 (11.3%)	38 (39.2%)	46 (47.4%)	2 (2.1%)	3.40
Should offer services that may no be considered academic or traditional	1 (1%)		21 (21.7%)	75 (77.3%)		3.75

- Have you ever played video games?

As suggested in the literature, video games are a familiar activity to Net Generation students, which is cited as one of the arguments for their implementation in academic libraries. Eighty-five of the 97 respondents, or 88 percent, have played video games at some point in their lives. Of the students who answered in the affirmative during telephone interviews, 7 explicitly stated to the researcher that they currently play video games as a leisure activity. Students were not asked to provide qualitative responses to this question, so they were not asked to elaborate on the conditions under which they play.

- In general, do you believe video games would make a good service addition in academic libraries?

Students were asked if they thought video games would make a good service addition in academic libraries. This question was not intended to be specific to the sample's campus library, rather academic libraries in general, though the researcher believes the question was misinterpreted by some respondents, as a number of telephone participants hinted that they did not want video games in their library. According to the resulting data, 56 percent of respondents (54) believe that video games would make a good service addition to academic libraries. Twenty-two percent (21) felt that video games do not have a place in academic libraries and nearly as many students (22) were not sure or had no opinion.

- If yes, what do you consider to be the benefit(s) or value of a gaming service?

Those who answered *Yes* were asked to provide comments on the perceived benefit(s) or value of a gaming service in an academic library environment. Though 54 students answered *Yes* to the lead question, the researcher received 55 qualitative responses in sum. One student surveyed via telephone did not have a strong opinion either way and asked to provide both potential benefits and drawbacks of a gaming service. In analyzing the resulting qualitative data, certain themes emerged (see Table 8). Many of the open-ended responses to this question comprised multiple themes.

By far, the most common response theme was the concept of gaming as a study break. Thirty-eight students suggested video games served as an attractive alternative to studying or homework. One student responded that video games are "good for a study break or to kill time. I can only look at a book for so long." Another student offered, "When it's time for a break, I head right for Wii." Seventeen students specifically mentioned the word "relaxation" somewhere in their comments, most often in the context of unwinding after long bouts of studying. These comments are concordant with remarks posted to the Learning Commons online forum.

Closely related to this theme is the use of video games to pass time between classes. The distinction was made between study break and class break, as most students who use the gaming service between study sessions are already in the library. Those who made use of the service between classes entered the library from elsewhere on campus. In all, 21 students responded that a gaming service would give them something to do between class sessions. This is a significant concept in that it suggests students would choose to enter the campus library over other spaces both on and off campus because of the service initiative. Such responses also indicate that a gaming service has the potential

to attract students to use the library in a manner in which has not traditionally been used—as a place of leisure. Some students referenced regularly occurring group gaming sessions built around their fixed class schedules. One student stated, "It's something to do between classes, especially if I'm on that end of the campus. I like to get in a quick round of *Guitar Hero* whenever I can."

The suggestion that a student would use the gaming service especially considering the proximity to the library hints at another theme—Convenience. Seventeen responses included some mention of convenience of the service, whether it was a student's proximity to the library in between classes or the proximity of the video game service to a student's study location. In each case, the respondents communicated that not having to go far from their location to take a break or kill time made the gaming service both valuable and attractive.

Additionally, 14 students suggested that the nature of libraries was changing and thus, services needed to evolve as well. The theme of library evolution has been covered in the review of the relevant literature and here, one student pointed out that "libraries have changed a lot since I started school. If we can check out iPods, movies, digital cameras, and laptops why not video games?" This sentiment is echoed by another student,

> Libraries catalog all kinds of things already: books, newspapers, magazines, journals, and other multimedia such as videos. Students predominantly in the sciences (natural or social) will have use of the journals and other scholarly sources, English students literature, and for those interested in film videos, just for a few examples. Although video games may not be traditionally associated with academics, there is a growing interest. So with this academic interest in mind it seems as if video games would indeed have a place in an academic library.

Comments such as these suggest that students are aware of the evolution of the academic library and are perhaps more willing to accept alternative and non-traditional services. As one student contended, "The gaming service allows for an extra dimension in the libraries [sic] services. Instead of just being a place to study it can also be a place to relax and have fun. I think it is a great thing as long as the gaming center is set apart from the people that are studying." It is worth noting that this student introduced the caveat of keeping the gaming activities separate from traditional study areas. This is a common theme among those students who conditionally accept gaming in academic libraries, as reflected in the results of the online forum analysis and subsequent findings reported in this section.

In addition, 12 respondents commented on the potential of such an alternative service to attract students to the library. One student, in particular, appeared very concerned about the state of academic libraries and suggested that whatever service initiatives the library could implement to attract students to the building should be considered: "I think gaming can benefit academic libraries by bringing in students that otherwise may not use the library much, which ultimately is a very good thing. So much information is online that you could probably go your entire college career without having to step foot in your campus library."

The comments provided by respondents and the corresponding themes seem to indicate that students see a variety of benefits and value in the employment of a gaming service in the academic library environment.

Table 8. Gaming Benefit/Value Themes (N=55)

Comment Theme	Number of Comments	Percent
Study Break/ Relaxation	38	69%
Activity between classes	21	38%
Convenience	17	31%
Evolution of libraries	14	25%
Potential to attract students	12	22%

- If no, what do you consider to be the drawbacks of a gaming service?

For those who answered *No* to the lead question and did not consider video games a good service addition, the researcher asked responding students to provide comments concerning the potential drawbacks of gaming in academic libraries. Though not required to do so, all 21 respondents provided qualitative responses. Comments were distributed among three identified themes. Two of the themes consisted of 7 comments and one theme comprised 9 comments. In contrast to the positive comments, responses to this open-ended, contingency question were mainly monothematic.

The most oft-cited drawback and first theme to emerge concerned the appropriateness of a gaming service. Comments of this nature were submitted by 9 students. These students suggested that the sole mission of the library is to support academia and research efforts. One student advised there were more appropriate places on campus for video games, such as dorms and student centers. One student posed the question, “When does a library stop being a library?” and then answered the question with the emphatic statement, “When it offers video games as a service!” Related to this

theme and grouped in this category, is the idea that a gaming service has no perceived value and does not contribute anything worthwhile to the library's mission. One respondent offered, "I don't believe gaming has any true value", while another stated, "Gaming adds nothing to the promotion of academics. It has no value in librarys [sic]." Seven respondents identified costs associated with gaming service implementation as a potential drawback. Six students indicated their concern over the price of video game consoles and gaming-related equipment. It was suggested, "Money could be better spent elsewhere" and "could easily go to some other, more productive use." Unlike the criticism posted to the library's online forum, service-related costs appeared more of a concern to those surveyed. Interestingly, one respondent cited the potential impact on library staff time as a concern.

