GBL Keynote Speaker Introduction: Transcript & Annotations

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Video Presentation Link

Direct:  http://youtu.be/BwKGAN8wJ3Y

Embedded in BLOG:  http://zedtek.wordpress.com/2014/05/07/game-based-learning-keynote-speaker-intro-mod-6/

Title

Digital Game-Based Learning: Dynamic Learning for the 21st Century

Focusing Questions

What is game-based learning?

What are the benefits and concerns associated with game-based learning?

How can game-based learning be implemented in your classrooms?

Today's keynote speaker will help us to better understand the answers to these questions and more as he shares his own personal insights and experiences with immersive gaming environments and game-based learning.

Fundamentally Changed Learners

First, we must understand that cutting-edge teaching and learning strategies which include dynamic technologies (i.e. games, simulations, and immersive learning environments) are imperative in today's classrooms where the needs and expectations of students are fundamentally changing (Prensky, 2001). Within the traditional, static, stand-and-deliver classrooms of yesteryear, students were often passive learners, spoon-fed packaged knowledge based on the whims, discretion, and priorities of their instructors. Today is a day to revolutionize these learning experiences and to transform students into active learners, driving their own
learning as they tap into the full power and infinite rivers of knowledge available to them through the internet and modern, emerging technologies.

**Games are the answer!**

How can we make these revolutionary learning experiences a part of our own classrooms? GAMES are the answer! In fact, virtual game-based learning environments have the potential for transforming student attitudes towards school work and for encouraging them to risk failure in order to learn important lessons within real-world contexts. In a society where avid gamers reside in two-thirds of our homes, spending up to 8 hours every week playing video games (Entertainment Software Rating Board, 2010), educators and schools would be wise to tap into this massive gaming movement by creating education games and immersive environments that emphasize creative problem solving, critical thinking, and the achievement of success through failure.

**Eager for the Next Homework Adventure**

Imagine students coming home from school, running enthusiastically to play their usual video games...not to avoid homework, but rather to eagerly tackle an engaging homework adventure and challenge which they began at school. Imagine the excitement and relief of parents as they witness this dynamic learning in action. This is the power of educational gaming! This is the future of education!

**GBL Benefits**

Game-based learning has the potential to have a profound influence on modern learners. Some important benefits include:

- Increased student motivation and engagement (Ke, 2008b)
- More learner enjoyment throughout the learning experience (Prensky, 2001)
Many opportunities for discovery and exploration (Whitton, 2012)

Opportunities to interact and collaborate with colleagues (Tang, Hanneghan, & Rhalibi, 2009)

Challenging, real-world problem-solving experiences (Brom, Sisler, & Slavik, 2010; Prensky, 2001; Spires, Rowe, Mott, & Lester, 2011; Vogel, 2006)

Opportunities to take risks and learn from failure in a safe environment (Whitton, 2012)

**GBL Concerns**

However, in order to achieve these benefits, the instructional designers and educators must put a great deal of time, effort, and training into addressing several pedagogical and logistical concerns with game-based learning, which include:

- Careful selection of appropriate games and well-designed gaming environments to use in the classroom (Dede, 2012)
- A balance between gameplay, skill development, and learning (Ben-Zadok, Leiba, & Nachmias, 2011; Prensky, 2001)
- A dynamic approach to curriculum planning (Bouchard, 2011)
- A well-organized class environment conducive to effective teaching and learning (Groff, Howells, & Cranmer, 2010)
- Organized, accessible, and thorough content and technical support and resources (Brom, Sisler, & Slavik, 2010).
- Careful assessment of gaming ability of students and teachers and appropriate training (Tsai, Yu, & Hsiao, 2012; Wimpenny, Savin-Baden, Mawer, Steils, & Tombs, 2012).
- Student/Teacher Buy-In (Whitton, 2012; Dickey, 2011)
Socioeconomic Factors (Ke, 2008a)

**Keynote Speaker**

Dr. Chris Haskell has been at the forefront of the movement for game-based learning and distance education throughout his career. He has worked significantly during the past several years with the 3D Game Lab and quest-based learning efforts at Boise State University (http://3dgamelab.com/does-gamification-work/).

Please join me in welcoming Dr. Haskell as he shares his experiences in game-based learning and his advice for beginning a game-based learning program at our own schools and in our own classrooms.
References


Appendix

Annotated References


In this quantitative study, the authors compared the behaviors and motivation of 7,434 elementary students (in grades 3-6) as they participated in drills, games, and self-tests. The participating students were from various Israeli elementary schools. The two online units used for this study were both on astronomy (one on moon orbit and the other on the earth's rotation). Data gathered for the study included coded logs of the student-computer questions, actions, and feedback for both units for the duration of the 2009-2010 school year. The main variables examined were the number of students participating in each activity, the percentage of the students who persisted with the activity until its successful completion, and the average question response time for each of the activities. Excel and SPSS were then used to calculate variable values, to examine descriptive statistics and distributions, and to variables between groups.

