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From game studies to bibliographic gaming: Libraries tap into the video game culture

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From Game Studies to Bibliographic Gaming: Libraries Tap into the Video Game Culture

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Take a digital game world, throw it in a blender, add some information and research skills, sift out the word *educational* and maybe, just maybe, we have a new and effective way to teach our students bibliographic instruction.

As the video game industry momentarily grows into one of the most dominant forms of digital entertainment, moving from geeky adolescence into a mature entertainment juggernaut reaching audiences young and old, the academic community begins to pay heed. In reality, the recent academic focus on “game studies” is actually a return to an educational examination of video games that began in the 1980s when personal computers and their pre-packaged games began to spread. This re-examination of educational gaming has been spawned by video game ubiquity as well as the commercial success of the gaming industry.

There is also significant evidence suggesting that enhanced problem-solving skills and knowledge have become unpredicted byproducts from well-developed stories in games. Subsequently, there are innovative game studies courses and programs popping up all over university curricula and campuses. Programs from communication studies and media studies to English and computer science are all incorporating elements of game studies into their programs. Some new programs are being formed, shyly avoiding the video game label, while others, such as the University of Wisconsin-Madison’s groundbreaking Games, Learning & Society Program, boldly proclaim their focus on games. If game studies is becoming a widespread area of research, should information science also be looking at ways of incorporating this area into its field, and if so, how can this integration be appropriately accomplished?

Gaming in the Library

In a 2003 poll, 69% of teenagers reported that

they spend time playing video games each week and 25% of those polled reported playing at least 11 or more hours per week (Gallup Poll, 2003). Educators and librarians need to be aware of these kinds of statistics if we want to know our users. In truth, librarians and information scientists are already paying attention to the video game phenomenon, either by conscious strategic planning and programming or by fulfilling user requests for information on the fly at the reference desk. Video game sales continue to grow, and as gaming becomes a permanent pastime for teenagers, public libraries in particular are realizing the need to re-examine the scope of their collections and services by looking at the gaming medium from a fresh perspective. New approaches include developing collections of video games, developing and providing special gaming programs by hosting gaming tournaments (otherwise known as LAN parties for the gaming community) and offering gaming advisory services similar to the traditional readers’ advisory services provided for the hard core reader seeking recommendations from well-read librarians. (See the papers by Galloway, Gullett, Neiburger in “For Further Reading.”)

Of course there are legitimate concerns surrounding the decision to support or not support video games as a new medium for libraries, including the expense of supporting various gaming platforms. However, many of the arguments against moving into the video game realm seem a little *déjà vu*, mirroring the arguments against the collection of film and other non-book media in libraries. Librarians who fought to collect films and music are aware that their original arguments supporting these new collections, which insisted that alternative mediums would draw people into the library to expose them to the book collection, have not proved at all accurate. And perhaps that is a good thing. New types of collections invite new types of

users, and the library becomes a more multifaceted place. Music lovers are not necessarily readers, nor should it be our mandate to insist that they should be. Of course, video game appreciation has not yet reached the same acceptance level as music appreciation. Nonetheless, with new technologies, the way people use libraries is changing, and the collections and services offered by libraries are consequently changing and evolving to stay relevant and to meet the needs of the public.

Along with staying abreast of the latest and greatest video games, it is important for information specialists to be aware of the technologies at work in the video game industry. For library collection purposes, adding video games is not quite as straight forward as purchasing music or film on DVD. There are several platforms or gaming consoles to consider when purchasing games, so deciding which one to support could be a difficult and costly decision. Planning and strategy will be key for the library to be successful in these collection endeavors.

Gaming as a Learning Tool

Along with the public interest in supporting video games and game playing in libraries, librarians and information scientists are also analyzing video games from the learning theory perspective, particularly in the academic library community where bibliographic instruction plays an important role within curriculum and lifelong learning.

The flow of information in the digital age is changing the way publishing takes place, which has an impact on research techniques as new mediums and tools are learned and assimilated into the scholarly research process. As well, as people begin to take on “real” virtual identities online, virtual societal rules are being formed as the rules for the physical world are not always appropriate or sufficient. One area that has recently been identified as something particular to the online world – and specific to video games – involves the development of virtual economies. Non-existent fictional items used in game-play are being bought and sold on eBay (Steinkuehler, 2005). Incredibly, virtual game currencies are at work in our real world. This economic anomaly alone seems to indicate the importance of paying attention to the influence of video games in our society.

The power of video games to teach cannot be denied. Scholars in the field of game studies are well aware of the peripheral and accidental learning that goes on behind the scenes as a child, teenager or adult engages in an interactive video game. Harnessing the power and creating the recipe for success are more difficult. Remember the failure of the recent past when educators espoused the glories of edutainment, only to watch as that industry failed to leave the ground. Given that the idea to use games to teach is not a new concept, why should we go down this road again? One reason has to do with the generation of younger people and their use of technology (Prensky, 2001). They are born and bred using games. They are being trained to be visual learners with a preference for active learning and intolerance for purely passive learning in traditional lecture-style teaching. The potential for building a video game to incorporate knowledge and information is appeal-

ing to educators. Librarians with an aptitude for technology and an interest in promoting active learning in training modules will find the idea of incorporating library instruction in a video game just as attractive. It's one way to get beyond the boredom that students often associate with library instruction.

