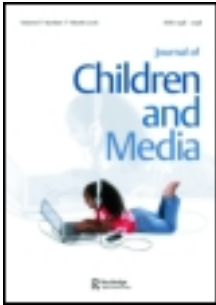


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### Video Games and Learning: Teaching and Participatory Culture in the Digital Age

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# BOOK REVIEW

*Video Games and Learning: Teaching and Participatory Culture in the Digital Age*

K. Squire

2011, Teachers College Press New York

v–253, ISBN 978-0-8077-5198-5

*Video Games and Learning: Teaching and Participatory Culture in the Digital Age* arrives in a timely fashion, as today's technology offers students round-the-clock access to digital media. Sharing insights gained from more than a decade of adventures in the field, Kurt Squire offers a fresh perspective on the potential of video games for education. In this book, readers can find critiques of educational games, educational design principles for aspiring designers, analysis of the participatory nature of games and play, and naturalistic and empirical research on games and learning recounted as personal stories.

As James Paul Gee, a thought leader in the field of gaming and learning, points out in the foreword, the development of games has inspired a new form of "situated, embodied, problem-based learning" (2004, p. ix). To fully realize a game's ability to enhance learning, everyone from the developer to the educator must contribute in their respective roles. Squire's interdisciplinary approach in evaluating success thus makes this book a useful resource for educational researchers, game designers, school teachers, students, parents, and game enthusiasts.

Ten chapters are organized around Squire's experience with educational games. Each of the first nine chapters raises one or more "theme" questions in the beginning and concludes with a section called "Theory and Practice," which addresses those questions with multiple bullet-pointed strategies, suggestions, and solutions. Several feature articles, co-written with Henry Jenkins, are interspersed between the chapters to provide reflexive understanding, critique, and analysis of sample commercial games and educational games. Less-invested readers can easily browse these articles to gain an overall impression of the book. Additional sidebars, footnotes, and other design elements indicate the interconnect-edness of the themes.

Chapter 1 begins with an anecdote from Squire's high school years. In his history class, the teacher initiates a classroom discussion on the era of Spanish colonization. No one responds. When the teacher changes gears and asks a question about ships, Squire immediately jumps in with facts about galleons and other types of ships, Caribbean, and additional historical tidbits. He had gleaned the information by playing *Sid Meier's Pirates!* (1987), an action role-playing game with challenges based on Caribbean geography and history and beyond. The chapter moves on to examine the gaming mechanism of *Pirates!* and several other popular games. Squire argues that most video games call for a participatory culture, which could be adapted for educational experiences, also participatory in nature. Games have become "an important site of learning" (p. 16) and deserve academic attention.

The next chapter starts with another funny story of how Squire and his college classmates, all addicted to *Civilization* (1991), competed for game time on the only computer in their house. Squire draws comparisons between a player's approach to "Civ"

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and a meaning-making process that is deeply productive. While the geographical representation of the world in *Civ* can be biased, if not problematic, players often realize those biases when they play the game. More importantly, the interactive platform afforded by *Civ* allows the players to explore the endless possibilities of the world's geopolitical history on broad timescales. The process motivates gamers, who usually start as "n00bs," or newbies, to work towards status as "modders," or advanced users, who modify existing games or create their own. Such trajectory of participatory socialization is common in gaming communities and somewhat echoes the user empowerment in active audience research (Morley 1992). Compared to non-interactive media such as film and television, video games allow more opportunity for participatory engagement from the players, who construct meaning and knowledge from the interaction process. The chapter ends with several criteria for effective educational games.

Chapters 3 and 4 focus on the interplay of gaming and schooling. If games do help in the learning process, how can they be put into classrooms or integrated into curriculum development? Squire provides strategies by emulating the teaching philosophy of Montessori education. To facilitate game-based learning, teachers should refrain from didactic instruction and become committed to interest-driven learning as "coaches, advisors, and producers" (p. 59). On the other hand, the learners should participate in and even create their own learning communities, which should then be incorporated into the educational game design process.