Surprisingly, only 7 students mentioned the potential for noise and disruption. Noise was considered the chief concern among those who opposed the gaming service in the online forum and cited as the primary drawback of video games in the library.

One student provided comments in list form that encompassed all identified themes:

> 1. Gaming is distracting to other students in the vicinity who are attempting to study, which is one of the main purposes of the library.
> 2. There also seems to be a psychological effect. It can be exacerbating studying in a place designed and set aside for study and quiet while people in the same area use it to play.
> 3. I think it is a waste of money to purchase such devices.

Table 9 shows a breakdown of comments by theme.

Table 9. Gaming Drawback Themes (N=21)

Comment Theme	Number of Comments	Percent
Appropriateness	9	43%
Service-related Costs	7	33%
Noise/Distracting Nature of Service	7	33%

- If no or no opinion/not sure, would you be more willing to accept video games in academic libraries under certain conditions?

Those who answered *No* or had no opinion were asked if they would be more willing to accept video games in academic libraries under certain conditions. This question was derived from the numerous instances of conditional acceptance suggested by those who participated in the library's online forum. Of the 22 total respondents in this category, 19, or 88 percent, answered, *Yes*, suggesting they would be willing to accept gaming in academic libraries if the conditions were right. Those who answered *Yes* to this question were then provided a list of conditions devised by the researcher and asked to select which, if any, would make a gaming service in an academic library more appealing. Respondents were instructed to check all that apply.

The creation of a designated "gaming" area (19) and muted television monitors (16) were the conditions most often selected, which reflect students' desire for a demarcation of video games and traditional quiet areas. During telephone interviews, a number of students asked if a designated gaming area meant creating a closed-off space or a dedicated room away from traditional library services or one that was out in the open, with no walls simply identified as the "gaming" area. The researcher had not

thought of that distinction and left it up to the students to decide their own individual interpretation of a "gaming" area. Limiting the hours the service is available for use (11) and strict enforcement of the library noise policy (9) followed. As many respondents (3) answered they would not accept gaming in academic libraries under any of these conditions as suggested a more extensive offering of games and equipment would make the service more appealing. For a full breakdown of responses, please see Table 10.

Table 10.
Conditions that make gaming more acceptable (N=19)

Condition	Number of Responses	Percent
Designated gaming area	19	100%
Mute television sound	16	84%
Strict enforcement of library noise policy	9	47%
Gaming by appointment	1	5%
Limit hours available for use	11	58%
More extensive offering of titles and consoles	3	16%
None of these choices make gaming appealing	3	16%

Video Game Service at the D.H. Hill Library

The next block of questions was developed specifically for the gaming service provided by the sample's campus library. Students were first asked if they were aware of the gaming service provided by their campus library and unexpectedly, 94 respondents, representing 97 percent, answered in the affirmative. As 45 percent of respondents suggested they were not frequent visitors to the library and one student claimed to have

never been to the physical space, it surprised the researcher that only 3 respondents were not aware the gaming service.

- Do you think such a service has the potential to attract students to the campus library?

Students were then asked, in their estimation, if the D.H. Hill Library gaming service had the potential to draw members of their peer group and fellow students into the library. Again, surprisingly, all but one student answered *Yes*, though some phone respondents qualified their responses with unsolicited comments such as, “for all the wrong reasons” and “that’s probably the only way to get some students into the library.” Others commented that the novelty of the service would pique the interest of some students and attract those students who feel the library is “too stuffy”. Online respondents had no such opportunity to qualify their answers. Though this question asked participants to speculate on the appeal of the service, it is significant that 99 percent of those surveyed (96) agreed that such a service does have the potential to attract students to the library building.

- How has the gaming service impacted the number of visits you make to the physical library?

The researcher then asked how the gaming service impacted the number of visits each student made to the campus library (significant increase, slight increase, no impact, slight decrease, or significant decrease). An overwhelming majority of students (65) reported that the gaming service had no impact on the number of visits made to the

library, representing two-thirds of those surveyed. Twenty-five percent (24) reported a slight increase in their number of visits as a result of the video game service. Seven students felt the implementation of the service resulted in a significant increase in visits and only one of the respondents reported a negative impact on their frequency of visits to the library, noting a slight decrease. These results reflect the potential of a gaming service to draw students back to the library; perhaps not to use the library in a traditional sense, but the potential exists to indoctrinate these students into the library culture by first getting them in the door.

- Do you use the gaming service?

Students were then asked if they use the gaming service. Use of the gaming service was defined as playing video games on the library-provided equipment and/or checking out games and gaming accessories from the service desk. Fifty-nine percent of respondents (57) reported to use the video game service and an additional 13 students answered that they had at least tried the service. Two of those surveyed via telephone offered that they had only used the service once, during the reopening of the renovated Learning Commons, as part of a weeklong series of events. Twenty-eight percent (27) said they had never used the gaming service, with 3 telephone participants adding comments to the effect of “never have, never will”, though this was not a response option.

Those who reported to have used the gaming service were asked how often they did so. Table 11 reflects the distribution of use.

Table 11.
Frequency of service use (N=57)

Frequency Of Use	Number of Responses	Percent
Very infrequently/ few times a semester	6	10%
Once a month	9	16%
One every two weeks	9	16%
Once a week	20	35%
2-3 Times a week	8	14%
4-6 Times a week	5	9%
Daily	0	0%

Frequency of use is fairly evenly distributed among the possible response categories with a clear majority of those who use the service reporting to use it approximately once a week (20). None of the respondents use the service daily, though 5 students did report using the service frequently, approximately 4-6 times a week. Approximately 10 percent of students reported infrequent use of the service, in their estimation about twice during the course of a semester.

Those who answered *No* to the previous question and reported never having used the gaming service were asked, "Do you ever see yourself using the gaming service?" Students were provided with three choices (Yes, Maybe, No). Of the 27 respondents who never used the service, 13 indicated they have no intention to do so and answered *No* to this question. Of the remaining students, 10 answered *Maybe*, suggesting the possibility of use in the future. Only 4 students were confident they would use the service at some point.

