

THE **e**LEARNING DEVELOPERS' JOURNAL

Strategies and Techniques for Designers,
Developers, and Managers of eLearning

JOURNAL™

THIS WEEK — MANAGEMENT STRATEGIES

Simulations and Games: Revisiting Their Strategic Value

BY ALLISON ROSSETT

Only recently have I come to appreciate simulations and games. I don't have a good reason for my delayed enthusiasm. After all, it was simulations that got through to me about how my car works and the power of compound interest.

Games too are dandy. I drilled my vocabulary into reasonable shape by playing games. More recently, we used a computer-based game to boost keyboarding skills for sales professions.

Simulations and games are nifty together. Two favorites come to mind. One is rather old, but made the most extraordinary use of a simulated hospital emergency room. The CD-ROM offered high physical and emotional fidelity. All it lacked was smell

which I could do without. Decisions were timed and evaluated. Slow or incorrect choices reduced the likelihood that the patient would survive, with real results displayed on the screen. When I tried mightily to treat a stabbing victim, the patient took an immediate turn for the worse and died because I didn't have a clue about what to do. When one of my graduate students, a nurse, tried the program, it went better, but only for a while. Alas, she wasn't an emergency room

nurse. He died under her care too.

Good programs

I was fortunate enough to get very close to a flight simulator a few years ago. The fidelity was extraordinary, obvious from the grunting, sweating pilots who were using the system. It was real to them. Was it a game? No, but there were game-like elements, such as timed responses, numerous choices, and measured performance and results.

Games and simulations get a lot of attention in the e-Learning world. Either can improve learning in certain cases, but they are not equivalent. What is the difference between them, and when would you use each to best effect? In this insightful article by one of the field's leading researchers and educators, you'll learn answers to both of these questions and you'll find a handy tool you can use to explain the choices to your colleagues and clients!

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The eLearning Developers' Journal™ is designed to serve as a catalyst for innovation and as a vehicle for the dissemination of new and practical strategies and techniques for e-Learning designers, developers and managers. The **Journal** is not intended to be the definitive authority. Rather, it is intended to be a medium through which e-Learning practitioners can share their knowledge, expertise and experience with others for the general betterment of all.

As in any profession, there are many different perspectives about the best strategies, techniques and tools one can employ to accomplish a specific objective. This **Journal** will share different perspectives and does not position any one as "the right way," but rather we position each article as "one of the right ways" for accomplishing a goal. We assume that readers will evaluate the merits of each article and use the ideas they contain in a manner appropriate for their specific situation.

The articles contained in the **Journal** are all written by people who are actively engaged in this profession — not by paid journalists or writers. Submissions are always welcome at any time, as are suggestions for articles and future topics. To learn more about how to submit articles and/or ideas, please visit: www.eLearningGuild.com.



I started to think anew about simulations and games during a US Navy Learning Strategies Conference in August, 2004. (You can review the agenda at <http://www.lscconference.com/>.) The experience was heartening. Chief of Naval Operations Vern Clark offered the keynote, in itself a victory for a group gathered to talk about learning, technology and performance. Admiral Clark spoke of his service at the head of a Navy school, noting the lessons learned in that prior role, acknowledging the centrality of learning to the mission of the Navy, and going so far as to proclaim himself a "schoolmarm."

I wondered about a conference with so much attention paid to simulations and games. Might it be an instance of people with hammers, expensive ones in this case, running around and looking for nails? That isn't what happened.

The Navy is intrigued by simulations and games because current and future sailors are. Digital natives, as Mark Prensky dubbed them, are habituated to vivid, paced digital experiences. (See Mark's site at <http://www.games2train.com> for more information.) Still, every presenter, and Navy decision-makers, urged cautious decisions about when to

employ simulations and games.

But what constitutes such careful choices?

Good choices

That got me doodling on a napkin, attempting to find sweet spots for investing in simulations and games. Figure 1 below represents my efforts.