In the past, educational video games have struggled to prove their effectiveness. There are many reasons for the edutainment bust that occurred shortly after the first wave of excitement about using video games to teach. Companies simply could not sustain themselves and compete with huge commercial gaming companies. As the intelligence and complexity of video games grows, there is again a fierce interest and desire to analyze the learning that results from game play. This interest and the success in the commercial gaming market encourage the educational community to look again at ways to incorporate technology in teaching in order to reach learners in innovative ways.

Avoiding Past Mistakes

Avoiding past mistakes will be the only way to succeed if we continue to strive to apply gaming in our teaching. One way is to take the focus off learning. We can model our educational games after commercial games. Unexpected learning seems to happen in successful commercial games whose prime goal is to entertain. Also, current developers of gaming products and tools need to be aware of the reasons behind the past failure of edutainment. If developers take the focus off learning objectives and drop the educational adjective in the description of our games, we can simply adopt the Marshall McLuhan adage and trust that the medium is the message. This concept will undoubtedly raise concerns among educators who know well that good teaching begins with clear learning objectives. Also, administrators often demand method to the madness in innovative teaching, especially when a lot of money is being devoted to new and potentially risky endeavors.

These concerns are understandable, but we can't simply dismiss the powerful learning that goes on as students interact with complex games full of rich stories, complicated instructions and interfaces. And that is not considering the social skills that are developed through the communication that goes on outside of the game environment in the fan communities. We need to try new approaches if we want to be successful in applying games in education. If we build games that do not focus so much on objectives, the players will be more motivated to play – especially if the objectives of the game do not center on learning particular skills or knowledge, but rather on engaging the player in complete immersion in the game world. Complete immersion will be the best measure for success of an educational game – or any game, for that matter. Librarians stand apart from other educators, as bibliographic instruction in many academic institutions is already located on the periphery of the curriculum. Librarians in the business of bibliographic instruction have the freedom and experience of trying new things because reaching our audiences and getting buy-in from the administrators and learn-

ers has always been a struggle. The ideal situation would be if we can incorporate information literacy and research skills into a game that teaches information literacy.

Many librarians are aware of and support the argument that bibliographic instruction is most successful at “point of need.” Merging the idea of game-based learning and library instruction flies in the face of the “point of need” theory, but it need not compete with it; instead, the two teaching approaches should compliment each other.

Another way to avoid failure in development of games with an eye at educating players in particular concepts is to involve the players in the design and development of the games and to constantly test players throughout every stage of development, getting feedback from users on everything from storyboarding to graphical interfaces. Usability testing is important in any tool – especially one involving interface design, and for the educational video game such testing is also important. Of course, whether a game is “playable” may not result in its ultimate success. Commercial developers and game players will tell you that a good game is one where you lose complete track of time while playing.

Wasted efforts will be the greatest fear of educators and librarians involved in game development. In all likelihood, the pedagogy in the game itself will not be a flaw in a failed game – it will be the inability to find that intrinsic fun factor, that magical ingredient that motivates people to play. A user needs to find the game fun or addicting in order for it to be successful. Accomplishing a successful game is going to prove to be the most difficult task of the educational game developer. The fact that game studies programs are becoming very popular will help our endeavor as we will have well trained students – undoubtedly dedicated gamers – who can help us succeed.

In fact, the next wave of commercial video game development is moving into player design – where game players actually build the games they want to play (Borland, 2006). This can only assist us in usability testing as gamers become very articulate about why they find certain games fun. Another benefit of the video game as a learning tool is that the player can go at his or her own pace. Games can be built to adapt to the player’s skill level to make it truly interactive. With games, players get immediate feedback. As gaming becomes more popular, players begin to progress into the building mode. We can eventually tap into our students’ skills and get their buy-in to our learning games by seeking their help in building the games.

Involving players in the development is important, but the developers should also have an interest in games and game-based learning. Developers need to be passionate about teaching and reaching students at a different level – one that is not necessarily measurable in traditional ways. Finding ways to measure game design effectiveness will be the next difficult task for educators and game developers. Understanding common learning patterns will be important. For instance, people do not begin a new game by first reading the manual from cover to cover. Most players prefer to learn the basic moves in the game and then begin the exploration on their own. The

For Further Reading

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learning is completely interactive and immersive. The unknown and the discovery factor in learning and playing a game are a big part of the appeal. Being thrown into a new environment and learning to survive is half the fun. Imagine if our students viewed learning how to use the library in the same light as they do learning how to navigate around a new world in a video game. They need not fear it – the discovery should be fun. If we can borrow techniques from video games, libraries might be able to push past their intimidating reputations.

