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Book review: From N00b to Community Organizer: A Review of Kurt Squire's 'Video Games and Learning: Teaching and Participatory Culture in the Digital Age

Reviewed by Michelle A. Hoyle

**University of Sussex
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Publication details

Video Games and Learning: Teaching and Participatory Culture in the Digital Age
by Kurt Squire (forward by James Paul Gee; featuring contributions by Henry Jenkins)
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Review

Squire's new book, published last year, is a collection of detailed case studies of educational games, including reflection on their design, deployment, failures, and successes, based on Squire's research studies. He intersperses the case studies with personal anecdotes from his own developmental trajectory from game user to game designer. Prefacing each chapter's case studies is a set of questions about learning, game design, participation or teaching with games to be answered within the chapter. Each chapter concludes with a summary of practical or theoretical principles.

This book leverages Squire's background as a teacher, gamer and scholar. Squire's passion for gaming arose as a teenager in the 80s when home computers heralded the advent of game playing beyond simple arcade games. He taught at primary and Montessori schools before his interest in gaming and education led him to completing a doctorate in 2004 supervised by Sasha Barab of Indiana University's *Quest Atlantis* fame (Quest Atlantis, n.d.). Since then, he has researched topics around games designed for learning with games and literacy advocate James Paul Gee (Gee, 2007b); participatory cultures proponent Henry Jenkins (2009) and epistemic games researcher David Williamson Shaffer (2006). Squire is currently an associate professor of Educational Communications and Technology at the University of Wisconsin-Madison and a co-founder of the Games+Learning+Society initiative.

The main problem Squire examines is how we can (or even if we should) design, study, and teach with games in a way that motivates and interests students to not only learn but to move beyond rote memorization to become producers and participants in the digital age. There are other books addressing the use of games for learning, but most are compilations of research work from many different authors rather than a practical unified model, design philosophy, and analysis derived iteratively over 10 years of work. Its other key contribution, reflected in the title, relates to the promise and potential of video games to promote and benefit from community participation in life and learning. This is a topic not yet well served by existing books, although Pearce's *Communities of Play* (2009) focuses on emerging game cultures using an ethnographic point of view of interest to researchers. While this book is based on research, its intended audience is not primarily games-based learning researchers; they will already be familiar with many of the ideas and references to other similar research work are not included. It is, however, a good choice for educators or others interested in the practical aspects surrounding the convergence of games, game design, learning, and community participation grounded in pedagogy.

Squire correctly asserts that it is both useful and productive to study video games, because people are already learning academic content on their own in games; good games are deeply engaging and their design principles offer us insights into how to incorporate that engagement into our own teaching; and games are representative of a cultural shift from consumption to one of production and collaboration with and for communities. This latter idea resonated strongly with my own research into massively multiple online games-based learning communities and what and how adults are learning together. In the book's preface, Squire says:

"This book attempts to understand what properties make a good educational game, and then to judiciously and creatively apply those ideas to the design of learning environments. It's not just any old kind of game that can teach; there are specific properties of "educational" games that make them important for engagement and learning." (p.xi)

He goes on to say,

"[T]his book focuses on creating a vision of digital games and learning that draws on critical analyses of games, naturalistic research of game communities, descriptions of design research, and empirical studies of learning through games" (p.xiii).

Does he deliver? For the most part, I would say yes. What he gives us is definitely a forward-looking vision incorporating those elements. Is that vision compelling, convincing, and attainable? Again, mostly yes, but I have some reservations, as will be revealed below when considering the major themes Squire covers.

Theme Summary

Case studies of actual educational use of commercial games, like *Civilization 3*, and games Squire designed around specific academic content are used to explore designing and teaching with games. On the surface, the book discusses learning, gaming, and teaching principles at a practical level. More abstractly, it can be viewed as a series of investigations into those self-evident topics, incorporating themes around educational theories, trajectories, participatory cultures, and processes. I leave the reader to discover the practical content and focus on how these themes affect the book's practical messages.

