Digital Gaming in Library Instruction

Introduction

Instruction librarians continually search for methods to help the ever evolving student population become information literate. Some believe the alluring digital gaming medium is the answer. Educators’ view of digital gaming (e.g. computer, video, and online games) has shifted from seeing these games as an entertaining, yet pedagogically void activity, to a promising medium to engage and motivate students in the learning process. With over 70% of college students enthusiastically participating in games requiring problem solving and communication skills, educators are attempting to tap into digital gaming as an effective means to teach Millennials. As a result, various academic fields across the country are transforming content into digital games.

This current issue digest highlights information about digital gaming and gamers as well as the medium’s educational benefits. With a greater understanding of digital gaming and its educational use, this digest and related Midwinter discussion, focuses on how gaming has application for information literacy and library instruction. And since digital game development is a popular academic trend, research and discussion are needed to decide whether digital games are a viable tool for library instruction or just the latest fad.

Gamer Demographics

Anyone could be a gamer. Are you one? Each year the Entertainment Software Association (ESA) publishes Game Player Data on its website. Some interesting facts include:

- Adults of both sexes play games over seven hours a week
- The average age for players is 33
- 25% of game players are over 50 years old
- 38% of game players are female

While these statistics contradict the stereotype of the teenage boy playing games in the basement, what about college age students? The 2003 Pew Internet & American Life Project report “Let the Games Begin: Gaming Technology and Entertainment among College Students” revealed “70% of college students reported playing video, computer or online games at least once in a while” (2). Disturbingly, a third of the students surveyed admitted to playing games while in class.

Types of Games

Digital gaming includes online, computer, and video or console games. Online games are web-based games that include massively multiplayer online role-playing games (e.g. World of Warcraft, Everquest) that never end. The player may leave the game but the game continues on. Online games can also refer to games like Bookworm or Bejeweled 2 that can be played quickly and can be found at websites like Yahoo! Games. Civilization III and SimCity 3000 are examples of computer games in which the players install the game on their computer. Halo and Madden NFL 07 are games played on consoles such as the Xbox 360 or PlayStation 3. Additionally, newer consoles like Xbox 360 or PlayStation 3 connect multiple players via the Internet.
Learning Style of Gamers

How do gamers think and learn? Since 70% of college students play digital games, examining Millennial characteristics provides a starting place for librarians. Members of the Millennial generation were born in 1982 or later (Oblinger 2003, 38), and 55.7% of college students fall into this generation (National Center for Education Statistics 2005). In their article “Educating Generation X and Generation Y: Teaching Tips for Librarians,” Kipnis and Childs provide a list of Millennial characteristics (2004, 32) with the recurring theme that Millennial students “must be engaged to retain information.” These students expect entertainment, engagement, and variety in their learning.

The learning style of gamers reflects these expectations. In their book Got Game: How the Gamer Generation is Reshaping Business Forever, Beck and Wade (2004b, 159) describe this learning style as one that “aggressively ignores any hint of formal instruction.” For gamers, learning “is consumed in very small bits exactly when the learner wants, which is usually just before the skill is needed” (Beck & Wade 2004b, 159).

Beck and Wade describe three aspects of the gamer mindset that apply to library instruction: risk taking, data immersion, and trial and error. Because of the ability to start games over if a mistake is made, gamers have learned “that all risks are survivable” (2004a, 50). Failure is okay because you can start over and succeed the next time. This survivable risk taking contributes to completely immersing the player in a world of data, visuals, and strategy. Gamers enjoy the sensation of multitasking while processing data (Beck & Wade 2004b, 88-89). In or out of the game, gamers use trial and error as a strategy to discover what works and what does not. They do not consult user manuals or handouts (Beck & Wade 2004a, 50). Will Wright, the creator of The Sims, concurs, “Through trial and error, players build a model of the underlying game based on empirical evidence collected through play. As players refine this model, they begin to master the game world. It’s a rapid cycle of hypothesis, experiment, and analysis. And it’s a fundamentally different take on problem-solving than the linear, read-the-manual-first approach of their parents” (2006, 111). Effective library instruction for gamers must address this learning style.

