

## **The Ecology of Games: Connecting Youth, Games, and Learning**

*Edited by Katie Salen*

MIT Press, 2008

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*Reviewed by Richard Van Eck*

Those who study the emerging field of game-based learning (GBL) have seen it grow from a few lone voices in the wilderness to a chorus of researchers, media professionals, teachers, administrators, parents, and others. One could argue that the concept of GBL is now an accepted part of popular—if not also mainstream—culture. This growth in the number of voices has also been accompanied by a shift in the nature of these voices. Whereas GBL in the early days was, of necessity, characterized by proselytizing, there has been a slow and steady shift toward theoretical study and empirical research.

The trickle of scholarship and collected wisdom in the 1980s and 1990s—in books like Margaret Gredler's *Designing and Evaluating Games and Simulations* (1994), articles like Thomas Malone and Mark Lepper's theory of intrinsic motivation (1987) and Lloyd Reiber's "Seriously Considering Play" (1996)—has grown to a stream of scholarship characterized by dozens of journals devoting entire issues to GBL and by books like James Gee's groundbreaking *What Video Games Have to Teach Us about Learning and Literacy* (2003) (which many view as the first scholarly text in GBL's struggle to become a field), Ian Bogost's *Persuasive Games* (2007), and David Williamson Shaffer's *How Video Games Help Children Learn* (2006). These texts collectively have helped to advance the field toward academic rigor while making it accessible to the general public.

This movement has not been smooth, however. With quantity comes more variation in quality, and whereas an interested reader could formerly capture the essence of the field with a handful of

books and a few dozen journal articles, that same reader now must choose from among hundreds of texts and dozens of articles. It has become difficult to know which are reliable and how to reconcile the cacophony of voices. The need to survey what has been created and attempt to, if not reconcile, at least search for theoretical frameworks, commonalities, and implications is one of the most important challenges for this emerging discipline.

A corollary challenge lies in the nature of the voices that constitute this field. The volume of contributions to GBL has not been matched by a diversity of approach, content, or perspective commensurate with the complexity of this emerging discipline. The tension between pulling the field together while ensuring a rich and diverse canon remains one of the primary challenges facing GBL.

*The Ecology of Games*, edited by Katie Salen, is an excellent example of a text that addresses this challenge, although as Salen herself points out in the preface, it is perhaps more successful in meeting the latter part of the challenge. The book is one of six in The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning published in December 2007, but it is the only one focused exclusively on games. All are available free (open access editions) at <http://www.mitpress.com> or as a bound copy for \$16.

Salen brings a strong acumen to the editorship as a game designer, director of graduate studies in Design and Technology at the Parsons School of Design, and co-author/editor of *Rules of Play* and *The Game Design Reader*. As you might expect of a book sponsored by MacArthur and published by the MIT Press, the table of contents is filled with names familiar to the casual reader of the GBL literature, including James Gee, Ian Bogost, and Kurt Squire. Several other authors are well known to the field of GBL but not as familiar to the general public. The resultant diversity of voices "from educational, learning sciences, film studies,

technology, anthropology, game design, performance studies, computer science, and youth development" is overdue, welcome, and—in the case of this book—successful. It is this diversity of perspectives, along with the attempt to provide a conceptual framework (an ecology), not just for GBL but for games as a whole, that makes this book one of the more significant recent GBL publications.

Salen's introductory chapter serves both to illuminate the historical context of GBL and to establish a framework for the rest of the book, which is organized into three sections: Learning Ecologies, Hidden Agendas, and Gaming Literacies. Salen says that the book's purpose is "to complexify a debate around the value of games and gaming that has been, to date, overly polemic and surprisingly shallow." The book is successful in this partly through Salen's cultivation of a diversity of authors and topics, and partly through the authors' treatment of their respective topics. This ensures that there are more, not fewer, questions and future directions for games and GBL. Those looking for easy answers and definitive statements about the field as a whole will not find them here (nor would they be appropriate).

James Gee opens the Learning Ecologies section with his usual blend of acumen, scholarship, and ability to convey complex ideas in a way that is accessible to readers. His chapter, equally accessible to novices and experts in GBL, is an excellent overview of some of the key theories of learning in games and sets the stage for the rest of the chapters in this section.

Reed Stevens, Tom Satwicz, and Laurie McCarthy bring a fascinating and unique perspective to the conversation in their discussion of the educational/cognitive psychology theory of transfer, which they argue cannot be adequately addressed in controlled laboratory settings. When you read their analysis and the transcripts of their observations of children playing games in the real world, you may find yourself

wondering, as they do, why this approach has not been taken more often. (Doctoral students in the learning sciences take note—this is an underused methodology that will yield important contributions to the field.) At least as fascinating as their interpretations are the myriad of other questions and ideas they generate. I found myself wondering what Yasmin Kafai, Carrie Heeter, or Patricia Greenfield—known for their study of girls and gaming—might make of the gendered interactions and power relationships of many of the brother-sister interactions. This is not a weakness of the chapter but rather a testament to the need for this diversity of perspective and analysis overall in the field.