Based on the findings from this study, the authors concluded that students were more motivated to learn the required content from the drills and self-tests than they were from the games.

In this qualitative case study, the authors investigated the effects of narrative design within a virtual game-based learning adventure on the learners' motivation, curiosity, plausibility, and application of online gaming experiences. The game used in this study, *Murder on Grimm Isle*, was designed to develop persuasive writing skills in secondary and postsecondary students. Participants in the study consisted of 20 undergraduate students from the Midwestern United States. Additionally, all participating students considered themselves to be digital game players. Data collected during this study included observations (chat logs within game, student gaming activities, screen captures, email interactions, etc.), questionnaires regarding the students' gaming experiences, and informal interviews.

The findings from this study indicated that student motivation, curiosity, and plausibility were initiated and sustained via the online learning environment and the included narratives. Students were also able to effectively apply their online learning experiences to their writing activities within the course. On the other hand, two participants failed to engage in solving the intended mystery within online learning experiences and, instead, attempted to deconstruct the online environment.


This qualitative study examined the relationship between the development on online identities and learning that takes place within an online course. The study also investigates the research implications pertaining to math-centered interactions within a virtual environment. During this study, eight undergraduate Brazilian students studying
math within a teacher education program participated in a course that taught integrals via an online role-playing platform. The course consisted of 40 hours of synchronous and asynchronous activities. Prior to beginning the course, each participant completed a questionnaire, read about role-playing games in general, and then read about the specific role-playing game that they would be using during the course. The main sources of data were observations of the researcher (as a participant observer) during 6 three-hour online meetings spread over a 6 week time period.

The findings of this study suggested that role-playing games are well suited for virtual learning environments, the online, interactive game play contributes to the social construction of content knowledge, participants can take on multiple identities within the online gaming environment, and researcher must consider the various identities of the participants when analyzing online learning.


In this quantitative study, the authors focused on discovering the relationship between students' strategies for forming and testing hypotheses, their science content learning, and their in-game performance within a virtual gaming environment. The learning unit used for this study was built upon a framework of narrative-centered learning, activity theory, and cognitive load theory. The game used (i.e. Crystal Island) was developed on a 3D game platform and was aligned to the North Carolina eighth-grade microbiology standards. Study participants included 137 eight-grade public school
students, consisting of 77 males and 60 females. The study took place in an urban school district in the southeastern United States.

The main sources of data included a pre- and post-test on content knowledge and automated game-based performance logs which tracked student gaming actions and behaviors. Following a 20 minute introductory session, the students took the pre-test, were given supplementary reference documentation, and were then given 60 minutes to solve the mystery within the game. The findings of this study indicated that students who selected more appropriate hypotheses exhibited higher levels of learning, greater ability to apply the acquired knowledge, and increased goal achievement within the game.


In this case study, the authors explored the influence of digital game-based learning on the knowledge acquisition of eight students in the sixth grade. Super Delivery, the educational game used for the purposes of this study, focused on teaching students how to conserve energy and to compute the cost of electricity. In order to select the eight participating students from a sixth grade class at a public school in Taiwan, purposive sampling was used which maximized variations based on gender, gaming experience, previous knowledge of math and science. Participants received 40 minutes of training in the gaming interface prior to beginning their work in Super Delivery. Qualitative data collected during this study included records from playing the game itself, think-aloud verbal protocols, student interviews, and analysis of other collected documents. In addition quantitative data were also gathered through performance test
results and class performance in prior math and science courses. Data reduction
techniques were then used, and the data were analyzed in a predictor-outcome matrix.

The results of the study indicated that motivation, ability, and playing skill were all key factors influencing how effectively the student learned through the digital game-based learning unit.


In this article, the authors synthesized three different qualitative studies (i.e. a case study, a narrative inquiry, and a constructivist grounded theory). The authors' purpose was to explore the social and political effects experienced from various higher education institutions in the UK as they implemental curricula involving virtual worlds (i.e. *Second Life*). These explorations had a threefold focus: (1) the influence of various gaming perspectives on expectations and engagement with *Second Life*; (2) the prominent learning issues experienced by students in *Second Life*; and (3) the role of the tutors' perceived ownership of *Second Life* space in determining pedagogical approaches. The authors conducted a participatory action synthesis of data collected by three Ph.D. students who were each experienced in the use of *Second Life* from both teaching and learning perspectives. The main data sources included 90 interviews (individual, pairs, and focus groups) of students, virtual world experts, and tutors and 130 hours of observations. The disciplines of participants included computing, chemistry, education, employability, environmental health, geography, information science, and theatre.
At the conclusion of the synthesis, the authors found that prior gaming experience influenced the reactions of some (but not all) students within the virtual environment. In addition, there were instances where tutors and students both had difficulty overcoming usability obstacles (often involving technology) while engaging in the virtual world. Furthermore, one of the biggest challenges with the virtual learning experience involved the vast complexity of the factors and relations (i.e. experience, behavior, expectations, cognitive ability, contextual influence, etc.) involved with creating and maintaining a successful virtual learning environment.