

Serious Game Research

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Game Engagement Theory and Adult Learning

Journal of Simulation and Gaming

<http://sag.sagepub.com/content/42/5/596.short?rss=1&source=mfr>

One of the benefits of computer game-based learning is the ability of certain types of game to engage and motivate learners. However, theories of learning and engagement, particularly in the sphere of higher education, typically fail to consider gaming engagement theory. In this article, the author examines the principles of engagement from games designed for entertainment, applies these principles to the design of learning activities, and presents a model of learning engagement. The article examines literature on computer games and engagement, draws together the findings from a series of interviews, and applies these in an educational context. The author hypothesizes five factors that contribute to engagement with a learning activity and provides an example of the use of these factors in practice. The article concludes by considering further potential applications of the model.

How Behavioral Science Guided the Development of a Serious Video Game for Health

Journal of Simulation and Gaming

<http://sag.sagepub.com/content/41/4/587.short>

Serious video games for health are designed to entertain players while attempting to modify some aspect of their health behavior. Behavior is a complex process influenced by multiple factors, often making it difficult to change. Behavioral science provides insight into factors that influence specific actions that can be used to guide key game design decisions. This article reports how behavioral science guided the design of a serious video game to prevent Type 2 diabetes and obesity among youth, two health problems increasing in prevalence. It demonstrates how game designers and behavioral scientists can combine their unique talents to create a highly focused serious video game that entertains while promoting behavior change.

Mobile Phones and Economic Development in Africa

Jenny Aker and Isaac Mbiti, Tufts University

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1693963

Researchers examine the growth of mobile technology over the past decade and consider its potential impacts upon quality of life in-income countries, with a particular focus on sub-Saharan Africa. They first provide an overview of the patterns and determinants of mobile coverage in-Saharan Africa before describing the characteristics of primary and secondary mobile adopters on the continent. They then discuss the channels through which mobile technology can impact development, both as a positive externality of the communication sector and as part of mobile-based development, and analyze existing evidence. While current research suggests that mobile coverage and adoption have had positive impacts on agricultural and labor market efficiency and welfare in countries, empirical evidence is still somewhat limited. In addition, mobile technology cannot serve as the “silver bullet” for development in sub-Saharan Africa. Careful impact

evaluations of mobile development are required to better understand their impacts upon economic and social outcomes, and mobile technology must work in with other public good provision and investment.

❖ ABOUT SERIOUS GAMES



Jane McGonigal: Gaming can make a better world

http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html

What if we could harness this gamer power to solve real-world problems?



Gamers Unlock Protein Mystery That Baffled AIDS Researchers

<http://www.nature.com/news/victory-for-crowdsourced-biomolecule-design-1.9872>

In just three weeks, gamers solved a critical problem that had stumped scientists for years.



Researchers Use Game to Change How Scientists Study Disease Outbreaks

http://www.nsf.gov/news/news_summ.jsp?cntn_id=123638&WT.mc_id=USNSF_51&WT.mc_ev=click

It may seem like a game of tag, but it's an innovative tool for teaching the fundamentals of epidemiology, the science of how infectious diseases move through a population.



Serious Games – An Overview

<http://www.autzones.com/din6000/textes/semaine12/SusiEtAl%282005%29.pdf>

A scholarly report that discusses digital games used for purposes other than entertainment.



Leadership in a distributed world: Lessons from online gaming

[http://domino.research.ibm.com/comm/www_innovate.nsf/images/gio-gaming/\\$FILE/ibm_gio_ibv_gaming_and_leadership.pdf](http://domino.research.ibm.com/comm/www_innovate.nsf/images/gio-gaming/$FILE/ibm_gio_ibv_gaming_and_leadership.pdf)

A white paper exploring how online gaming provides a window into the future of organizations and the leadership capabilities necessary to guide enterprises to success.

❖ MODELING & SIMULATIONS



A Skeptic's Guide to Computer Models

http://news.heartland.org/sites/all/modules/custom/heartland_migration/files/pdfs/15313.pdf

Dr. John D. Sterman, Director of the MIT System Dynamics Group and Professor of Management Science at the Sloan School of Management



Simulations: The Secret Sauce of Leadership Development

<http://www.theurichgroup.com/content/CLOArticle.pdf>

Simulations, when done right, allow leaders to practice handling even the most difficult situations with increased effectiveness and confidence.



Using Experiential Simulation to Teach Sustainability

<http://www.greenbiz.com/research/report/2005/10/19/using-experiential-simulation-teach-sustainability>

Susan Svoboda and John Whalen offer this practical guide for developing and using a simulation exercise to help students and working professionals build an understanding of sustainability.

