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Selection Criteria for Academic Video Game Collections

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Purpose --As higher education begins to take games and gaming seriously, academic libraries will begin to build video game collections to support research and learning on campus. This article discusses their relevance in academia and proposes useful criteria for building video game collections in academic libraries.

Design/methodology/approach – The authors examined collection development policies of selected academic libraries as well as research discussing the cultural, historical, and educational value of video games. The authors also examined video game playback devices, games and their packaging, and popular game websites.

Value/Originality -- Establishing video games in libraries is not a new topic, but most discussions have been focused on public libraries or the entertainment value of video games in academic libraries. This study focuses on games as serious objects of study in academia and best practices for video games collections development.

Findings – The authors outline selection considerations for developing video game collections and propose the following criteria for selecting games: physical characteristics, teaching and learning principles present in the games, subject matter and content, and the cultural and historical value of a game.

Keywords: *video games, selection criteria, collections management, academic libraries*

Paper type Conceptual paper

It is difficult to talk about gamers as a monolithic group anymore—the demographics are now so diverse that multiple generations have grown up with gaming. The average gamer is now thirty-three years old and has been playing games for twelve years (Levine, 2006, p.7).

Academic, public, and school libraries are building video game collections for purposes as varied as leisure, supporting research and supporting learning. Librarians are talking about video games at conferences and writing about them in blogs, but very little has been written in the professional literature about developing video game collections specifically for academic libraries. The purpose of this article is to provide an overview of video games collections in libraries in general, identify resources that facilitate collection development, and propose the following criteria for building collections in academic libraries: physical characteristics, implications for teaching and learning, subject content, and the cultural and historical value of

games. All of these criteria are important factors in making selection decisions for academic library collections.

In recent years, video games have become the focus of serious academic study in a variety of fields, including media and cultural studies, visual arts, and educational psychology. Research initiatives based at the Stanford Humanities Lab, Georgia Tech, MIT and elsewhere explore the cultural significance of video games and their potential uses in education. In universities across the country, video game courses are being taught in graphic arts, computer science, media studies, and humanities departments. Examples include "Games and Dreamers: the Rise of Computer Game Culture" (Wake Forest University) and "Computer Games and Simulations for Education and Exploration" (MIT). Peer-reviewed academic journals devoted to games include *Games and Culture,* and *Simulation and Gaming.* Research on games appears in journals in area studies, comparative literature, ethics, and critical pedagogy.

Academic libraries have only recently become involved in the world of video games and gaming. Carnegie Mellon University Libraries has developed a Library Arcade featuring games to teach students research skills. In September 2007, McMaster University in Hamilton, Ontario hired its first immersive learning (gaming) librarian, whose role is to use "new technologies like gaming and virtual worlds to make libraries relevant to today's tech-savvy students (Bubak, 2007). Libraries at Wake Forest University and Georgia Tech offer recreational gaming nights as outreach to students (Rice & Harris, 2007). Many initiatives related to video games in academic libraries focus on instruction and outreach to students.

However, academic library collections, built to support learning and research in their institutions, are also building game collections to support research in many fields. The University

of Illinois at Urbana Champaign Library's Gaming Collection's mission (UIUC Gaming Collection, 2008) emphasizes the various disciplines and interests the collection supports:

> The UIUC Gaming collection was created to support a wide variety of campus interdisciplinary programs, scholarly research, and student needs involving video games. The collection supports disciplines such as psychology, speech communications, computer science, information science, literature, and others which are investigating the technology, game world structure, narratives, and social interactions generated by the video game phenomenon.

The policy goes on to describe the goals of the collection, and it enumerates the types of materials included by platform or format. As video games go mainstream in academia, it is important for academic librarians to establish clear evaluation criteria for selecting and building game collections.

Rethinking authority: four categories of selection criteria

Collection development policies in academic libraries ensure a well-balanced collection that meets users' needs. Strong policies help justify budgets and also provide support for challenges to academic freedom. In the world of print and electronic collection development, librarians consult review sources such as *Choice*, *Kirkus Reviews*, or *Publisher's Weekly* to inform their selections. For video games, parents, K-12 educators and public librarians often turn to the Entertainment Software Rating System.,which was established by the video game

industry to assign age and content ratings to games, and to provide objective assessments of violence, sexual content, genre, and gameplay.