At this point in the survey, those who answered *No* to the previous two questions were asked if they would like to make any additional comments concerning the gaming

service, after which, their participation ended. As the remaining block of questions pertained to use of the gaming service, those who had not used the service and did not anticipate ever playing video games in the library would not be able to provide further useful data. Thus, they were asked to provide final comments about the gaming service and their participation in the survey ended.

- Are you more likely to visit the physical library because of the gaming service?

The 84 participants who qualified to continue the survey were asked if they were more likely to visit the physical library because of the gaming service (Table 12 Q1). Fifty-six percent (47) responded *No*, they would not visit the library simply because it offered video games. Forty-four percent either said *Yes* or remained undecided. Twenty-six respondents, or 31 percent, reported that they were more likely to visit the library because of the gaming service, while 13 percent (2) were unsure.

Table 12. Gaming Service Impact (N=84)

As a result of the gaming service…	**Yes**	**Not Sure**	**No**
Q1. *Are you more likely to visit the physical library*	26 (31%)	2 (13%)	47 (56%)
Q2. *Have you entered the library just to use the service*	51 (61%)	0	33 (39%)
Q3. *Have you spent more time in the library*	44 (52%)	0	40 (48%)

- Have you ever entered the library specifically to use the gaming service? (Table 12 Q2)

Interestingly, 61 percent of respondents (51) reported having entered the library specifically to use the video game service, though a majority had responded to the

previous question that they would not visit the library just to use the service. This may be explained by the concept of convenience, as students may not be willing to make a special trip to the library to play video games, but may do so if they happened to be in the vicinity and/or had time to kill. It also should be noted that the researcher did not ask students how often they visited the library solely to use the gaming service and these results may reflect a series of isolated instances. Thirty-nine percent (33) said they have not entered the library specifically to use the gaming service.

- Have you ever spent more time in the library than anticipated because of the gaming service? (Table 12 Q3)

Students were then asked, "Have you ever spent more time in the library than anticipated because of the gaming service?" Here, students were advised that direct, as well as indirect participation, such as instances of watching friends play video games in the library, were to be considered. Forty-four of the 84 respondents, or 52 percent, said they remained in the library longer than planned because of the gaming service. One telephone respondent claimed to have watched friends play *Guitar Hero* for nearly two hours and in the process, had missed a dental appointment. Another student commented, "I love getting lost in a game, especially after hours of writing up lab reports. I lose time either way, so why not have fun doing it."

These results are meaningful in that they suggest the potential for video games to not only attract students to the library, but also keep them there. The longer students are in the library, the increased chance they will be exposed to new services or become more comfortable and familiar with the environment. The aim of the campus library should

not only be to improve gate counts and service usage, but also improve retention, as suggested by the librarian interviewed for this research.

- Are there any further comments you would like to make concerning the library's gaming service?

Thirty-seven respondents opted to provide additional comments concerning the gaming service. In analyzing the responses, four major themes emerged: General support/Expand the service, Location, General criticism, and Elaboration. Most comments comprised multiple themes. The researcher received only 4 comments that were considered wholly positive and 6 that were considered entirely negative.

General Support/Expand the Service:

Nineteen comments were categorized as some type of general support for the gaming service, including several outright requests to expand the service from its current state. These remarks represent varying degrees of support for video game service in the campus library, with some general comments of praise and some enthusiastic suggestions for improving the service. Comments ranged from simple statements of support such as, "They should keep games in the library", to emphatic statements like, "The library *needs* to do some tournaments!" (emphasis placed by respondent). Two students suggested that the gaming service was unique and set their campus library apart from others in the area, with one of them offering, "I think a gaming service is something other libraries need to look into. I think what we've done here has been quite successful." Four respondents suggested the library purchase new games to keep the video game collection current, while another student noted that they play the game *Halo 3* in co-op mode with friends

"every chance I get. Don't take that away from me." One student used this question to address negative comments about the service they had overheard: "I don't use the service very often, but I don't understand all the criticism it gets from certain students. There are plenty of places to study in the library, so having video games in one small part of the building shouldn't be that big of a deal."

Location:

Many students took the opportunity to comment on the placement of the gaming stations in the library. Sixteen comments in total were categorized under the theme of location. Twelve respondents explicitly stated that the video game consoles and televisions should be moved from the middle of the Learning Commons to a more discrete location within the library. One student stated that they felt like they were "on display" when playing the Nintendo Wii because of its location. Another student responded, "I've seen other students using [the gaming equipment] and having fun, but why is it in the middle of the Learning Commons?" As introduced earlier in the *Results* section, all of the students who reported to be more willing to accept gaming in an academic library environment under certain conditions identified the designation of a "gaming" area as their number one condition (see Table 10). The comments made here seem to support these results, as student support for the gaming service seems to be directly related to the physical placement within the library.

General Criticism:

Ten responses included some type of criticism of the gaming service. Again, much like in the online forum, noise and distraction were major concerns of the respondents. Each of the 10 comments identified as criticism mentioned the distracting

nature of the video games, with 6 suggesting the outright removal of the gaming consoles. The issue of cost was also revisited. In one response, a student asked, "How much did it cost to buy all that stuff?" The student then followed with, "Probably to [sic] much and I can tell you it's not worth it." Two of the comments were specific to the Nintendo Wii and suggested that people "flailing around" with the remote is a hazard.

Elaboration:

Several students used the final question to qualify and elaborate upon prior responses. In total, eight respondents expressed a desire to offer further explanation of previous answers. Three students surveyed via telephone wanted to emphasize that they did not visit the library expressly to use the gaming service, though they did use it when they had occasion to be there. One stated, "I only enter the library to play video games when I'm near the library or have to be there. I don't make special trips to the library to play" and another "I haven't really had to go to the library much, but it's fun to play *Guitar Hero* when I'm there." Four students alluded to comments they had previously made in response to the other open-ended questions and used this opportunity to underscore their opinions and/or concerns. One response read, "As I stated before, video games help you relax and clear your mind, which make them perfect for a library where people are constantly working and stressed." Two students simply submitted remarks for the researcher to "see" comments given earlier in the survey.

Overall, final comments were generally positive. Those who had a negative view of the service felt they had addressed their issues with gaming in the library when they were asked to list perceived drawbacks earlier in the survey. From the comments, it is evident that noise and location are the primary concerns for students. One surprise was

the number of requests to expand the service, though many of those requests were combined with suggestions to move the gaming stations to another area in the library.