Gamers: Motivated and Engaged Learners

The use of games in education is not new. Teachers have long incorporated print based games (e.g. crossword puzzles and board games) into the classroom. Even digital games are not that new. Some librarians may remember learning about the American West by playing Oregon Trail during the 1980’s. Some educators are leery of the learning impact of today’s commercially produced digital games with the often violent and sensational content. Ironically, gamers are so engaged and motivated by these virtual programs that they persist in learning difficult tasks. Digital games provide an optimal balance of enjoyment with challenge, which continually attracts players. Motivation and engagement are essential for well-received digital games.

Motivation and engagement make it possible for gamers to have fun and unwittingly learn new information and skills. Digital games motivate players to learn new skills and tasks because the medium aims to make the activity fun and entertaining. This seems contradictory to a long held belief in education that learning must be laborious and taxing. Yet there are positive effects when enjoyable activities are incorporated into educational tasks. When people participate in playful activities, like digital games, they are more likely to enjoy the learning process resulting in more time, effort, and concentration put into an activity (Prensky 2001a, 116). Any type of learning takes effort, but it is students’ perception of tasks that makes the difference. Why do some consider an activity work, while others find it enjoyable? It is because the latter group is engaged. Engaged students are actively involved in their learning and seek greater educational collaboration with their peers.
One benefit of digital gaming that complements information literacy is parallel processing, the skill that allows gamers to interpret multiple elements simultaneously. As stated earlier, gamers embrace the deluge of unfiltered information from which they interpret and manipulate data. Marc Prensky argues in “Digital Natives, Digital Immigrants, Part II” Millennial students think differently than other generations. They have grown to work as parallel processors allowing them to live at twitch speed. Gamers and other individuals who immerse themselves in digital technology have different thought processes. In contrast to a linear thinking process, in which the individuals focus their senses on one element at a time, those in the parallel processing mode jump around. Growing up with digital games and the Internet has trained Millennials and gamers to efficiently interpret multidimensional images and quickly adapt to unanticipated or unexpected situations (2001b). In a library setting anyone looking for information, whether it is through digital or print sources, must be able to take in multiple variables at once to sort through the data. Taking advantage of this innate parallel processing skill, librarians can teach students to view multiple areas of a website or database simultaneously.

Feasibility of Digital Games for Library Instruction

Library instruction can incorporate digital gaming in numerous ways. Prensky writes about the different implementation options in Digital Game-Based Learning. These options range from applying the ideas behind digital gaming without actually using games, to adapting off-the-shelf commercial games, and finally, developing custom-made games. Implementation should begin with assessing the feasibility and appropriateness of gaming for an instructional program and its student population. For some libraries, creating digital games is not possible due to financial and staff limitations. Integrating active learning exercises within online tutorials or in the classroom that tap into students’ parallel processing skills as well as their trial and error mentality may be more appropriate.

Other libraries may be interested in creating original digital games to promote information literacy skills. Any kind of instructional tool requires a significant commitment to content development, but digital game creation requires a substantial increase in staff time and financial commitment to create nonlinear and interactive games through computer programming. For instance, James Madison University Libraries recently received a $158,000 grant to transform their information literacy tutorials into digital games. Other libraries have already begun producing interactive games like University of North Carolina, Greenboro’s Information Literacy Game (http://library.uncg.edu/de/infolitgame.asp), which uses a board game theme to introduce students to basic concepts. Other academic disciplines have gone further to create complex digital games like the simulated world of Virtual U (http://www.virtual-u.org/) to teach education management, and the role play game Revolution, about the American War of Independence (http://www.educationarcade.org/revolution/).

Conclusion

Digital gaming is one of the educational trends of the moment, but like any new trend, there are many questions that need answers. How does the educational digital gaming medium compare to other educational techniques in regards to learning impact? Are the substantial costs of time, staff, and resources worth creating digital games? To alleviate some cost and staff limitations of game development, should a library instruction game be built and distributed on a mass scale similar to the use of online tutorials like TILT or SearchPath? These are just a few of the questions to consider. Yet one thing is certain, the allure of digital gaming extends beyond players to educators with the promise of student motivation and engagement in learning complex skills like information literacy.
References

To Explore Further