Some game reviews can be found in traditional print media. For example, the *New York Times* and the *Washington Post* run regular columns discussing and reviewing games. However, there is a wealth of online resources that review the content of games, and outline their content, that is not intended for an academic audience. Popular gaming magazines and websites such as Gamespot.com, Gamestop.com, Gamefaqs.com and IGN.com provide previews and reviews written by staff writers. Although not intended for an academic audience, these sources provide information about game play and content, as well as evaluation and criticism. Additionally, user-generated game information, such as walkthroughs and game FAQs, written to help other gamers complete games provide selectors with detailed information about content and educational value of games.

In addition to consulting a different set of resources for information about games, selectors also consider different criteria for selecting games. The notions of authority, currency, reliability, and ease of navigation, associated with print and online resources, might not be the only criteria that apply to video games. Academic librarians need to consider other factors in determining how to build their games collections. Educational value does not always lie in the game's content, but may relate to how a game is played, how skills are reinforced, or how players interact—factors that are not obvious from ERSB ratings or packaging. A game may achieve a status as culturally or historically significant despite (or because of) violent content. Such a status makes it valuable to researchers in many disciplines. The selection criteria below are meant to serve as guidelines for academic librarians seeking to build a video game collection that will serve various segments of their community.

I. Practical considerations : physical characteristics and playback equipment

Video games are produced by entities, large and small, for profit and not for profit, to be played on a variety of playback devices. Many games are only compatible with one platform and therefore, playback devices are of particular concern for video game selectors. In general, games are developed for PCs (Mac or Windows), consoles, or handheld systems. Currently, there are three major console and handheld system manufacturers: Microsoft, Nintendo and Sony. Microsoft's current system is the XBOX 360, an update to the original XBOX. Nintendo most recently released Wii, following generations marked by the GameCube, Super Nintendo, and the original NES. Nintendo has also produced generations of handheld "GameBoy" systems, and the most recent DS. Sony recently released the third generation of their Playstation console, and rivals Nintendo's handheld systems with the Sony PSP.

Some games are released for a single platform, while others release versions for various platforms. Games developed for more than one platform may vary slightly depending on the console it was developed for. This is especially true of games developed for Wii, which has controllers that are significantly different from other platforms. Likewise, a game may vary slightly in the version for handheld systems and the console version. Video games are generally playable only on a single playback device. A CD or DVD for one console will not play in another console. If a library wants to collect the same game for different consoles, the selector would need to purchase additional copies of the title, one for each playback device.

Before a video game collection is established, policies should be in place about both games and playback equipment. For example, libraries may choose to collect games only or also

make consoles available to users. This debate parallels that of video playback equipment. Whether to collect a DVD player, videocassette or audio cassette player is a similar discussion, and libraries may turn to past practice to determine their policies on collecting consoles. Even if a library does not decide to collect consoles, it would be prudent to consider which consoles might be collected in the future, in case this decision is later overturned.

Libraries that do collect consoles might keep in mind the need for accessories like extra controllers, memory cards and batteries. Some consoles required adaptors to connect additional controllers for multi-player games, and many require adaptors to connect consoles to computer monitors, instead of televisions. Although newer consoles generally have built-in wireless cards, past generations of game consoles required users to purchase wireless cards or adaptors for online use.

II. Teaching & Learning

Educational games have been used in classrooms for decades, and they teach everything from keyboarding skills to American history. Popular, non-educational games are commonly viewed as pure entertainment at best and promoters of passivity and violent behavior at worst. However, a growing body of research indicates that many types of video games promote learning in important ways. In a recent study, Gentile and Gentile (2008, p. 139) found that video games use pedagogical techniques that lead to good learning: "requiring learning to a high level, distributed practice with feedback, overlearning to automaticity, reflection and practicing inquiry skills." Popular video games may not be designed to provide profound educational experiences for their players, but they use good pedagogy to teach players to master the game.

Video games sharpen skills that are important to employers such as collaboration, active learning, and learning through failure. For instance, multi-player games require players to communicate and collaborate in complex ways, replacing concrete goals with social interaction (Kirriemuir & McFarlane, 2004, p. 15). The *World of Warcraft* is an example of an extremely popular, complex, multiplayer game that requires players to work together in teams to reach a common goal. All multi-player games, regardless of whether the game encourages players to collaborate or compete, teach skills beneficial for teamwork. Other important skills in the workplace are the ability to multitask and learn through experience. Many games progress in a non-linear fashion, requiring "the ability to process information in parallel at this same time from a range of different sources;" and providing a model of "doing in order to learn, rather than learning in order to do" (Kirriemuir & McFarlane, 2004, p. 17).