Influenced by Dewey's ideal that education is about participation in life and not preparation for life (1897), the learning Squire proposes is based around well-designed games' strength in providing problem-based and experiential learning. In his model, learning is by doing, by making or designing, and by participating. Teachers act as mentors or facilitators, not as the so-called "*sage on the stage*" (King, 1993). Closely allied educational methods of inquiry-based (see Bruner, 1961; Postman and Weingartner, 1971) and place-based learning (Sobel, 2004) are proposed as being particularly suitable for augmented reality games. Even if real games are not designed or used, educational features designed into good games and educational approaches such as the Montessori method - compatible with constructivist ideals of learners making connections and building knowledge internally - can be adapted by teachers to promote critical thinking and civic engagement through community and play.

Trajectories appear throughout the book. The first is learning: progressing students from novices to experts. Game playing trajectories move a player from "n00b"^[1] to an "exploiter", capable of understanding and manipulating the system, and then finally to a "modder"^[2], building on or around the game. This ties in to the educational theories mentioned previously and reflects the participatory digital culture explosion arising out of Web 2.0 technologies and philosophies, where digital media enables people to follow their passions, learn, and then reach a global audience by publishing what they have produced. Games can scaffold and guide this trajectory, Squire claims, moving learners from systemic thinking about the emergent properties and rules of the game to design thinking where biases, representations, and rule systems are tinkered with to suit the learner. When multiple people with the same interests come together, gaming communities arise, resulting in the final proposed trajectory: players begin as game users, then become game designers, and eventually transform into community organizers. Notice how these trajectories mirror the original learning trajectory from novice to expert.

Gaming communities are, Squire asserts, examples of participatory cultures in action, offering us some aesthetics applicable to designing and fostering our own learning communities. First of all, these communities are an interest-driven space where members are emotionally invested in a joint venture. Like Gee's affinity spaces (2007a), these are typically open democratic spaces, where experts and newcomers mix freely to submit and moderate content, producing something and learning from one another. Can similar learning communities built around educational game experiences foster civic engagement and authentic participation in real-world communities? Squire believes they can, because games engender a playful spirit where it is fun to envision the world in different ways; games are inherently participatory; when a profound learning experience occurs in a designed world, there is a tendency to examine and question why the real world is at it is; and games engender expertise within simulated systems while encouraging consideration of how these skills could be employed elsewhere. Incorporate these ideas into a place-based augmented reality game with real-world considerations and you have authentic participation with a legitimate social impact on your local community.

In Squire's studies, teachers were an important part of the game design process. Squire states that educational design teams should integrate learning scientists, game designers, and subject matter experts. Within the classroom, teachers became a game "resource", offering information just in time and acting as guides. A process is suggested whereby game mechanics can be derived from academic content without sacrificing the "fun". Sensibly, Squire does not suggest that well-designed games or games-based curricula will work for all students all the time. The case studies are examples to be adapted or used to transform teaching and learning in a way that the teacher prefers, not to

standardize teaching into a one-size-fits-all process. Key design process ideas were the advantages of rapid prototyping, iterative design, and the necessity of good design execution.

Commentary

The lack of research evidence on the efficacy of the described games for learning or even for the Montessori teaching approach could be considered a weakness. While pre- and post-tests or pre- and post-interviews were conducted, Squire could not definitively say that the games improved or increased learning. In the book's coda, Squire discusses the difficulties of "gold standard" research in education and how, in order to control the experimental condition sufficiently, many aspects that make game-based learning effective must be removed or require a very large effect to register on standardized assessment tests. This seems plausible and explains why, in the one study he mentions of this type, no significant difference in learning was found between the control and the experimental group. However, in interviews, where students could be asked to explain what they thought and why, their answers often revealed evidence of systemic thinking if they had been playing a game. That is not low-level memorization in Bloom's taxonomy (Krathwohl, 2002) but higher order thinking skills, like evaluation and analysis - critical thinking skills we want students to exhibit. That is promising and desirable.

The argument that well-designed games promote and encourage systemic thinking is successfully made. I am not convinced the case is made that students will progress from systemic to design thinking or complete the trajectory from designer to participant in analytical communities. From Squire's *Civilization 3* game analysis community case study and Steinkuehler's MMOG work on scientific habits of mind (Steinkuehler and Duncan, 2008), we know such communities can form around games, but do they always? I think Squire makes the assumption that not only *will* they form but people *will* participate. This assumption is not borne out by his own attempts to encourage a similar sort of community or transform students into designers. While a small subset of students did regularly develop mods, about half did not.