Survey Summary:

According to the survey results, Net Generation students recognize a shift in the role of the campus library to a more social space. In further defining that social role, academic libraries have increasingly turned to alternative services, such as video games. The data reflect a majority of those students surveyed have played video games at some point in their lives, suggesting it is a familiar and attractive activity. As reported, 96 of the 97 respondents saw the potential of a gaming service to attract members of their peer group to the library building, despite their feeling towards the service. Furthermore, 56 percent of respondents believe video games would make a good service addition. The numbers show that more than half of respondents use the service, which has resulted in an increase in library visits for some. The data also suggest that respondents visit the library specifically to use the gaming service, with 52 percent of students indicating that they have spent more time in the building than anticipated because of the service.

Those who do not agree with gaming in the library point to the distracting and unsophisticated nature of video games and consider them inappropriate for an academic library. Noise and cost are also primary concerns. Some students suggested that implementation under certain conditions would make the service more appealing. The designation of a separate “gaming” area was the condition most often selected, while efforts to reduce or eliminate noise closely followed. This seems to reinforce the

importance of location and placement of the video games, as cited by a number of respondents in their final comments.

The findings reported here suggest gaming in academic libraries is an emerging service with the potential to impact library usage. This study focused specifically on student use and perceptions of a gaming service in an academic library. Going forward, a more in-depth investigation into why and how students are using video games in academic libraries should be considered. Additionally, it would prove useful to discover how current gaming services could be made better and more effective. Identifying potential opportunities for campus outreach may also prove beneficial. The results of such efforts could make for a smoother implementation of a gaming service in campus libraries.

Limitations:

The results of this survey should in no way be interpreted as representative of all university undergraduate students enrolled at North Carolina State University. Results reflect the answers and opinions of only a small sample of university undergraduate students and response rate was lower than expected. The timing of the study may have contributed to a lower response rate, as surveys were conducted during a time in the semester when most undergraduates were busy with mid-term examinations. In addition, one week of the data collection period was university Spring Break. Time constraints also limited the amount of data collected, as surveys only remained active for three weeks due to a paper submission deadline. Therefore, applying generalizations and extrapolating data to a larger population may not be possible and any efforts to do so would be questionable. However, many qualitative responses shared common themes

and paralleled comments posted to the library's online forum, indicating many shared perceptions of gaming in academic libraries. Responses remained consistent for many of the closed-ended questions, as well, suggesting certain patterns of library and video game use. Furthermore, responses to questions concerning video game use corresponded to the results reported in Jones' Pew Internet & American Life study.

In recording qualitative responses during telephone interviews, every effort was made to record student comments verbatim. It is possible, however, that some information was lost or overlooked during the transcription process. Additionally, some telephone respondents provided qualitative comments to closed-ended questions, which is something the researcher did not anticipate. Online respondents did not have any opportunity to qualify their responses to closed-ended questions, which may have resulted in some data loss. The researcher was also concerned that particular questions were misinterpreted. Some questions were intended to discover student opinions of gaming in academic libraries in general, yet, in some cases, it seems that responses were specific to the video game implementation at the students' campus library, making generalizations difficult. Overall, the limitations of this survey may inhibit the application of its findings to a larger population.

Librarian Interview

In an effort to discover impact on library use and gain further insight into student perceptions of the D. H. Hill Library gaming service, an interview was conducted with a Learning Commons librarian. This particular librarian was chosen to participate in an interview based on their level of involvement in the implementation and monitoring of

the gaming service, established in a pre-interview question, “How are you involved with the gaming service?” The librarian possesses advanced knowledge of student feedback, service response, and circulation trends, thus providing the researcher access to anecdotal and quantitative evidence of student usage patterns and opinions regarding the gaming service. The interview schedule comprised three multipart questions and was intended to promote conversation and elicit more meaningful responses. The results of the interview reflect primarily anecdotal evidence of service usage and observational data reported by staff librarians. Circulation statistics and sampling data were not available to the researcher at the time of the interview, thus the lack of empirical data reported in the subsequent findings. The resulting anecdotal evidence was considered useful, however, as librarian responses reflected many of the same themes in support of and against the implementation of gaming in academic libraries, as well as provided the researcher with evidence of additional student uses for the gaming service.

- How has the gaming service impacted service desk usage since implementation? Do you believe the service has had an overall impact on building use (increased visitation)?

The response provided to this question indicates that there has been a noticeable increase in service desk usage since the implementation of the gaming service. Though it is impossible to attribute the observed increase in foot-traffic solely to the gaming service, it is considered a contributing factor. The librarian points to a growing student awareness of the gaming service, which has lead to a spike in usage. Additionally, anecdotal evidence suggests that some students are more comfortable approaching staff

with other service needs, as a result. Interestingly, as the games and accessories are circulated from the Learning Commons service desk, use of the service has served as a sort of ice-breaker, resulting in increased interaction between librarians and students.

The librarian gave careful consideration to a possible correlation between gaming service implementation and building usage, but was not comfortable providing a definitive answer to this question. Anecdotally, building usage and foot-traffic has increased since implementation. The librarian offered that some students have stated that they visit the library expressly to play video games. Other students indicated that they have brought their family and friends into the library just to see the gaming stations, which may point to increased visitation.

- Would you consider the gaming service a success? How so?

The researcher purposefully left this question ambiguous and allowed the librarian to interpret "success" as they saw fit, potentially allowing for a broader range of responses. The librarian first suggested some criteria for determining success: "My main criteria for determining success of the gaming service are: Positive feedback from patrons that use the service (this includes suggestions for improvement and donation of games and equipment); Positive feedback from student advisors, faculty advisors, and colleagues; Evidence of use of the service." This is only one such interpretation of success. Different individuals and groups with an interest in the service will have their own criteria for determining the success of implementation and should be considered in future studies.

The answer to the initial question was an unequivocal, *Yes*; the gaming service has been a success. In qualifying the response, the librarian first pointed to observed heavy use of the service since its inception. Throughout the interview, the librarian often referred to the service as "high-use" and "popular among most students". When asked why sustained use implied success, the librarian replied, "I believe that continued, steady use of the service indicates we are meeting a need." Most days, it was suggested, at least one of the gaming stations is occupied throughout the day. More often than not, during the afternoon, all gaming stations are in use. As the campus library is open 24-hours during the school week, those who study late into the night appreciate the service for its ability to keep them awake, playing video games for stimulation. A recent circulation report seems to support staff observations and reflects a continued increase in the circulation of games and gaming accessories, though the statistics available at the time of writing were limited.