Amit Pitaru's description of the challenges and triumphs of the students he worked with as a game designer confronted with the challenges faced by those with physical disabilities will shock, dismay, delight, and amaze you all at once. The issue he addresses in this chapter goes well beyond equal access to entertainment; Pitaru illuminates the connection of games and accessibility to equal participation in school, to the environment, and indeed to the very nature of what it means to be human in this modern world. You will find it both shameful and unforgivable that we have allowed this state of affairs to develop. If you read nothing else in this book, you should read this chapter.

Part II: Hidden Agendas focuses on how games may accomplish a variety of things that might not be visible from the surface. The section begins with an excellent treatment by Mizuko Ito of the field of "edutainment," which Seymour Papert has compared to the hereditary condition in which the offspring inherit the worst characteristics of the parents—in this case, the worst kind of learning in the worst kind of game. Ito presents an excellent historical overview of the field but goes beyond the historical to the cultural, political, and personal contexts (via transcripts from her own ethnographic studies of

gamers) of our attempts over the years to create "blended" learning games.

Ian Bogost's contribution, "The Rhetoric of Video Games," reprises his arguments from *Persuasive Games* (2007) and is both a good overview of this approach and an important contribution to this volume. As a former teacher of composition, I appreciate the clarity of his case for rhetoric in its original definition and connotation (argument or persuasion) and its connection and extension to games themselves, but it is relevant and accessible for non-English majors as well.


Like Amit Pitaru's contribution, Anna Everett and Craig Watkins's chapter addresses an understudied aspect of games in their chapter on race and what they call "Racialized Pedagogical Zones" in games. They go well beyond typical analyses of games as representative (or not) of diversity to the heart of how games create meaning (i.e., their rhetoric). This chapter should be required reading for anyone who wants to get past the headlines about kids playing *Grand Theft Auto*.

Kurt Squire's chapter, "Open-Ended Video Games," begins the third and final section, Gaming Literacies. He offers a theoretical model for how open-ended games support problem solving, creativity, collaboration, and a host of other skills that are often referred to as 20th-century literacies. This and the other contributions in this section represent a critical aspect of this emerging field—the need to establish theoretical models that explain (and can be used to test) what we think we know.

Jane McGonigal continues this section with "Why I Love Bees." I saw McGonigal's keynote at the 2005 Serious Games Summit in San Diego on this topic, and the audience was completely captivated by her description of the alternate-reality game called *I Love Bees*. You cannot fully understand the field of GBL and the passion those of us studying it bring to the table without understanding alternate-reality gaming (ARG) in general or this

case study in particular. Understanding ARG is vital not so much because it offers a practical model for reforming educational practice—a sometimes enormous undertaking that would require effort, skills, and resources most cannot replicate—but because everything we talk about in GBL (problem-solving; learning; 20th-century literacies; and the full spectrum of complexity, engagement, collaboration, and effort that games inspire in those who play them) is presented here in a way that gamers and non-gamers will immediately grasp.

The final two chapters describe gaming literacies from two different perspectives: Second Life and Global Kids. Cory Ondrejka provides a useful overview of the history and origins of virtual worlds, as well as a specific analysis of Second Life and its relation to these origins and the theories and literacies described in the other chapters in this section. Barry Joseph's chapter, "Why Johnny Can't Fly," grounds these theories and ideas in the context of youth development and presents a powerful case for games as new media that can support maturation and acculturation rather than act against it.

In the end, this book achieves its goal of "complexifying" our understanding of games while highlighting what all these voices have in common. As Salen herself says, "The gift of this volume is in the many questions it leaves unanswered, providing new pathways for work in this field." It is a gift, indeed, and one I hope reaches both mainstream and academic audiences. The future of GBL will largely be determined by this and other works that point the way toward future research and practice. It is as appropriate for those immersed in the field of GBL as it is for those who just want to better understand what all the fuss is about. 

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**Enterprise Architecture as Strategy: Creating a Foundation for Business Execution**

Jeanne W. Ross, Peter Weill, and David Robertson

Harvard Business School Press, 2006  
\$38.00 (hardcover), 256 pp.  
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Reviewed by Jim Phelps

It might seem strange that an enterprise architecture book would have only one line about technology, but *Enterprise Architecture as Strategy: Creating a Foundation for Business Execution* by Jeanne Ross, Peter Weill, and David Robertson is just such a book. The authors have spent 20 years studying the factors that helped certain organizations succeed in competitive markets. They found that the differences that allowed these companies to be successful were at the “tops” of organizations, not “down” in the technology. The authors argue that leaders must come together to define the business processes and types of information that are shared across the enterprise. Agreement on these core processes and integration requirements lays the groundwork for the strategic planning processes: defining an operating model, establishing an enterprise architecture to support that model, and creating the IT governance needed to execute the plan. These factors are driven by business needs, not by technology, which is why this book can have such meaningful discussion about enterprise architecture and IT strategy without directly discussing technology.