In my experience of both educational and recreational online communities dating back to 1980s bulletin boards, the majority of content is produced by a minority of participants. A 2010 Wikipedia study found that only 7.42% of surveyed Wikipedians were regular contributors with 23.25% occasional contributors (Glott et al., 2010 p.5). As of May 2011, *World of Warcraft* (WoW) had 11.4 million subscribers (Fahey, 2011). Curse, a popular repository for WoW player-created game add-ons, recently reported 4816 mods and 2870 add-on packs^[3]. Even assuming add-on packs did not duplicate some of the mods and WoW had the same percentage of players contributing as found in the Wikipedia survey, each programming team would need to include about 1483 people. That strikes me as highly unlikely. Most players are not producing in that way. Low figures are also available for the popular WoW knowledge wikis. While some might argue that reading-and, by extension, playing-is a form of legitimate peripheral participation (e.g. Antin and Cheshire, 2010; Nonnecke et al., 2006), if your goal is learning by doing and producing, that goal is not being met.

If, however, you view any design thinking or even shallowly analytic communities forming as a bonus and focus on promoting systemic thinking, this book provides some great lessons learned on designing good games and using them to teach. The various augmented reality games involving students in local community issues were particularly powerful, but even more traditional video games were shown to engage many students and offer the potential of producing a holistic cross-subject view of a particular idea. From physics to environmental science to geography, there are ideas applicable to designing

games for a range of educational levels and contexts. The advice given on choosing a problem and designing game mechanics around it help ground games in sound pedagogy, although the linkages are not as explicit as I have made them in this review. Unlike many "how-to" books, Squire goes beyond theory, putting his ideas into actual practice, and then being truthful about problems and failures. He is also realistic about the potential for large-scale implementation.

I said earlier this is a good book for educators. The book is written in a very engaging and accessible style, although some terms like "transgressive play" are used without adequate definition and the work is firmly situated in American educational contexts. Nevertheless, it is not dense with educational or game design research theory that might make it difficult to understand. Instead, Squire focuses on communicating his vision and learning model through the rich case study descriptions and surrounding analysis, providing only the necessary underlying theory. Chapter 5 on designing games and Chapter 9 on designing curricula are especially valuable for those looking for practical implementation strategies. The key is to recognize that not just any game will do: they must be well-designed, and Squire is careful to emphasize that. While I may not have been convinced that most students will transition into designers and active community organizers, the case for why and how this is useful for learning and life is made.

What I found most interesting - and most discouraging - was that Squire convincingly explains why we should study video games and then spends many chapters demonstrating how we can design good games or incorporate 'gameful' ideas into our teaching and curricula design, only to then conclude that games are perhaps better suited to informal learning contexts. This conclusion arises from a question posed in the last chapter about what an integrated American kindergarten to grade 12 game-based curriculum might look like. In informal contexts, like museums and after-school clubs, organizations have a freer hand in deciding what content is important and how to best communicate it. These organizations and situations were also likely more open, he thought, to leveraging mobile media in a way educators typically have not been. Games are a perfect fit because they capture attention, increase interest, and feed into other educational activities. This is true, but still somewhat depressing. However, it is important to realize that his answer applied to an entire 13-year spectrum. Teachers are likely to have the opportunity and power to implement bite-sized games-based chunks in their own classrooms at different educational levels, perhaps starting with extracurricular experimentation.

Conclusion

I am also part of the 80s "gamer generation" and my experiences in learning to program and starting to teach have led me on a not too dissimilar path to Squire's. I can identify with Squire's reminiscences of nights spent playing games and working with others. These experiences have shaped our ideas about learning and community. Squire is offering you a window to a future where our teaching is transformed into students wanting to learn and to think about the ideas we need them to while learning how to participate in life with others in a meaningful way. There is solid stuff here into which you can sink your teeth and do something positive with and for your students, I think. Good luck on your gameful adventures.