The Learning Commons began circulating both video games and gaming equipment via the integrated library system at the end of July 2007. Table 13 reflects the number of charges per month by item type.

Table 13. Monthly Video Game Circulation Totals (Number of Checkouts Since August 2007)

Month	Item Type: GAME*	Item Type: GAMING**
Aug-07	381	584
Sep-07	856	1520
Oct-07	927	1866
Nov-07	884	1597
Dec-07	761	1601
Jan-08	425	914
Feb-08	510	1144
mid-Mar-08	292	624

*Item Type "GAME" describes Learning Commons video game titles.
**Item Type "GAMING" describes Learning Commons video game controllers and headsets.

Taking into account that the university fall semester begins in August and ends in December with the spring semester beginning again in January, the circulation numbers reflect increased use as the semester progresses. As the semester begins to wane and final examinations and course project deadlines near, gaming-related check outs begin to decline, though slightly. These figures reflect only the number of times gaming items were circulated and do not account for those students who may bring their own games or game controllers to the library or those who indirectly participate as audience members.

A review of total number of charges, by title, revealed some staggering circulation trends. Popular games, such as those frequently mentioned by survey respondents and forum participants, are among the most heavily circulated. At the time of writing, one copy of *Guitar Hero II* has been checked out 879 times, while the two library-owned copies of *Halo 3* have circulated over 1000 times since their addition to the library's video game collection. What is particularly interesting here is that both *Guitar Hero* and *Halo 3* are known for their reputation as multiplayer, party games, suggesting students prefer the games that promote collaboration. Multiplayer sports games, such as *Madden NFL 2008* (650) and *Wii Sports* (583), also boast impressive circulation numbers. The popularity of multiplayer games may also account for the higher circulation rate of gaming accessories, as a group of students may check out a number of controllers to play a single game.

This is considered significant as frequent use of the service indicates gaming impacts the way in which students are using the library, potentially drawing some

students to the building. Staff observation of the gaming stations seems to suggest the service is popular and stations are often occupied. The popularity of gaming reflects an implicit acceptance of the service and suggests gaming has appeal.

In addition, two new dimensions of use not previously reported came to light during the course of the interview. The first is the use of the gaming service for campus outreach and instruction. In qualifying the success of the gaming service, the librarian relayed a specific instance where the library's video games and equipment attracted an interdisciplinary team of Design and Computer Science students from the university's Digital Games Research Center. The students used the gaming service as a type of "observation lab" to evaluate game design techniques and hardware structural design. It was further suggested that these students study how gamers interact with the games and each other in the library environment. The librarian shared this anecdote:

> The CSC 482 (Advanced Computer Game Projects) and ID 500 (3D Game Development Studio) teams work together to design and build video games over the course of the semester. At mid-point in the semester, they meet in the library to demo the "first playable" version of their game. At the end of the semester, the groups will host a showcase of their finished games in the library. After each of these in-library sessions, the students make use of the library's video game consoles to play new video games and socialize. These library-based meetings will hopefully become an established part of the CSC 482/ID 500 courses in the future.

The service, in this case, was used for instruction, in cooperation with other entities on campus. This is significant as it suggests that gaming has application other than those most often cited throughout this research study—leisure or entertainment. The potential exists, then, for additional campus groups to use the service for training or other academic endeavors and incorporate the service into their curriculum. Perhaps those who

consider gaming inappropriate for an academic environment may reconsider their position as more scholarly applications become prevalent.

Additionally, the librarian suggested that the implementation of the service has generated new conversations between librarians and patrons concerning the changing role of the campus library, the nature of collections, and the purpose of Learning Commons. "I consider that communication to be another success of the service, but it's been more a pleasant surprise rather than a [criterion]." This also adds a new dimension of value; as such conversations are instrumental in driving the evolution of libraries. This observation is very much inline with student survey and forum comments. Survey responses indicated that students continue to view the library as a place for studying and conducting research, but a growing number of students now see the library as a social space and testing ground for emerging technologies. Comments to this effect were also posted to the *Talk* forum, where students in support of gaming in the library referred to a shift in collections and service offerings to include new technologies, such as iPods and notebook computers.

- What has been the student response to the gaming service? What feedback, if any, have you received?

The librarian was instructed to consider "feedback" commentary on the gaming service in any form; unsolicited e-mail, student surveys, comments made to service desk staff, or remarks overheard in the Learning Commons. Though feedback has been provided by students, faculty, staff, and non-affiliated patrons, the researcher was concerned primarily with student response. The librarian indicated that student response,

in general, has been positive, though negative feedback is not uncommon. According to the librarian, most negative feedback comes from a handful of individuals who repeatedly request the removal of video games from the library. Analyses of forum comments and survey responses suggest some students are vocal opponents to gaming in academic libraries, for a variety of reasons. Noise and questions of appropriateness are most often cited. Other students take issue with the placement of the gaming stations and the distracting nature of the games. The librarian's response indicates that feedback received from students encompasses similar themes. Positive responses concerning the service are similar in nature to forum and survey remarks, as well.

Positive Feedback:

Much like those surveyed, students who have offered positive commentary on the gaming service identify it as an ideal study break activity and something to do between classes. According to librarian, Learning Commons staff report comments of this nature to be the most common. Additionally, the librarian suggested that students often remark how "cool" it is to have video games in an academic library, as many students maintain a more traditional concept of libraries. Comments of this nature were also found in a survey of online forum posts. This concept is often referred to as the "wow" factor, as many patrons are surprised to find video games in this environment. There is no evidence that this sentiment persists beyond initial impact, however. Other positive feedback received comprises the social/multiplayer nature of video games, convenience of the service, and requests to grow the service.

Negative Feedback:

The librarian suggests that the distracting/disruptive nature of video games and philosophical issues with gaming in an academic environment comprise most of the negative feedback received by staff. There are a number of students who believe gaming is wholly inappropriate in the campus library, as the service does not lend itself to the promotion of scholarship and, in some cases, may hinder it by distracting and disturbing nearby students attempting to study. Other opponents to the service have voiced their displeasure with the noise generated by the video games and have suggested a move to revert to the more traditional "quiet" library environment. There are still others who consider gaming-related equipment a waste of money and, according to the librarian, mistakenly believe tuition money is used to purchase video games and support the service.