Another reason the video game is potentially an excellent framework to teach information literacy skills, has to do with the fact that many game players often partake in secondary research to assist them in their game play. Secondary material supporting game play is vast – many current scholars in game studies are taking a close look at the skills players develop in seeking out information and at ethnographic analysis of the communities formed around particular games. This secondary literature goes beyond simple strategies and game

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text of community ICT use. This approach is a substantial theoretical endeavor to explain use. Service practitioners can use the CNUM as an assessment tool for user needs and service effectiveness.

Limitations: Although the investigated community network represents a generic site, replications in other sites should be followed to consolidate or refute our findings.

FROM JASIST v. 57(1)

Humphrey, S.M., Rogers, W.J., Kilicoglu, H., Demner-Fushman, D., & Rindfleisch, T. C. (2006). *Word sense disambiguation by selecting the best semantic type based on journal descriptor indexing: preliminary experiment, 96-113.* Erratum in *JASIST* (2006), 57(5), 726.

Study and Results: This paper describes an experiment, including underlying methodology, in which journal descriptor indexing (JDI) was used for the disambiguation of words (like *culture*, *transport* and *implantation*) from the word sense disambiguation (WSD) test collection at the National Library of Medicine (NLM). JDI is ultimately based on statistical associations between words in a MEDLINE training set and a small set of journal descriptors (JDs) assigned by NLM to journals per se, which then form the basis for selecting the best meaning correlated to semantic types (STs) in NLM's Unified Medical Language System (UMLS). Overall average precision was 0.7873 compared to 0.2492 for a baseline method, and average precision for individual ambiguities was > 0.90 for 23 of them (51%), > 0.85 for 24 (53%), and > 0.65 for 35 (79%).

What's New? JDI-based WSD is an unsupervised method using ready-made resources at NLM. JDI uses these resources to automatically pre-label words in a training set with JDs and then with STs. Hand-tagging of a training set for word senses (as in supervised methods) is thus avoided.

Limitations: Ambiguities must be represented in the UMLS Metathesaurus. The WSD Test Collection contains only 50 ambiguities. The problem of not being able to assign the meaning "None of the Above" still needs to be resolved.

FROM JASIST v. 57(2)

Meso, P., Datta, P., & Mbarika, V. (2006). *Moderating ICTs' influences on socio-economic development with good governance: A study of the developing countries, 186-197.*

Study and Results: In recent years, businesses in the United States and several other developed nations have faced very tough global competition from countries like China and India that can produce at much lower cost. At such lower production cost, China and India have captured a huge portion of the fast growing markets in developing nations calling for a mitigated euphoria for U.S. and European businesses that are interested in capturing the same markets. One disadvantage that managers in developed nations have is their relatively low understanding of the developing work and dynamics of navigating the complex socio-economic and political environments of these countries. With increasing globalization of the world economy, there has been a growing interest in the potential contributions of good governance to accelerating the rate of economic and social development in the developing countries and enhance their smooth integration into the emerging global economy. This study explores the link between information and communication technologies (ICTs), governance and social economic development in the developing countries.

What's New? Contributions of ICTs to social economic development are influenced by socio-political governance – leading to national development through more prudent and egalitarian application and use of the ICTs portfolio. The contingent role of governance on ICTs and national development paves the path toward recognizing the importance of socio-political moderators that are fundamental in establishing and running businesses in the developing nations.

Limitations: Data collection on information technology in developing countries is very constrained. In our own effort we found that no source provides complete data on both the range and reach of ICT variables, especially for computers and the Internet.

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cheats. Much fan-written fiction and literature is completely extraneous to what was conceived by the original game designers (Steinkuehler, 2005). Another interesting phenomenon involves websites devoted to classic video games. Nostalgic programmers and players have developed software to support original games of the 70s and 80s. This software enables the now 30-something child who grew up playing games on the original PCs to emulate their experience as a child. Finding game literature could be an excellent search topic for librarians to use in order to interest students when teaching basic research skills. The topic is meaningful and fun because the skills players learn in their independent gaming research are completely transferable to the academic world.

The proliferation of game studies programs on campuses creates the potential for librarians and information scientists to tap into groups already developing and evaluating games. Some librarians may have an aptitude and desire to learn new skills, but for many, creating a good teaching tool that is fun and effective will be the prime concern, so making use of resources that are already available will be key. A wonderful aspect of the gaming community is a natural inclination to share knowledge. Also, a new thrust for user-driven games will only encourage the proliferation of free support material and software. There are many open source tools available for game development. Similarly, those librarians interested in using games to teach would benefit by sharing templates and game engines that can be easily adapted for other libraries. We know that our users are gaming. Let's tap into these skills and interests and use games to teach. Let's add interesting gaming-related programs to our public libraries in order to encourage information literacy and help our libraries evolve the way they need to in this next phase of the information age.