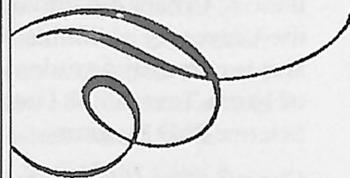# INTERACTIVE GAMING VS. LIBRARY TUTORIALS FOR INFORMATION LITERACY: A RESOURCE GUIDE

by Lynn VanLeer

INTRODUCTION

In the past few years there has been a renewed push towards viewing games and gaming differently, most notably in the popular culture book, "Everything Bad is Good for You: How Today's Pop Culture is Actually Making us Smarter" by Steven Johnson(2005). In his book, Johnson argues that digital based strategy games are actually enhancing our problem solving skills, as well as IQs. He also laments the lack of solid research into how game design changes these skills, and calls for further research from cognitive scientists and educators.

The interactive computer games (role playing in particular) discussed by Johnson provide the player with a quest or an ultimate goal, and throw them into a new world. The player must figure out the rules of their new environment and how to use the tools available to reach that goal. They challenge the player to think and solve problems. The games provide an *information pull*, because players must figure out what they need to do, and what tools they need to accomplish their goals. The go into the game seeking information about their tasks.

Librarians and educators have long tried to use games as instructional tools, to help students understand information and make learning more fun. However, the 'games' librarians use in online tutorials are more like user manuals with quizzes at the end of each chapter. Most quizzes are multiple choice and do not provide immediate feedback. This instruction is still 'instructional': rules and guidelines are presented in text format, and must be read before taking the quiz. Even when broken up into readable chunks, it's an *information push* towards the user.

This is not the 'interactive' environment that gamers are accustomed to. Library tutorials give mostly linear presentation of text-heavy information, while users are looking for problems to solve on their own. No wonder they're bored and don't use the tutorials as librarians think they will. We are speaking different languages.

In an effort to bridge this gap, the group Gaming in Libraries organized a symposium in December 2005: "Gaming, Learning and Libraries", held in Chicago. This symposium not only discussed game playing within libraries, but how to use gaming to help meet information literacy standards.

In general, this topic is starting to explode, because of the need for further research. There are a variety of articles on the topic, and library blogs are including gaming as topics. I think there will only be more collaborative projects and movement forward, as younger librarians enter the field and revise the learning tools to be more like what they've become accustomed to with online strategy games.

What We're Up Against: Online Role Playing and Strategy Games

MMORPG = "Massively Multiplayer Online Role-Playing Game"

(Ogre from World of Warcraft, Blizzard Entertainment)

The information about World of Warcraft was clarified via email from World of Warcraft gamer Paul Friebus. Friebus, Paul. "Re: Interactive Gaming vs. Library Tutorials". 16 June 2006

Thousands of people worldwide play online role playing games, like "World of Warcraft" (WoW) (www.worldofwarcraft.com). This is a complex, interactive social world with quests, goals, and cutting edge graphics. The players have to figure out how to meet their goal or challenge, how to get there quickly, and maintain their magic, health or energy levels, and not get attacked by monsters. WoW promotes problem solving, teamwork, communication and critical thinking, by throwing the player into an environment and making them solve problems to move forward. Steven Johnson labels the type of thinking done in such games "telescoping", as the player must remain focused on the end goal, but still be able to solve all the pieces of the puzzle along the way. (2005)

When I approached WoW with the ACRL Information Literacy Standards in mind, I was surprised to find they meet most of them:

Standard 1: "determines the nature and extent of the information needed"

The player has a goal, but needs to figure out how to get there and get to next level. Example: 'locate haunted island', but no info on how or where. The player must figure out how to get information about this island (where is it? how to reach it?).

Standard 2: "accesses needed information effectively and efficiently"

Players must figure out where the necessary tools are, and if they don't get them they run out of energy or supplies, which costs more points (gold/silver).

Standard 3: "evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system"

This is a game with social interaction and cultural context. If you trust a source without evaluating its validity (is the zombie reliable, given what we know about them?), you may die or be slowed down in your quest. The information learned is integrated into playing strategy.

Standard 4: "uses information effectively to accomplish a specific purpose (alone or as a group)"

There are teams of people that play together and must work together to figure out their goals and how to best reach them. This includes the rules of the 'world', the characters and the situation.

The above analysis makes me wonder how WoW can meet the standards without trying (or even knowing about them), while librarians have to work so hard to meet them, and often miss the mark. I think the element of FUN is what's missing in library tutorials. Avid gamer Paul Friebus says, "Even with little to no reward, even in the game, the feeling of success is what keeps us going. Grinding away at the experience requirement for the next level is not much fun. The steps along the way are the fun part." If we can alter the approach of library tutorials from the boring *information push* it's always been to the *information pull* found in interactive gaming, it will make the "steps along the way" fun, and consequently more engaging and challenging.