The book outlines a straightforward framework for emulating successful organizations by building an effective “foundation for execution,” which allows the enterprise to respond quickly and efficiently to changes. The authors begin with a discussion about the important roles of senior leaders in defining an enterprise-wide operat-

ing model. “The enterprise architecture process should start with senior management debating the operating model.... Choosing an operating model forces a decision on general vision.”

Defining and implementing an operating model enables managers to articulate a common vision for how the enterprise will operate. The operating model must support key strategic directions but have greater breadth and depth than a strategic plan. This includes the specific business processes that are shared and the common integration points. This vision is represented in a single-page picture (the “core diagram”)—of which the authors provide several examples from various case studies—that acts as an important discussion point for leadership. IT leadership plays an important role in facilitating the discussion and drawing the core diagram, but it is the collaborative decisions—about what is core, who the customers are, and what should be shared—that are the key to this work.

The book walks through the four types of operating models: Unified, Coordinated, Replicated, and Diversified. The Unified model is defined by highly standardized business processes and high levels of integration. The Coordinated model has high levels of integration (shared data) but few shared business processes. Replicated models share business processes but are not integrated. In Diversified models, there are few shared processes and little integration. The authors provide case studies and a good description of the characteristics of each model.

The book then describes the steps to move from a core diagram and enterprise architecture to a foundation for execution, which is the “IT infrastructure and digitized business processes automating a company’s core capabilities.” The authors outline four stages of maturity, from Business Silos to Business Modularity, and describe the path and importance of each stage.

The authors discuss the role of enterprise architecture in implementing each type of operating model, again emphasizing the importance of having leaders work together to define the enterprise architecture. Defined well, this architecture provides details on the core business processes, shared data that drive those processes, the key technologies, and key customers. The authors argue that successful implementation provides benefits in five areas: IT costs, responsiveness, risk management, managerial satisfaction, and business outcomes.

The descriptions of the benefits present a good argument for taking your leadership through this work. As our IT ecosystems have become more complex and more intertwined, our ability to respond quickly to changes has become more difficult, and projects carry higher risks due to security threats and integration complexity. More of our budgets are tied up running systems at status quo than for innovating. Even with loss of local control, there is overall greater managerial satisfaction with IT when the enterprise has an “optimized core.” Operational costs also go down, which frees up funding for innovation and new initiatives. Risks can be reduced because you understand what is core and can optimize for disaster recovery and reduce duplication of core data to help manage security risks.

For this work to be successful, a responsive IT governance process is needed. The authors found that “companies with effective IT governance have profits that are 20 percent higher” than their peers’. The book discusses the changing management practices as the enterprise matures. It also covers the needed project management practices and linking mechanisms that connect the governance processes to the project management processes.


Throughout the book, the authors provide several case studies with examples of processes that the profiled organizations employed to develop their

enterprise architectures. The authors discuss the changes in attitudes and responsibilities of managers and leadership as the architecture matures. They emphasize the step-wise nature of moving to a mature foundation for

execution, and they highlight the value in each step. They discuss the risk of skipping steps and give examples of organizations that implemented web services, for instance, before they were prepared for them.

One particularly valuable aspect of the approach the book endorses is that it does not create many artifacts. It requires leadership agreement and a very small set of documents that describe the agreement in an approachable and understandable way. The importance of this work lies in creating a shared vision and an agreed-upon strategic plan, not in creating a lot of artifacts that quickly disappear into file drawers.

As senior IT architect at the University of Wisconsin–Madison, I am applying this approach at many levels in my job, from a single strategic area to larger strategic planning efforts. I use *Enterprise Architecture as Strategy* as a foundation for discussion because of its nontechnical nature and the straightforward discussions that it sparks. In my work with this model, most people assume we are highly diversified until we start talking about the shared data and business processes. Many are surprised to find that we are more highly unified than they believed. This, if nothing else, is a valuable outcome from the *Enterprise Architecture as Strategy* approach.

I find that I go back and reread this book and loan it out to key stakeholders across our campus as we move forward with our own strategic planning and enterprise architecture work. Business line leaders, IT leaders, and groups working on common infrastructure can all benefit from reading this book. Even if we never get to the technology, the understanding that we already have a lot in common and should share more is a winning conversation to have with your business and IT leaders. *Enterprise Architecture as Strategy* provides a good, technology-independent framework for seeking agreement on what is core to any enterprise. 

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