From Gamified to Game-Inspired: Using Games in Higher Education Settings

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For several years, the New Media Consortium's *New Horizons Report: Higher Education* (Johnson et al., 2014) has identified game-based learning as one significant trend potentially affecting higher education. The actual prevalence of game-based learning has been somewhat harder to document, complicated by the diversity of instructional strategies and models associated with games, from the use of entertainment-oriented games for academic purposes to the use of badges and other achievement systems to document learning. Using games in higher education settings involves particular issues, from gaining institutional and faculty support to meeting expectations for academic quality and content integrity (Epper, Derryberry, & Jackson, 2012). The types of content and forms of learning possible in higher education settings differ from other educational contexts. The GLS community has a breadth of experience in approaching these various issues; one goal of this workshop was to begin forming a formal structure for support and collaboration among higher education practitioners interested in game-based learning.

There are many approaches to using games in support of learning and teaching goals in higher education, yet often these approaches are not clearly differentiated or defined. For example, the authors of the NMS Horizon Report make a simple and broad distinction between the use of games and gamification; a central goal of this session was to illustrate more complex and nuanced variations in how games are being used or how games are inspiring innovations in higher education. This workshop was designed to briefly explicate several different conceptual models as well as ways of implementing game-based instruction at both the course/lesson level and the programmatic level. By engaging participants in comparing and contrasting how games or their features have been adopted and leveraged to enhance learning within the structural, organizational and cultural constraints of higher education, we hoped to collectively illuminate and evaluate some of the assumptions that underlie these models.

Format

This workshop consisted of three interrelated components: (a) *Theoretical Overview*, which provided a theoretical foundation and a shared vocabulary for looking at and critiquing game-based instruction, with a focus on what games do well and in support of what kind of learning/teaching goals, (b) *Models-in-Action,* a brief description of five examples of game-based instruction in action, including games as "texts" or exemplars of a particular issue, teaching a game-inspired curriculum, gamifying a program of study and learning outside of the classroom, and creating and using a specific game as part of teacher training, and (c) *Workshop*, small group roundtables in which the practitioners of the various models engaged participants in hands-on activities that demonstrated key elements of their approaches and promoted discussion of the model's application in other settings of interest.

Each roundtable group was asked to respond to a common set of questions (included below) intended to promote reflection about the goals of the model and the assumptions that underlie it. Attendees were invited to participate in an ongoing, informal conversation following the session, with the goal of contributing to a "conceptual roadmap" that will serve as the beginning of a shared resource for educators interested in game-based learning in higher education, and potentially a starting point for future workshops or conference sessions.

Example models

Adapting a Role-Playing Adventure Game Format to Structure Learning - Adam Ingram-Goble
This model focused on a game-based course that aimed to help students understand the relationship between technology and society through a series of Quest Arcs. In each Quest Arc, students took up a role (i.e. critical consumer, ethnographer, game designer, etc.) and went through thematic quests to develop the skills that are necessary for them to succeed in the boss battles (project assignments). Implications for stretching students' learning across different courses using this model were discussed, as well as illustrative examples of how conceptualizing a course this way played out.

Videogames and Digital Rhetorics: Using Games as a Lens of Study - Jeff Holmes
This model examined an upper-level undergraduate English course in which games were used both as a topic of study as well as a model for inquiry. Students explored concepts of rhetoric through examples in videogames as well as their collaborative play as a class using *World of Warcraft*; in this way, students had a practically grounded experience "playing" the topics they studied. Further, the course was designed using game-inspired teaching principles in which students collaboratively created knowledge and encountered a weekly goal-directed challenge which used the work they developed to confront a particular problem.

Just Press Play: A Game-Inspired Achievement System - Elizabeth Lawley
Just Press Play is an achievement system developed for undergraduate students in the RIT School of Interactive Games and Media. It was designed to recognize and reward student engagement in non-curricular activities—specifically activities that successful graduates of the program regularly cited as significant factors in their undergraduate experience. While Just Press Play is not a game per se, it was designed using a number of game mechanics and principles of motivation in games.