The next two chapters examine two methods to integrate gaming and education: to build new games for learning, and to adapt existing commercial video games for the classroom setting. Chapter 5 describes the development of two educational games called *Environmental Detectives* and *Supercharged* and their applications in schools. According to Squire, to make an effective educational game, a development team should comprise three types of people: education scientists, game designers, and subject matter experts. The development process should be iterative, with frequent prototyping and testing. Chapter 6 includes a case study of *Civilization III* (2001) used to teach world history to a class of marginalized students in Boston. Squire concludes that to make the best use of an existing commercial game, a teacher should know the game well enough to accommodate students' levels and styles of learning and provide timely instruction. No matter what types of games are used, the key question remains, "In what ways can players be creative?" (p. 105)

With two additional case studies, chapter 7 continues the discussion on the role of games in revolutionizing education. The first study focuses on *Viewtiful Joe* (2003), a successful action/fighting game released on the Nintendo GameCube. The evaluation of the game's aesthetics is arranged around several design themes such as entertainment, flow, and narrative and satisfying experiences. The second study relates to the participatory nature of games by analyzing Apolyton University (<http://apolyton.net>), an online fan community of the *Civilization* game series. The study concludes that learning via gaming can be innately social, interesting, and can even have a real-world impact. With a good educational game, gamers can engage in self-directed learning and participate in online communities. A question follows: How will educators take full advantage of the games?

Both chapters 8 and 9 attempt to address this question. Chapter 8 emphasizes the central role of competition in learning. Inherently part of any gaming experience, competition motivates players to improve their skills along the trajectory of participation. As they gain confidence and skill sets specific to the game, their participation level may evolve from newbie to designer. The gaming process thus becomes productive and active. Chapter

9 recounts the experience of Squire's research team as they adapted design and instruction ideas into real-world curricula. Several games were tailored to school settings; students played as different professionals and were engaged in problem-solving tasks. Partnership with "offline" communities such as recreational clubs or volunteer groups can be crucial.

The last chapter discusses how games could be integrated into future instructional curricula as part of the educational technology revolution. It calls attention to several emerging areas for progress: development (independent companies possess great potential for innovative approaches and ability to think outside of the box), approach (games could be embedded in informal learning settings such as science museums and other affinity spaces [Gee 2004]), and platform (mobile media devices provide a brand-new sphere with special appeal to the youth).

A constant problem facing many educational game researchers is the lack of evidence to support the effect of games as compared to other curricula. Randomized controlled trials (RCT), or "gold standard" research, is a possible solution to dissipate the doubts from skeptics. The RCT method compares pre- and post-test scores between controlled conditions. But this approach should be treated with caution. In the book's coda, Squire warns against sole reliance on this method to determine whether an educational game is effective. In the real world, experimental and control conditions cannot be guaranteed to be completely comparable in all aspects, which can make it difficult to detect significant quantitative differences. What works best for educational games, such as interest-driven learning, may not be immediately detectable or quantified. The crux is not to decide "which measurements to use, but how to rethink assessment and evaluation procedures for a more participatory age" (p. 234).

Overall, Squire provides a thoughtful collection of case studies and field applications conveyed in an engaging style for multiple audiences. For principles of educational game design and game case analysis, chapter 2's guide of what makes a good game, chapter 7 on game aesthetics, and many sidebars interspersed throughout the book offer meaningful insight. For practical solutions and lessons learned from the real world, chapter 6's review of adopting *Civ* to classrooms and chapter 9 on adapting games to curricula are especially useful. The writing is straightforward and without dense jargon. A list of academic references helps interested readers to retrieve further information. Noticeably absent is a reference list of the game titles mentioned in the book, with production years, publisher names, and countries of origin. This information would help to place educational game research in chronological context with an international outlook.

Many thought-provoking questions are covered by Squire and could have been explored with more depth. What are the educational implications of players' development along the participatory trajectory? To what extent can the online gaming community be incorporated into informal and formal learning contexts? How realistic would it be to tailor games to each individual's learning style? Games' role in the educational landscape will be increasingly prominent. Squire's book contains a wealth of relevant experiences with insightful tips to get us ready.

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