Selectors might consider their institution's academic programs, in deciding which games to purchase. Games that use small motor skills have been found to help medical students. A study conducted at the Banner Good Samaritan Medical Center in Phoenix found that surgical residents who played *Kororinpa: Marble Mania* for an hour before performing virtual gall bladder surgery performed 48 percent better than those who didn't, ostensibly because of the precise hand-eye coordination training that playing video games provides (Modern Healthcare, p. 36). Another study of doctors at Beth Israel Medical Center in New York City found that "a surgeon's videogame skills, or lack thereof, explained 31 percent of the variance in laparoscopy performance" (Rosser, 36). Although the content of *Marble Mania* is wholly unrelated to medicine, its game play helps professional improve skills.

One of the best known researchers on video games and learning, James Paul Gee, identifies two characteristics of video games that provide players with good learning

experiences: 1) players assume a role or identity and need to navigate a new environment with an unfamiliar set of givens, or 2) players "build and maintain a complex entity" and handle the interplay among variables. (Gee, 2003, p. 1) The experience of moving between identities and worlds provided in many video games build real world skills that enable students to adapt quickly to new contexts by experimentation. Examples of these kinds of games include simulation games, which simulate an aspect of the real world and require players to make decisions based on an unfamiliar set of conditions. For example, *Democracy*, whose players assumes the role of a democratically elected leader who must address social problems while maintaining the support of various interest groups. *The Sims* series simulates the daily lives of characters in a fictitious town where players learn and adapt through experience. Gee outlines thirty-six learning principles that he associates with video games that teach. Although his principles are too numerous to outline here, they are required reading for any librarian interested in building an intellectually challenging games collection.

III. Content

Content is a complex concept in relation to video games. The "aboutness" of a game is not as easy to pinpoint as it is for a book, DVD, or even a website. Generally, games require a series of actions that take place within a specific context, and both the action and the context comprise the content. By successfully performing actions, players build skills that allow them to advance to more sophisticated or challenging levels. For some games, the context serves as a mere background for the action. The players may learn historical facts, for example, but the point of the game is to build skills.

However, many games build skills that players can use in “real world” contexts. Games developed specifically to educate and entertain ('edutainment") have been around for decades. In 1980, Atari BattleZone was developed to train soldiers and the Miracle Piano system from the mid-1980s connected game consoles (and PCs) to a keyboard and then led users through piano lessons, as well as general music skills like reading music and rhythm. Today, Nintendo's Brain Age is a popular game for all ages that uses puzzles, logic and word games to sharpen thinking skills. The Serious Games Networking Portal (2008) defines serious games as “… computer and video games used as persuasion technology or educational technology. They can be similar to educational games, but are often intended for an audience outside of primary or secondary education. Serious games can be of any genre and many of them can be considered a kind of edutainment.” Serious games also include training simulations, or skill-building games that can be used in k-12 education, workforce training, healthcare, the military, and public policy.

Many games that were not developed specifically for academic or training purposes can have educational content. SimCity is a mainstream game about city planning. Players build transportation systems, industrial complexes, housing and decide on tax rates. They must deal with the aftermath of natural disasters and learn risk management. Other mainstream games, especially role-playing games are set in historical times. For example, the Civil War and Pearl Harbor are popular game settings. Other games are set in trauma centers, veterinarian hospitals or ambulances.

The vast majority of video games were not designed for educational purposes. In fact, they are often maligned for encouraging violent behavior among young people. Recent research has confirmed the popular belief that violent video games can cause aggressive behavior in children and adults: "when large numbers of youths (including young adults) are exposed to

hours of media violence (including violent video games), even a small effect can have extremely large societal consequences. (Anderson, 2004, p. 121) In order to avoid (or to find) the most violent games, selectors can use ESRB ratings, found on packaging, promotional materials, online reviews, etc, as a gauge for age appropriateness and such content as violence, sexuality, substance use, profane language, humor, and gambling.