References

Bruner, J.S. (1961). 'The Act of Discovery'. *Harvard Educational Review*, 31, pp.21-32

Dewey, J. (1897). 'My Pedagogic Creed'. *School Journal*, 54 (3), pp.77-80. Available from: http://en.wikisource.org/wiki/My_Pedagogic_Creed [Accessed January 30, 2012].

Fahey, M. (2011). *World of Warcraft Suffers Post-Cataclysmic Drop in Subscriptions* [online] Kotaku. Available from: <http://kotaku.com/5800175/world-of-warcraft-suffers-post+cataclysmic-drop-in-subscriptions> [Accessed January 30, 2012].

Gee, J.P. (2007a). 'Affinity Spaces: From Age of Mythology to Today's Schools'. In: *Good Video Games + Good Learning: Collected Essays on Video Games, Learning, and Literacy*. New York: Peter Lang. pp.87-103.

Gee, J.P. (2007b). *What Video Games Have To Teach Us About Learning and Literacy*. 2nd edition. New York: Palgrave Macmillan.

Glott, R., Schmidt, P. & Ghosh, R. (2010). *Wikipedia Survey - Overview of Results*. United Nations University. Available from: http://www.wikipediasurvey.org/docs/Wikipedia_Overview_15March2010-FINAL.pdf [Accessed January 29, 2012].

Jenkins, H. et al. (2009). *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. Cambridge: MIT Press.

Antin, J. & Cheshire, C. (2010). 'Readers Are Not Free-Riders: Reading as a Form of Participation on Wikipedia'. In: *2010 ACM Conference on Computer Supported Cooperative Work*, February 6-10, 2010 Savannah, GA. ACM. pp: 127-130. Available from: <http://dx.doi.org/10.1145/1718918.1718942> [Accessed January 29, 2012].

King, A. (1993). 'From Sage on the Stage to Guide on the Side'. *College Teaching*, 41 (1), pp.30-35. Available from: <http://www.jstor.org/pss/27558571> [Accessed January 29, 2012].

Krathwohl, D.R. (2002). 'A Revision of Bloom's Taxonomy: An Overview'. *Theory into Practice*, 41 (4) [online]. Available from: http://dx.doi.org/10.1207/s15430421tip4104_2 [Accessed January 31, 2012].

Nonnecke, B., Andrews, D. & Preece, J. (2006). 'Non-Public and Public Online Community Participation: Needs, Attitudes and Behavior'. *Electronic Commerce Research*, 6 (1), pp.7-20. Available from: <http://dx.doi.org/10.1007/s10660-006-5985-x> [Accessed January 29, 2012].

Pearce, C. (2009). *Communities of Play: Emergent Cultures in Multiplayer Games and Virtual Worlds*. Cambridge: MIT Press.

Postman, N. & Weingartner, C. (1971). *Teaching as a Subversive Activity*. Aylesbury: Penguin Education.

Quest Atlantis. (n.d.). *Learn More* [online]. Available from: <http://atlantis.crlt.indiana.edu/#44> [Accessed January 30, 2012].

Shaffer, D.W. (2006). 'Epistemic Frames for Epistemic Games'. *Computers & Education*, 46 (3), pp.223-234. Available from: <http://dx.doi.org/10.1016/j.compedu.2005.11.003> [Accessed January 30, 2012].

Sobel, D. (2004). *Place-Based Education: Connecting Classrooms & Communities*. Great Barrington, MA: Orion Society.

Steinkuehler, C. & Duncan, S. (2008). 'Scientific Habits of Mind in Virtual Worlds'. *Journal of Science Education and Technology*, 17 (6), pp.530-543. Available from: <http://dx.doi.org/10.1007/s10956-008-9120-8> [Accessed January 30, 2012].

[1] "n00b" or "newbie" is a gamer term for a newcomer.

[2] A "modder" is a game player who designs his or her own game artefacts (AKA "mods"), like additional maps, plug-ins for user interfaces, or even entire game worlds built with game level editors.

[3] <http://www.curse.com/addons/wow> polled on January 30, 2012. Add-on packs are collections of bundled mods pre-configured in some way, e.g. to support a particular game role, like healing.