

## The Game Is On: Applying Computer Gaming Principles to E-Learning

*"...games are good learning machines. They have...principles built into their designs to get somebody to learn them and learn them well."*

["The Learning Game - Researchers Study Video Gaming Principles That Apply to Education"](#)

James Gee, University of Wisconsin, in an interview with Alexis Johnson, 9/21/03

With the recent rollout of Sony's [Playstation 3](#), Nintendo's [Wii](#), and Microsoft's [Xbox 360](#), what better time to investigate the concept of video gaming as a way to enhance e-learning? As younger students reach college age, most have been playing video games since childhood. The current thinking is that this generation can be educated with the same gaming techniques used for entertainment.

### Background and Theory

- [Futurelab-Research-Teaching with Games](#). Findings, released in 2006, of a British organization's one-year project designed to offer an overview of teachers' and students' use of/attitudes toward commercial off-the-shelf (COTS) computer games in schools. A majority of both students and teachers were supportive, but little practical application of game use in schools was found.
- [Games and Education Research Network \(GERN\)](#). Website maintained by the University of Bristol (UK) that conducts research into the role of digital games within education, teaching and learning. It includes use of games in schools, standards of various countries, and more.
- [Hard at Play at UCF](#). Article by Sharon Colavecchio-Van Sickler, *St. Petersburg Times*, 11/20/06, about a new program at the University of Central Florida, one of just a few graduate programs in the country to offer such a degree.
- [Innovate: Journal of Online Education](#). Entire issue, August/September 2005, on the subject of gaming in education. Includes ["Game-Informed Learning: Applying Computer Game Processes to Higher Education,"](#) ["What Would a State of the Art Instructional Video Game Look Like?"](#) and more.
- ["The Learning Game – Researchers Study Video Gaming Principles That Apply to Education."](#) Article by Alexis Johnson at Wistechology.com, 9/21/03, with a transcript of an interview with James Gee, gaming expert at the University of Wisconsin-Madison. (See also 2005 paper ["Learning by Design: Good Video Games As Learning Machines"](#) by Dr. James Gee.)
- ["Let the Games Begin."](#) Article by Jenn Shreve in *Edutopia*, 4/05, about the need for more good educational video games, with links to some COTS presently used in classrooms.
- [MIT to Collaborate with Singapore on Game Lab](#). News release at Campustechology.com, 11/8/06, about the establishment of a game lab to further digital game research globally, as well as develop academic programs in game technology, with Singapore a hub of the game industry.
- ["Playing to Learn."](#) Article by Eric Klopfer in *Access Learning*, July/August 2005, that offers an overview of the growing interest in the use of video games as educational tools.
- ["Reality Bytes: Eight Myths About Video Games Debunked."](#) Article by Henry Jenkins, MIT, in a series of essays on the impact of gaming, 2004. Maintains that public perception of video games is far more negative than what research on the subject has actually shown.
- [Silversprite](#). Website that lists resources relevant to the use of commercial or "pure" games in education, teaching and learning. It links to reports, blogs, conferences, organizations, and more.
- [Social Study Games](#). Links to research, news and resources on all aspects of gaming.
- ["Study Finds Video Games Can Reshape Education."](#) Associated Press release by Ben Feller, 10/29/06, about the results of a one-year study by the Federation of American Scientists that concludes games teach skills like analytical thinking, team building, multitasking, and problem-solving under duress.
- [Video Games in Education](#). Definitive website on the subject that includes links to articles, research, gaming sites, tools, software and gaming-related books.

## Examples

- [The Croquet Project](#). Open-source software platform for creating highly collaborative multi-user online applications. Using Croquet, software developers can create powerful and highly collaborative multi-user 2D and 3D applications and simulations.
- [“Epistemic Games,”](#) Article by David Williamson Shaffer in *Innovate: Journal of Online Education*. August/September 2005. It describes the concept of games as a way to help students learn to think like professionals, using the game [Madison 2200](#) as an example.
- [Government and Partners: Computer Games in Education Project](#). Report by the British Educational Communications and Technology Agency (Becta) on a study involving the use of six computer games in a school setting. It offers insights for developers and areas for more research.
- [“Is Instructional Video Game an Oxymoron? No, But Even Jumbo Shrimp of the Genre Are Still Relatively Small Fry.”](#) Article by Matt Richtel in the *New York Times*, 2/4/05, about a number of games developed by non-profit agencies that can be used in higher education. Examples include [Stop Fluin’ Around](#), [The Greenpeace Game](#), and others.
- [“Mission to Arabic: It’s Not Your Father’s Language Lab.”](#) News release by the University of Southern California, 6/21/04, about the computer game it developed to instruct soldier students in the Arabic language.
- [Second Life](#). Million member website begun in 1997 that offers a user-defined world of general use in which people can interact, play, do business, and otherwise communicate.
- [Social Impact Games](#). Website aiming to catalog more than 500 video and computer games whose primary purpose is something other than entertainment. More than 200 “serious” games are presently listed.
- [Water Cooler Games](#). Forum (a.k.a. blog) for the uses of videogames in advertising, politics, education and other everyday activities beyond entertainment. It includes game reviews.

## BEEP’s Best Bets

### Administration

- [“World Internet Conference Near Athens Ends with Promise and Concern for Future.”](#) Associated Press release, 11/2/06, about the first United Nations-hosted conference, dominated by ongoing disputes about online censorship, efforts to make the Web appeal to non-English speakers, and concerns about how the global network is run.

### Free Information Sources

- [Citizendium Project](#). Experimental new wiki project that “combines public participation with gentle expert guidance.” It will begin as a mirror of [Wikipedia](#), then subject experts will start making changes to articles in the Citizendium, regularly refreshing copies of Wikipedia articles.
- [Google Code Search](#). Free resource released by Google in October 2006 that sifts through the billions of lines of software code available on the Web. Its aim is to help programmers design new software projects, test code, and fix bugs.
- [OpenDOAR](#). Authoritative directory of academic open-access repositories maintained by the University of Nottingham (UK). As well as providing a simple repository list, OpenDOAR lets users search for repositories or repository contents.
- [Scirus](#). Free, science-specific, search engine that finds scholarly, technical and medical data.

### Innovative Technologies

- [“CCSN Students to Use iPods to Tune in to Class.”](#) Article by Christina Littlefield in the *Las Vegas Sun*, 11/07/06, about an upcoming pilot program at the Community College of Southern Nevada to make podcasting of lectures and other materials available for students to retrieve and replay on school-loaned iPods.
- [How to: Read Wikipedia on an iPod](#). Perl script created by Matt Swann that can be downloaded to an iPod so users can access the [Wikipedia](#) on that device.

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