LIBRARY TUTORIALS AND GAMING

If you compare how people must figure out information with online role-playing games, and how library tutorials work, there is a vast difference. Having read the presentations on "Gaming in Libraries" and articles about "Digital Game Based Learning" (DGBL), these tutorials seem very outdated in their use of 'information push' instead of engaging the user in seeking out information ('information pull'). There is enough enthusiasm on the blogs about integrating interactive gaming into library instruction that I think this format will be changing drastically in the next few years. Here

are some typical tutorials, analyzed with a gaming framework in mind.

Info-Hound [University of Indianapolis]
http://kml.uindy.edu/info_hound/index.html

Linear presentation of info. Text heavy. Information push, not learning pull. No games or interactivity. I thought 'Info-Hound' would be something I could play, making the hound find the info, but it's just a name.

TILT [University of Texas]
http://tilt.lib.utsystem.edu

This tutorial has separate modules, with full 'interactivity'. Presents information in a linear manner, with a quiz at the end of each module. Users must be registered to enter and do the modules, but can register as a non-student.

The Info Game (Austin Community College)
http://library.austincc.edu/help/infogame/start.htm

Hip 'retro' graphics, but is still a linear presentation of instruction. Must register and have token number from previous module/quiz to move forward, which is cumbersome. Seems more interactive than it actually is.

Williams College in Massachusetts
http://www.williams.edu/admin/news/releases_print.php?id=1113

The most interactive of the tutorials examined. They have a mystery game to help new users learn about available tools and resources. Teams of players play in real life (not just online) to solve the mystery of a stolen Shakespeare paper. Good feedback from students. Similar to murder mystery party games.

WEBSITES

These are all user-created sites from librarians, attempting to find ways to integrate gaming and game theory in learning and education, specifically information literacy. As this is such a new and vibrant area of discussion, the blogs are quite useful. I've included links to Game Research Labs, for information only.

ALA TechSource Blog
(http://www.techsource.ala.org/blog/2005/12/at-the-top-of-its-game-the-mls-symposium.html). A summary of the 2005 Gaming and Libraries symposium, but with photos! Also has links to presentations and contact information for participants.

Bibliographic Gaming
(http://bibliogaming.blogspot.com/). "A blog for librarians interested in using videogames to teach", this blog provides resources and forum for integrating videogames into library instruction.

Game On: Games in Libraries
(http://libgaming.blogspot.com/). While this blog mainly

focuses on game playing within libraries, it has useful article and blog links for educational gaming.

Gaming In Libraries (http://gaminginlibraries.org). Website started by librarians with gaming programs to share information and ideas. They hosted the December 2005 "Gaming, Learning and Libraries Symposium" in Chicago, and include all presentations. Many of the presentations have discussion and resources on how to integrate gaming theory and gameplay into information literacy tutorials. Extraordinarily useful, and they already have the beginnings of the 2006 conference posted.

Info Lit Blogs which post about Gaming/Info Literacy:

1. Information Literacy Land of Confusion (http://lorenzen.blogspot.com/2006/05/gaming-literacy-and-information.html). Librarian Michael Lorenzen's blog, with his thoughts on how to use gaming culture for information literacy.

2. Information Literacy Blogspot (http://information-literacy.blogspot.com/). UK-based blog that covers a variety of information literacy topics, including a few entries on gaming. Provides links to info lit blogs around the world (i.e. Hapke's in Germany). Lists resources, literature reviews, etc.

GAME RESEARCH LABS

Both of these sites are more for the programmer, and provided for information only, as examples of universities with game labs. Neither site had anything specific for libraries or information literacy.

Electronic Visualization Laboratory at the University of Illinois–Chicago
http://www.evl.uic.edu/index2.php

Game Culture and Technology Lab at the University of California–Irvine
http://proxy.arts.uci.edu/gamelab/portal/content.php?ctID=1

BOOKS ON GAMING THEORY AND LEARNING

These are a few of the key books in the field of Game Theory and Learning. Since this is a relatively new area of research, these are more recent publications. Even though computer-simulated learning has been used for a few decades, these more recent texts address the trend towards interactive role playing and 'knowledge quest' types of games.

Aldrich, Clark. (2005). *Learning by doing: A comprehensive guide to simulations, computer games, and pedagogy in e-learning and other educational experiences*. San Francisco: Pfeiffer.

Gives different types of simulation games and how to best use each type for specific learning goals. Written by someone who has worked in the field, and well-reviewed by his peers.

Gee, James Paul. (2003). *What video games have to teach us about learning and literacy*. New York : Palgrave Macmillan.

Considered by reviewers and gamers to be one of the fundamental academic works addressing gameplay and learning. Written in generally non-academic language, it shows how learning is enhanced by videogames and the way they force players to meet challenges and solve problems to reach a goal. Just about every article or book refers to this one.