Quest2Teach: A Game-Infused Learning Environment - Anna Arici
Quest2Teach is a game-infused virtual learning environment and social-professional network for teacher preparation programs to bridge between students' theoretical coursework and its application into the field. Pre-service teachers evolve their professional identity in a variety of narrative-based 3D scenarios. Game meters and other in-game analytics are fed back into a real-world professional network, leveraging gamified achievement layers to validate and extend their digital experiences into their real lives.

Journey Builder Platform: Creating Game-Infused Curriculum - Sasha Barab
This new journey builder platform is intended to support a wide range of formal and informal learning experiences, using missions and challenges that position participants to develop key dispositions as well as knowledge and skills. Quests from a pilot implementation in an undergraduate course on games and impact were used to illustrate the platform's conceptual foundations in the learning sciences and specific features that leverage game-based methodologies.

Workshop findings and future steps

The workshop was designed as an opportunity for attendees to interact with the presenters and to share some of their own insights. Each presenter served as a conversation leader for a small group around their perspective, so that attendees could focus on a topic that most interested them. After working in small groups, we reconvened to share the observations each group developed. In this way, attendees got a chance to dive deeply into a perspective but also gained some insight from the other views which could influence their own practice.

To guide the deep/broad goals of the workshop, each group responded to the same set of questions using their particular perspective. This provided each of the groups a chance to critically engage problems and opportunities in higher education settings and then hear how the other perspectives addressed those same challenges. The guiding questions were:

1. What problem, challenge, or issue does this particular form of game-based learning (GBL) address?
   For example, gamification techniques frequently are employed as a means of addressing the problem of students' lack of motivation.

2. How does this form of GBL address these issues? What features or affordances are most effective?
   For example, the capacity of digital games to allow players to take on new identities can be important to helping them adopt a new perspective.

3. What are some difficulties or uncertainties associated with this form of GBL?
   For example, how do badges really differ from grades in motivating students or representing their learning?

Several common themes appeared from all of the groups. First, giving learners context-rich experiences is central to using games of all sorts (which is indeed a theme in much of the literature around games and learning). By context-rich experiences we mean that the tasks and learning goals occur in relevant and meaningful situations connected closely to the topic or concept at hand. For example, the Quest2Teach program tasks pre-service teachers with giving feedback to students; through the game interface, the pre-service teachers interact with virtual students "face-to-face" and play through various ways of interpreting student's attitudes and providing meaningful feedback to them. The game embeds the learning goal (how to give good feedback) into a scenario that includes actions (interacting with students), explicitly related feedback (the student responses) and a narrative framework (a writing classroom) that will closely resemble the pre-service teachers' experiences when they enter their own classrooms.

The groups also recognized that games are just one tool among many good teaching techniques, which is an important move away from viewing games as a kind of cure-all. These techniques include lecturing, discussion, supplemental readings, demonstrations and worked examples, peer mentoring and support, one-on-one and one-to-many feedback, and many other teaching strategies. Games may provide a channel for some of these techniques (a worked example of a physics problem, for example). However, there is still a critical place for a teacher in the classroom who leverages the features of games strategically and in support of the learning goals in conjunction with these other techniques.

Lastly, and most critically, a central problem of using games in higher education is that the goals and subject matter of many classes are often highly idiosyncratic, so identifying games or game-inspired techniques that are appropriate for use or adaptation across various subjects, levels, and institutions is especially difficult. There may be tremendous variation in the instruction, assessment methods, and objectives and standards used by different instructors and institutions even in similar subjects (say, algebra or biology). Using games in these settings presents unique challenges, and off-the-shelf or “canned” solutions may not be particularly effective. Developing methods for using games in these kinds of classrooms is an important facet of game-based learning and instruction in higher education settings that is often overlooked in larger discussions of GBL issues.

The ultimate goal of the workshop was to begin a conversation specifically addressing the unique characteristics of using games in pursuit of higher education teaching and learning goals. We intend to hold a higher education track of the Playful Learning Summit held during the 2015 GLS conference in order to further address these unique and compelling problems.

References

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