Interview Summary:

While little empirical data resulted from the interview with the Learning Commons librarian, the anecdotal evidence seems to support the findings resulting from an analysis of the online forum and survey responses. Students who have provided feedback to staff seem to support or decry the service for reasons similar to those reported earlier. Though staff continue to field negative comments and requests to remove the service from the library, student feedback is generally positive in nature and requests to expand the service are common, which is inline with the high number of game requests published to the *Talk* forum. Additionally, survey results showed that more than half of respondents used the service, further supported by daily staff observation of the

gaming stations, which indicates regular student use, at all hours of the day. Circulation reports offer additional evidence of growing use and reflect a continual increase in equipment and game usage. Despite the service's popularity and potential to attract students to the library, the librarian was hesitant to suggest a direct relationship between gaming service implementation and increased building usage. Still, feedback indicates that some students visit the library specifically to play video games, while others are attracted to the novelty of the service.

Discussion and Summary

This study resulted from a survey of the literature touting the decline of the academic library. Scott Carlson's article, *The Deserted Library*, suggested attractive off-campus spaces were competing with the campus library for student patronage, resulting in diminished gate counts. This observation sparked furious debate and spirited discussion concerning the perceived abandonment of the academic library. In many cases, reaction to falling gate count numbers and declines in service usage resulted in renovation projects and the introduction of new service initiatives. One such emerging service currently generating interest from librarians is gaming. It was suggested by Oblinger (2004) and Levine (2006) that the implementation of a gaming service in academic libraries has the potential to draw students into the building, as it plays to their multitasking nature and lifelong familiarity with video games. However, the study of video games in academic libraries is still in its infancy. Few studies focusing on the implications of implementing such a service have been conducted, thus far. Therefore, in an effort to adequately answer the research questions proposed in this study, the researcher employed three methods of data collection: An analysis of online forum

content, student surveys, and a librarian interview. The resulting quantitative and qualitative data provided insight into student awareness, use, and perceptions of a gaming service in an academic library setting. Responses and feedback also revealed general student perceptions of academic libraries and frequency of building use.

An analysis of the library-run online forum revealed that the gaming service is the most popular topic of discussion among *Talk* page participants, comprising 57 percent of all forum replies. This suggests that, at the very least, students are aware of the service and it is generating conversation. A closer review of thread topics and posted comments indicated that students had mixed feelings about the implementation of video games in the campus library, though a majority of thread replies were deemed positive in nature according to criteria devised by the researcher. Positive comments comprised a number of themes, ranging from game and equipment requests to praise for the service as a study break option. Negative comments, though fewer in number, were no less varied. The most common negative themes were noise and the non-academic nature of video games. These remarks were often met with rebuttals posted by students who favored gaming in the library. Only one student referred to the cost of service implementation forum-wide, whereas gaming-related costs seemed more of a concern to survey respondents and those students who provided feedback to Learning Commons staff. Forum participants, however, provided the greatest number of comments concerning the location and placement of the consoles and televisions. As the gaming stations are located in the middle of the Learning Commons, most students recommended that the equipment be moved to a more secluded area of the library, away from the computers and study areas.

What this analysis reveals is an overall positive view of the gaming service and general acceptance, especially under specific conditions.

As gaming is still a relatively new service offering in academic libraries, there was a noticeable absence of data collection instruments designed to measure the success of video game implementation and student perceptions of the service. The questionnaire used in this study was developed by the researcher and pre-tested before activation. Due to the small sample size and limited number of responses collected, generalizations to a larger population are not possible. Despite the limitations, the resulting survey data was considered valuable and mark an overall general acceptance of a gaming service in the library environment. Open-ended survey responses remained consistent with forum comments and reflected many of the same sentiments towards gaming in the campus library. According to the results, an overwhelming majority of those surveyed play video games and are well aware of the gaming service at the D. H. Hill Library, which seems to indicate that students are talking about the service. More than half of respondents believe video games would make a good service addition in academic libraries, for a variety of reasons. The most oft-cited benefit of the service was its use as a study break, which is inline with comments provided by forum participants and communicated to library staff. Conversely, nearly a quarter of respondents felt video games had no place in academic libraries and considered gaming to be inappropriate for a traditionally academic environment. Cost and noise were also cited as reasons for keeping video games out of academic libraries. Those who were unsure of their position seemed more willing to accept gaming in the library under specific conditions. The designation of a separate video game room or area proved to be the most appealing condition, which is consistent

with the number of conditional comments posted to the *Talk* forum. Again, location and placement of the games seemed to be a primary concern.

In regard to library use, survey results suggest a slight overall impact. Sixty-one percent of survey participants reported to have entered the library specifically to make use of the service, though more than half suggested they would not visit the library because of the video games. This can perhaps be explained by the concept of convenience, where students enter the library to play video games only if they happen to be in the vicinity of the building. A "visit" to the library may have been interpreted as leaving one's dorm or current location, expressly to go play video games in the library. Regardless, an overwhelming majority of respondents felt the gaming service had no impact on the number of visits they make to the library, though a quarter reported a slight increase in their number of visits. However, respondents overwhelmingly agreed that the gaming service has the potential to attract students to the library. As many of the negative and conditional comments resulted from the placement of the gaming stations, it would be interesting to see if a relocation of the equipment would impact service use and the overall reception of video games in the library. A change in location could perhaps lead to increased service usage and general appeal, which may, in turn, attract more students to use the service.

In an interview with a librarian involved in the implementation and monitoring of the gaming service at the D. H. Hill Library, the researcher was provided with ample anecdotal evidence in support of previous findings. Much like forum analysis and survey results, student feedback collected by staff suggests an overall positive view of the service, though some detractors continue to voice their displeasure with the games.

Those who have provided negative feedback suggest the library is not doing enough to address the noise issues and often comment on the inappropriateness of gaming in an academic environment. Comments of this nature were also found in the *Talk* forum and responses to open-ended survey questions. Despite the number of complaints, circulation statistics and general observation indicate the gaming stations are frequently used all throughout the day, which has resulted in a noticeable increase in the amount of foot-traffic within the Learning Commons. There is, however, a lack of empirical evidence to support this.

Conclusion

Student opinions and attitudes will continue to push the evolution of library services. According to previous studies, those libraries that have taken a user-focused approach to service implementation have experienced a marked increase in building and service use. Results of this study show students continue to view the library as a place for conducting research and studying, but also reveal a number of students consider the library a place to socialize and relax. Gaming seems to fit with this hybrid edutainment model of modern academic libraries, as these environments cater to the Net Generation's reputation as multi-taskers and collaborative learners. Overall, implementation of the gaming service appears to have resulted in at least a slight impact in building and service use, though further investigation is necessary.