In addition to these ratings, many game sites publish walkthroughs, which are step by step guides to the game, either written by professional reviewers or contributed by players. They provide hints for players to progress through difficult sections of the game and contain greater detail about the educational and subject content a game than packaging and reviews. Popular websites for walkthroughs include IGN.com and Gamespot.com. Although not all walkthroughs are equally comprehensive, they are a good tool for collection development, unique to video game collections.

IV. Historical and cultural value of video games: collecting classics

Although the format is only a few decades old, some video games have already achieved the status of classics, and are housed along with manuscripts and papyrus in museums and archives. Selectors building a retrospective collection can consult lists of video game classics, such as the one compiled by the Stanford Humanities Lab, which recently announced its list of the ten most important video games of all time: Spacewar! (1962), Star Raiders (1979), Zork (1980), Tetris (1985), SimCity (1989), Super Mario Bros. 3 (1990), Civilization I/II (1991), Doom (1993), Warcraft series (beginning 1994) and Sensible World of Soccer (1994). These titles were selected as establishing game genres that endure today: "real time strategy overlaid

on a narrative," adventure games, so-called god games, where players are omnipotent, and games like SimCity in which there is not criteria for winning (Chaplin, 2008, p. E7). All these attributes continue to exist in popular video games today.

In deciding whether a title constitutes a classic, it is also useful to observe how its commercial manufacturer supports it over time. Just as a print classic might go through several editions, if a manufacturer upgrades a game to be playable on a new generation console then it is considered to have enduring value, at least commercially. Today, manufacturers are developing playback devices that will preserve the games across generations. For example, Nintendo's newest generation console, Wii, features a virtual console that allows users to download "classic" games made for previous generations of Nintendo consoles, for play on the Wii. Also, manufacturers themselves define "classics" when they publish compilation disks.

Finally, some games may be considered classics because the evocative of a certain time or place. Some contain characters and storylines from works of fiction or motion pictures that have captured the public's imagination. If J.R.R. Tolkien's *Lord of the Rings* has the literary or cultural value to be included in a library's collection, selectors might also consider collecting the video game. Additionally, twenty and thirty-somethings may include video game characters among their fictional heroes and they may refer to them in their creative and academic endeavors. Storylines and characters are not the only markers of classic status. Just as Jack Kerouac's *On the Road* evokes a historical moment and a set of values, perhaps the gameplay options in Sim Societies (which calls into question conventional notions of winning and losing) may come to represent the cultural values held by today's generation of gamers.

Conclusion

The significance of video games in our culture is still an open question, and one that academics are debating in fields as diverse as educational psychology, computer science, and media studies. However, academic libraries are recognizing the need to start collections before the debates conclude, if only because academics ought to have access to video game collections in order to formulate their own opinions. At academic libraries that are integrating video games into information literacy programs, or are offering video game programs to students, the need for a well-balanced collection is even greater. Video games' penetration in society, and especially into the current generation of college students' lives, is well established and undeniable. It makes sense at this point to respond with collections that reflect this movement.

Creating these collections from scratch is no easy task: the number of new releases is increasing, hardware rapidly becomes obsolete, and few, if any, recognized authorities regularly review and recommend games for an academic audience. For video games, some of the most respected reviewers are users, who generate tools describing games to help other players. The experts that librarians turn to for information about games are the users themselves. Collection development policies may provide selectors with a useful starting framework, but selecting "significant" video games might require librarians to consider a different set of criteria than we would for print or online collections.

The selection criteria suggested include: physical characteristics, teaching and learning principles present in the games, subject matter and content, and the cultural and historical value of a game. Physical characteristics are an important consideration because of the vast number of playback devices, and the fact that games made for one device will often not play on another. Even systems developed by the same manufacturer may not play games developed for previous versions of their own consoles. Teaching and learning should be considered separately from

content because of the research suggesting that games without obviously educational content might still have educational value. Finally, as games become part of society, some titles are becoming "classics," and are ported onto multiple platforms, and mentioned in academic research. Selectors might take into consideration the historical significance of title, when deciding whether to include it in the library's collection.

In conclusion, it is the authors' intention to contribute to a nuanced discussion of video game collection building practices in academic libraries. This discussion treats video games as both entertainment and a serious format that contributes to the academic dialogue in a variety of disciplines. These multiple aspects of video games present challenges and opportunities to academic librarians.

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