❖ DATA VISUALIZATION



visualizing.org

<http://www.visualizing.org>

A community of creative people making sense of complex issues through data and design



21 Heroes of Data Visualization - BusinessWeek

http://images.businessweek.com/ss/09/08/0812_data_visualization_heroes/index.htm

Pioneers pushing the boundaries of art and algorithm



Ben Fry: Visualization of Information

http://seedandsprout.com/s11_gd573/?p=327

Ben Fry, award-winning designer and computer scientist, talks about his work which has been featured in scientific journals, museums, magazines and major motion pictures.



JoAnn Kuchera-Morin: Stunning data visualization in the AlloSphere

http://www.ted.com/talks/joann_kuchera_morin_tours_the_allosphere.html

Dive into the brain, feel electron spin, hear the music of the elements ... and detect previously unseen patterns that could lead to new discoveries.



Getting Started with Data Visualization

http://www.stanford.edu/group/toolingup/cgi-bin/toolkit/wp-content/uploads/2011/03/GMcGhee_toolingup_DataVis_110506.pdf

Geoff McGhee, a multimedia storyteller formerly with The New York Times and Le Monde, explores the roles of data visualization and the life cycle of a project.

❖ BIG DATA



Big Data: Harnessing a Game-Changing Asset

http://www.sas.com/resources/asset/SAS_BigData_final.pdf

The Economist Intelligence Unit and SAS explore the impact of big data and how companies are extracting value from data.



Big data: The next frontier for innovation, competition, and productivity

<http://tinyurl.com/McKinseyBigData2011>

McKinsey examines the potential value that big data can create for organizations and sectors of the economy and seeks to illustrate and quantify that value.

❖ Selected Literature and Research

Top 5 Articles for Introducing Serious Games

Games in International Development: Fad or Innovation?

www.how-matters.org/2012/08/26/games-fad-or-innovation/

Discussion of the new trend of serious games in development and why they should be welcome.

Can Gaming Change the World for Good?

www.forbes.com/sites/skollworldforum/2013/07/01/can-gaming-change-the-world-for-good/

Interview with Co-President of Games for Change, Asi Burak. He talks about the changes throughout the last 10 years in “gaming for good,” some of the challenges, and the future.

Gaming Can Make A Better World (video)

www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html

TED Talk by Jane McGonigal on how games create networks and can be used to find solutions through simulations. “Let the world-changing games begin!”

Mobile Educational Games (video)

www.youtube.com/watch?v=DTPqgdd6_CA&list=PL5lxl424rCpZntf-0609ql7FDy9WfV5pX&index=3

ZMQ India talks about the costs (less than \$0.02 per person) and reach of mobile games for health education.

“9 MINUTES” to Positive Change for Pregnant Women

www.gamesforchange.org/2013/03/9-minutes-mobile-game-evaluation-demonstrates-positive-change-for-pregnant-women/

USAID and PEPFAR measure knowledge about pregnancy health before and after participants play their mobile game.

News, Discussion & Blog Posts

Tapping into the gaming community in tackling global challenges

<http://blogs.worldbank.org/ic4d/tapping-into-the-gaming-community-in-tackling-global-challenges>

“By 2014 more than 70% of the world’s biggest companies will be actively using gamification.”

Simulation/Gaming in Third World Development Planning

http://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1040&context=crp_fac

Experiences in using simulation/games with students & professionals from third world countries.

Hacking for Hunger: Let the Games Begin

www.usaid.gov/news-information/frontlines/new-players-and-graduation/hacking-hunger-let-games-begin

USAID uses “Hackathons” to bring together developers, challenges them to find solutions and educates about development issues.

Saving the World One Controller at a Time

<http://www.thetakeaway.org/2012/jun/25/video-games-saving-world-one-controller-time/>

Games can be an anonymous interface to talk about taboo topics, and teach empathy.

Game on: how can video game developers in the global south go viral?

<http://www.theguardian.com/global-development/poverty-matters/2013/jul/15/video-game-developers-global-south>

Challenges for game creators outside of the developed world: infrastructure, limited access to licenses, competition from existing technology.

Malta starts developing fun but serious digital games

<http://www.timesofmalta.com/articles/view/20130815/technology/Malta-starts-developing-fun-but-serious-digital-games.482251>

Through EU funding, Malta students play games to help them learn conflict resolution.

Creating Addictive Games That Actually Do Good

<http://www.inc.com/esha-chhabra/creating-mobile-games-for-good.html>

Asi Burak, Co-President of Games for Change, says we don’t have enough games in classrooms and talks about his work on Half The Sky mobile games.

WoW, Instagram, and Disaster Response

<http://internet-response-league.com/2013/05/29/welcome-to-the-internet-response-league-irl/>

The IRL discusses their vision of using games to gather data and assist in emergency response during crisis situations throughout the world.

Researchers Use Game to Change How Scientists Study Disease Outbreaks

http://www.nsf.gov/news/news_summ.jsp?cntn_id=123638&WT.mc_id=USNSF_51&WT.mc_ev=click

It may seem like a game of tag, but it's an innovative tool for teaching the fundamentals of epidemiology, the science of how infectious diseases move through a population.