In considering the research questions of this study, it seems that a majority of Net Generation students support gaming in the academic library and consider the service to have a number of benefits. Forum comments, survey responses, and student feedback

indicate regular use of the service, especially as a study break. In some cases, students reported to enter the building for the express purpose of playing video games, while others choose to use the service only when it is convenient. An overwhelming majority of survey respondents see the potential for gaming to draw their peers to the library building. Anecdotal evidence suggests increased traffic in the D. H. Hill Library since service implementation, though it is not possible to attribute this solely to the presence of the video games.

In a survey of 30 forum threads, comprising 69 gaming-related posts and the analysis of 97 questionnaire response sets, the researcher found student comments regarding the gaming service to be consistent and mostly positive. Students like gaming because it helps them relax and consider it an enjoyable study break activity. Having it in the library makes the service convenient. Students who oppose gaming in the library suggest that video games do not promote scholarship and thus, have no place in an academic environment. However, interview data suggest that video games do have scholarly application as evidenced by several instances of students using the equipment for instructional purposes.

Additionally, forum comments and survey responses suggest ways in which implementation and application can be improved; most notably, careful consideration of console placement and location of the service. Student concerns, such a noise or the distracting nature of the games, may be addressed by the creation of a gaming room or relocation of the devices. It seems libraries may also benefit from aggressively marketing their gaming services to increase student awareness and communicate perceived benefits to the campus community. Several academic libraries have reported varying success with

library-hosted gaming nights or video game events and tournaments, which may also increase awareness and service use. In addition, gaming may provide outreach and instructional opportunities that tie in with the mission and goals of other departments on campus.

Overall, the results of this study suggest that gaming in the academic library environment is generally well-received and has the potential to impact building usage. The study, however, was impacted by time constraints and other limitations, which limits the applicability of the results. More in-depth quantitative research is required to establish a correlation between gaming service implementation and increased gate counts, as this study relied heavily on anecdotal evidence to suggest such a relationship. The researcher recognizes that the survey instrument can be improved upon and refined for future studies of this nature. Sample size should also be increased to allow for more robust data collection that can be extrapolated to a larger population, as any generalization resulting from this study may be questionable. This study is just one step toward evaluating the potential of video games in the academic library. Student feedback and qualitative responses resulting from this study may prove useful in identifying areas for future research.

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Appendix A – Questionnaire

Study: Implications for Implementing Video Game Service In Academic Libraries

1. In what year were you born?

- ☐ Prior to 1982
- ☐ 1982 or after

2. What is your current student status?

- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ I am not an undergrad
- ☐ I am not currently a student

3. Do you consider yourself a frequent visitor to the campus library?

- ☐ Yes
- ☐ No

4. Please indicate your level of agreement to the following statements concerning the campus library building by selecting the appropriate box:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The library building is a place for conducting research and studying					
The library building is a place for social and leisure activity					
The library offers services that attract me to the building					
The library should offer services that may not be considered academic or traditional					

5. Have you ever played video games?

□ Yes
□ No

6. In general, do you believe video games would make a good service addition in academic libraries?

□ Yes (please explain below)

6a. If **yes**, what do you consider to be the benefit(s) or value of a gaming service?

□ No (please explain below and answer question 7)

6b. If **no**, what do you consider to be the drawbacks of a gaming service?

□ I don't have an opinion / Not Sure (please answer question 7)

7. If **no or no opinion/not sure**, would you be more willing to accept video games in academic libraries under certain conditions? (Example: A separate location within the library)

□ Yes (please answer question 8)
□ No (skip to question 9)

8. If **yes** to question 7, which of these conditions (if any) would make a gaming service in an academic library more appealing?
(Please check all that apply)

□ Designate a separate "gaming" area
□ Require television sound be muted
□ Strict enforcement of library noise policy
□ Offer gaming by appointment/reservation
□ Limit hours the service is available
□ More extensive offering of titles and consoles
□ None of these choices make gaming appealing
□ Other: _____

9. Are you aware of the gaming service provided by the D.H. Hill Library?

- □ Yes
- □ No

10. Do you think such a service has the potential to attract students to the campus library?

- □ Yes
- □ No

11. How has the gaming service impacted the number of visits you make to the physical library?

- □ Significant increase in number of visits
- □ Slight increase in number of visits
- □ No impact on library visits
- □ Slight decrease in number of visits
- □ Significant decrease in number of visits

12. Do you use the gaming service?
(Example: Play video games in the library, check out video games/controllers)

- □ Yes (please answer question 13)
- □ No (please answer question 14)
- □ I tried it once, but probably never again

13. If **yes**, on average, how often do you use the service?

- □ Very infrequently, but a few times a semester
- □ Once a month
- □ Once every two weeks
- □ Once a week
- □ 2-3 times a week
- □ 4-6 times a week
- □ Daily

14. If **no**, do you ever see yourself using the gaming service?

- □ Yes
- □ Maybe
- □ No

****

If you answered **NO to the last question, please skip to the final question if you wish to provide additional comments. Otherwise, your participation in this survey has ended and I thank you for your time. If you have used the gaming service or plan to, please continue on to question 15.

****

15. Are you more likely to visit the physical library because of the gaming service?

□ Yes
□ No

16. Have you ever entered the library specifically to use the gaming service? (Play video games, watch friends play)

□ Yes
□ No

17. Have you ever spent more time in the library than anticipated because of the gaming service? (Playing games, watching friends play, waiting to play)

□ Yes
□ No

18. Are there any further comments you would like to make concerning the library's gaming service?

This ends your participation in the study.
Your time and effort are greatly appreciated. I thank you for your assistance with my study.

Appendix B – Email Consent Letter

Email Consent Letter

Study: Implications for Implementing Video Game Service
In an Academic Library

03/03/2008

Dear N. C. State Undergraduate:

I am a graduate student from the University of North Carolina at Chapel Hill conducting a survey about gaming in academic libraries for my Master's Paper. Recent statistics have indicated that current generation students are abandoning the physical library building for more inviting environments offering services that appeal to them. The purpose of this research study survey is to determine the desirability and effects of a gaming service in an academic library. You were selected from the current student directory as a possible participant in this study. Approximately 150 undergraduate students from North Carolina State University are expected to participate in this study. Participation in this study is completely voluntary and you may choose not to participate for any reason. Please do not forward this message to anyone, as the results could be skewed. If you choose not to participate, simply delete this e-mail.