Johnson, Steven. (2005). *Everything bad is good for you: how today's popular culture is actually making us smarter*. New York: Penguin Group.

Proposes that computer games, television, and the internet have changed how we think and solve problems. Focus is on complex, systems thinking, and social network analysis. Refers to the 'sleeper curve' as the increase in intelligence caused by interaction with these more complex activities. Good place to start thinking about gaming and education. Easy to read, not too technical.

Prensky, Mark.(2001). *Digital game-based learning*. New York: McGraw Hill.

Mentioned by Van Eck as one of the forerunners of Digital Game-Based Learning (DGBL). Prensky provides basic overviews of learning styles and different types of games to match each style. Well reviewed by professional trainer, but mixed reviews from users on Amazon, who felt he was too 'evangelical' and pushed certain software (bias).

ARTICLES

Branston, Christy. (2006, Apr/May). From game studies to bibliographic gaming: libraries tap into the video game culture. *Bulletin of the American Society for Information Science & Technology, 32*(4), 24-29, 4p. Retrieved via EBSCO, IU Libraries on June 10, 2006. Reviews the past mistakes and future possibilities of educational gaming, including stats on how many kids play online games. Most important is 'richness of story' and complexity of play. The author, a presenter at the 2005 Gaming in Libraries Conference, is a librarian and gamer. Provides comprehensive bibliography.

Doshi, Ameet. (2006, May). How gaming could improve information literacy [electronic version]. *Computers in Libraries, 26*(5). Retrieved June 8, 2006 from http://www.infotoday.com/cilmag/may06/Doshi.shtml. Voices the need for change in libraries, and how we train the user. Librarians still perceived as boring, and libraries as non-interactive places. Suggestions for more creative thinking and partnering with computer science programs to help

create more interactive learning games. Provides Open Source resources and tips on how to move forward with collaboration.

Kiili, Kristian. (2005, 1st Quarter) Digital game-based learning: Towards an experiential gaming model. [electronic version]. *The Internet and Higher Education, 8*(1). There are currently no games (as of 2004) that integrate education theory and game theory. Successful educational games will integrate experiential learning, game play and educational goals. The author provides a model as a suggested direction to work towards. Text gets a bit technical in game/learning theory.

Lewis, Andrew (2005, December). Computer games technology and public libraries: a background literature review for service development. Library and Information Services. The Royal Borough of Windsor and Maidenhead. [electronic version] http://www.rbwm.gov.uk/public/ 051201_libs_rbwm_multi-lib-2-2_computer-games-libraries_302.pdf Retrieved May 24, 2006 from: http://information-literacy.blogspot.com/ Literature review and report from a librarian in England about computer games and the feasibility of use in promoting info lit/learning in libraries. While the majority of the report is about putting computer games in libraries, it also has good sections on how libraries can use digital games to reach their audiences and promote better information literacy. Includes links to all sources. Excellent resource.

Procter, Jo. (2006, Jan-March) Williams College Libraries' orientation breaks all the stereotypes. *Williams College News*. Retrieved June 9, 2006 from: http://www.williams.edu/admin/news/ releases_print.php?id=1113 The library is using a mystery game to help new users learn about available tools and resources. Teams of players play in real life (not online) solve the mystery of a stolen Shakespeare paper. Positive feedback from students.

Van Eck, Richard. (2006, March/April). Digital game-based learning: it's not just the digital natives who are restless. *EDUCAUSE Review, 41*(2), 16–30. Retrieved June 9, 2006 from http:// www.educause.edu/apps/er/erm06/ erm0620.asp?bhcp=1. History and overview of Digital Game Based Learning, from someone who's been advocating gaming use in education for a few decades. Reviews reasons for past failures and how to move forward effectively. Useful links in bibliography.

SEARCH TERMS FOR FURTHER RESEARCH

Use these terms to find more articles on gaming and gaming in education. These terms were used with Ebscohost databases.

ACTIVITY programs in education	GAME theory
COMPUTER game	Gaming as learning tool
Digital Game Based Learning	INTERNET in education
EDUCATION —simulation methods	SIMULATED enviornment (Teaching method)
EDUCATIONAL games	SIMULATION games in education
ELECTRONIC games industry	VIDEO games
EXPERIENTIAL learning	EXPERIENTIAL learning

ABOUT THE AUTHOR

Lynn VanLeer (lvanleer@indiana.edu) is a graduate student at the Indiana University School of Library and Information Science in Bloomington. She is interested in how people of different cultures, genders, and ages organize and access information. She wants to expand upon her work experience at an international nonprofit organization by helping other nonprofits organize their information for maximum efficiency and usefulness for users. This article is based on a project for the course, Education of Information Users, Summer 2006.