

Designing a Game-Inspired Classroom: Videogames as Models of Good Teaching

Jeffrey B. Holmes, Arizona State University

Abstract: Games provide insight into methods of good teaching, not just good learning. This paper uses a case study of an upper-division undergraduate course to interrogate specific design choices using game-inspired teaching methods. In particular, this paper explores a model of instruction which promoted collaborative and cooperative learning and the shared production of knowledge. Further, this game-inspired theory of instruction stresses the role of teachers as designers of a learning experience.

This paper describes the design of a “game-inspired” undergraduate course based on the premise that games demonstrate good *teaching methods*, not just good learning contexts. It uses games as an inspiration for designing instructional experiences in which learners can realize the various principles Gee (2003) first described without *necessarily* creating game-like experiences. Instead, this game-inspired teaching is a way of recognizing the effective pedagogical methods videogames use as part of the “good learning tools” Gee has described tied to what we know about learning and teaching, particularly as described by Hattie and Yates (2013). Gee’s argument is not that games are good for learning (they can be in the right circumstances, with the right support and in the right application), but that games show *how* good learning happens, and *what* good learning looks like.

Further, it’s possible to reconsider Gee’s learning principles as *design principles* which can drive instructional practice. When Gee describes the Identity Principle or the Multiple Routes Principle, for example, these can be seen as goals or strategies for teaching and not just for learning. Game-inspired teaching principles are not necessarily direct correlates to Gee’s principles, but they are tied closely to these insights. These design features allow teachers to structure learning experiences in ways that work for their particular learning goals. These design principles also allow for flexibility in creating a course or other learning environment by serving as guidelines and not absolutes; the type of content, the type of learner, and the various affordances and limitations of the teaching spaces change the ways in which game-inspired teaching methods might be useful, so teachers may use them as guidelines rather than being stuck within rigid boundaries of game scenarios.

Design principle: Collaborative learning

One key design principle is covered in this paper: the notion of collaborative learning, cooperative practice, and shared production of knowledge. There are many other principles; this example highlights the *specific* design rationale behind a *specific* course in order to show the various ways game-inspired methods can be used and adapted to various teaching moments. The course, titled “Videogames and Digital Rhetorics,” focused on exploring rhetorical concepts through the lens of videogames with an emphasis on experiential practice. Students played games—primarily *World of Warcraft*--as a regular part of their course meetings and assignments. In fact, the course was a “hybrid” course, with one face-to-face meeting each week and an online component; for this particular course, the online portion was held in *World of Warcraft* with a group Skype call for voice communication.

WoW provided a core organizing principle for cooperative play (learning), that of the “party” system in which various specialized experts work cooperatively to accomplish a task (e.g. a 5-player dungeon party includes a tank, a healer, and three damage dealers in order to defeat enemies). The course was designed around a similar concept in which students chose one of three content-area specializations to focus on during the semester (identity, design, or teaching and learning); each week students read an article common to the entire class as well as a supplemental article specific to their domain. Students became “experts” in a given concept in order to collaboratively develop a weekly principle within their cohort of experts which was then shared out to the rest of the class. Students from the other disciplines did the same, and then utilized the various principles to tackle a weekly challenge in class.

In addition to the weekly problems the students faced in-class (in which they used the various principles they developed to complete the task), students faced three “mini-bosses” which served to group several weeks’ worth of related topics (such as looking at games as texts, or games in society etc.). These mini-bosses provided unique opportunities for students to apply the knowledge they collectively developed around a specific problem, and to create a solution *as a class*. For example, the class was faced with the problem of creating games (in small groups) using the various principles they created; students were provided a game template which they “filled out” by incorporating the knowledge they shared and then play-tested their games with each other.

This principle is fueled in part by the observation that learning is an inherently social act and that meaning making is contingent and works through dialogue and dialectic practices. Further, the science and psychology of learning suggest that it is highly interpersonal (Hattie and Yates, 2013) and that the human mind is geared for social collaboration in knowledge building tasks. In modern classrooms, however, students are often simply parallel learners (learning side-by-side) with various instances of shared labor (group work). The *WoW* party model is an effective metaphor for how teams can blend specialized perspectives, abilities, and interests around a shared goal. Since each role has unique functions, and each player has a specific knowledge of their tasks in each encounter, the team distributes their knowledge across the various players--and relies on each others' expertise. This is similar to various observations on collective intelligence in which the group as a whole might be considered the unit of analysis; the group collectively has more knowledge, and more capacity to put that knowledge to work, than any individual member. The course design owed much to Aronson and Patnoe's (1978) concept of the "jigsaw classroom," in which each student had one "piece" of the knowledge necessary to complete each weekly tasks but it required the efforts of all students.

Further, by sharing out their knowledge to the other cohorts, they served as masters/experts and teachers for the other groups. They provided enough information for the other students in the other cohorts to understand (at least superficially) the particular perspective in order to both incorporate it into their own perspective as well as to synthesize as a class around a weekly problem. For example, one week the topic was "big 'G' gaming," and in class students were tasked with building a model of a network of "big 'G'-like" sites for a classroom. The students various perspectives were each necessary--indeed, essential--to creating a more robust model. Students who specialized in identity, for example, brought many issues of identity play (being a student, being a peer such as a dorm mate or sorority-mate, being a child, being an adult and so on) when deciding what features and what sites would go into a "big 'G' -like" network. Similarly, the students focused on design brought issues of access, user-centered design, aesthetic and technological concerns and more; students specializing in teaching and learning helped ground the types of content and the methods each site might need to include in order to effectively structure the other perspectives. In total, each group helped illuminate, complicate, and strengthen the other perspectives.

Importantly, just like in a *WoW* party, each member does not need to be an expert in each role (e.g a DPS player doesn't need to know all the specific actions of a healer); however, each player needs to know enough about the other two roles in order to gauge how the group is doing and how their own performance might be altered. That is, players need to know at least something about the other roles in order to more fully understand and act within their own role. In a similar sense, this course was designed to give students an opportunity to engage with other perspectives and know at least something about them in order to complicate their own thinking. In a sense, sharing the cognitive load across all the students helped cover more ground than any single individual student could handle. Students taught each other by distilling at least a key idea from their own perspective, and they learned enough from each other to gain a deeper understanding of each weekly topic.

References

- Aronson, E. and Patnoe, S. (1978). *The jigsaw classroom*. NY: Longman.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. NY: Palgrave.
- Hattie, J. and Yates, G. C. R. (2013). *Visible learning and the science of how we learn*. NY: Routledge.