If you agree to participate in this study, please click on the link below and complete the questionnaire. No personal or identifying information is to be collected. All resulting data will be analyzed and written up as part of my Master's Paper. All data obtained in this study will be reported as group data. I will ask you questions about your knowledge and use of the gaming service at the D. H. Hill Library, as well as your perception of the physical library building and general student behaviors. Completion of the questionnaire should take no longer than 15 minutes. You are free to answer or not answer any particular question and have no obligation to complete answering the questions once you begin. There will be no follow-up contact and your participation ends upon completion of the survey.

Your participation is anonymous. I will not collect e-mail addresses, IP addresses, names, or identification numbers. The only demographic information to be collected is your student status and year of birth. You are asked not to submit any identifying information with the questionnaire. Only I, as the principal investigator, will have access to the resulting data.

There are no expected risks to you for helping me with this study and the only cost associated with participation is your time. The results of this study may benefit the campus community, but there may be no direct benefit for you. There will also be no compensation for participation.

Please contact me with any questions or concerns at (919) 815-0249 or by email: clossey@email.unc.edu

You may also contact my faculty advisor, Jeffrey Pomerantz, at (919) 962-8064 or by email:
pomerantz@unc.edu

All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at (919) 966-3113 or by email to IRB_subjects@unc.edu. If you contact the IRB, please refer to study number 08-0206.

Thank you for considering participation in this study.

Sincerely,

Brian Clossey
SILS Graduate Student
UNC-CH

By clicking on the following link and completing the survey, I agree to be a participant in this study:

http://uncodum.qualtrics.com/SE?SID=SV_0wEV6l6LaSQ810M&SVID=Prod

Appendix C – Telephone Script

Telephone Consent Script

IRB Study #__08-0206_____

Hello, my name is Brian Clossey. I am a graduate student from the University of North Carolina at Chapel Hill conducting a survey about gaming in academic libraries for my Master's Paper. You were selected at random from the NCSU student directory as part of a sample to participate in this research. Your participation in this survey is completely voluntary and you may choose not to participate for any reason.

I will not be collecting any personal or identifying information, so any answers you provide will be anonymous. Would you be willing to participate in my study? (If yes, proceed; if no thank them for their time and end the call). By answering "yes," you are giving me your consent to analyze and write up your answers as part of my Master's Paper.

Thank you for agreeing to participate. Allow me to explain the process and a little about the survey:

I will ask you questions about your knowledge and use of the gaming service at the D. H. Hill Library, as well as your perception of the physical library building and general student behaviors. I will be reading the questions from a questionnaire crafted by me, the principal investigator for this study. I will transcribe your responses for future analysis. You may skip any question and end your participation at any time. All results will be analyzed and written up as part of my Master's Paper. Please allow me to fully finish asking the question before you respond.

The purpose of this research study survey is to determine the desirability and effects of a gaming service in an academic library. I estimate that approximately 150 students will participate in this study. The survey should take about 15 minutes once I start asking questions. If you choose to skip a question for any reason, I will just move on to the next one.

All the information I receive from you by phone will be strictly confidential and accessible only to me. I will not record your name. I will not identify you or use any information that would make it possible for anyone to identify you in any presentation or written reports about this study. If it is okay with you, I might want to use direct quotes from you, but these will not be attributed to you by name. When I finish with all the phone surveys from everyone who has agreed to participate, I will group all the answers together in and report them in my Master's Paper. There will be no way to identify individual participants. There will be no follow-up contact and your participation ends upon completion of the phone survey.

There are no expected risks to you for helping me with this study. The results of this study may benefit the campus community, but there may be no direct benefit for you. There will also be no compensation for participation.

Do you have any questions?
You may call me at 919-815-0249 with questions about the research study. All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu. If you contact the IRB, please refer to study number 08-0206.

Do I have your permission to begin asking you questions?

Appendix D – Librarian Interview Schedule

Librarian Interview Schedule:

Introduction: I am studying the implications for implementing gaming services in academic libraries. I am interested in student perceptions of the service and overall response. Any information you may be able to provide will prove useful and be greatly appreciated.

- How are you involved with the gaming service? (pre-interview question)

- How has the gaming service impacted service desk usage since implementation? Do you believe the service has had an overall impact on building use (increased visitation)?

- Would you consider the gaming service a success? How so?

- What has been the student response to the gaming service? What feedback, if any, have you received?

Appendix E – Librarian Interview Consent Form

Interview Consent Form

I'd like to invite you to be part of a research study entitled "Implications for Implementing Video Game Service in an Academic Library."

Purpose:
The purpose of this research study is to determine the desirability and effects of a gaming service in an academic library. Responses resulting from this interview will be documented and analyzed for use in my Master's Paper, as part of a graduation requirement at the School for Information and Library Sciences at the University of North Carolina at Chapel Hill.

What Will Happen During the Study:
You were selected to participate in an interview based on your level of involvement in the implementation and monitoring of the gaming service at the D.H. Hill Library. You will be the sole librarian participating in this study.

As part of the study, you agree to be interviewed for approximately 30 minutes during the month of March. Once you agree to be interviewed, a time will be scheduled by email.

Interview questions cover the use of gaming-related equipment, service usage, and student feedback. The interview will be structured to allow for opportunities for you to provide additional information as it pertains to the subject. I will transcribe your responses as the interview progresses. Your name will not be included on the interview schedule or in the final paper, and no follow-up contact will be made.

As the principal investigator, I alone will conduct the interview and keep all materials in my possession. At the completion of the study, all notes and materials from the study will be destroyed.

If you have any questions or concerns about being in this study, please contact me, Brian Clossey at (919) 815-0249 or clossey@email.unc.edu, or my faculty advisor, Dr. Jeffrey Pomerantz at (919) 962-8064 or pomerantz@unc.edu.

Your Rights:
Your participation in this study is voluntary. You may skip any specific questions you choose without stating a reason. If you decide to be in the study, you have the right to stop the interview at any time and end your participation.

Institutional Review Board Approval:
If you have any concerns about your rights as a participant in this study, you may contact the UNC-CH IRB at (919) 966-3113 or at IRB_subjects@unc.edu. If you contact the IRB, please refer to study number 08-0206.

I have had the chance to ask any questions I have about this study, and they have been answered for me. I have read the information in this consent form, and I agree to be in the study. There are two copies of this form. I will keep one copy and return the other to the investigator.

_____ _____

(Signature of Participant) (Date)