I focused on two elements: (1) authenticity and (2) gaminess. Authenticity is what it sounds like. It's about the parallels individuals perceive in the materials and their lives. How akin is the content to their work and concerns? Can they hear the voices of their customers or see the words and numbers that constitute a challenge to the bottom line? Flight simulation training is very, very authentic; also authentic, but not quite so real is online problem-based leadership development. (Want an example? See <http://www.simulearn.net/SimuLearn/standalone.htm>.) Both mimic the situations confronted at work, with functional and emotional fidelity. The flight simulator, though, presents with the height of physical fidelity — and the purchasing organization pays a lot for that fidelity. At one end of a continuum of authenticity is a flight or fire training simulator. At the

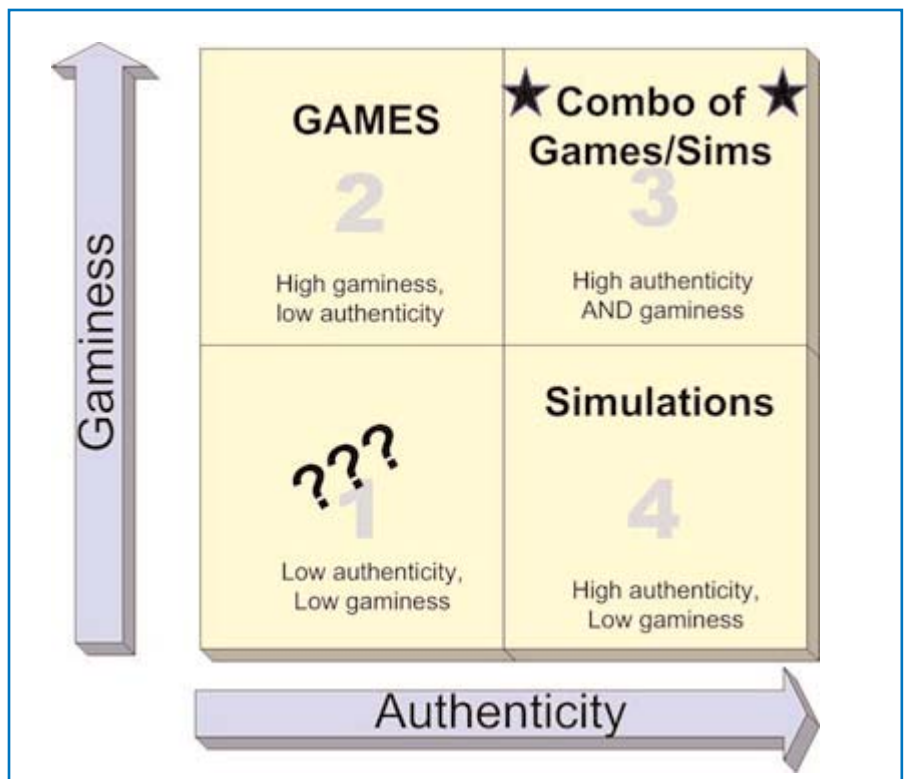


Figure 1 Sweet spots for investing in simulations and games.

other is an in-basket exercise, encountered online or in a room, where leaders contend with realistic output, email, memos, policies, and requests, in timed circumstances.

Gaminess is about engagement, tracking, competition, and measurement against standards or peers. I play online Scrabble and Hearts. Very gamey, but not at all authentic.

Quiz shows? Certification challenges? Word games? Mark Prensky and Sivasailam Thiagarajan provide templates for games that enhance learning. (For some examples, see <http://www.thiagi.com/freebies-and-goodies.html>.) These approaches make sense for assisting employees to learn a body of content not especially favored by them, such as indicators of workplace violence, sexual harassment policies or multiplication tables.

Examples in the Quadrants

Quadrant 4: In Florida, students hold their noses and demand alternatives to frog dissection. Thus Florida is about to join other states in permitting frog dissection online, a classic quadrant 4 approach. (Dissect your own frog at http://www.froguts.com/flash_content/demo/frog.html.) WebMD is another example. Wondering if the scorching pain at the back of your foot is your Achilles tendon? Worried about what to do about it? WebMD is real and useful, though not much fun at all.

Quadrant 3: But what if we're talking about a topic that people might elect to ignore, such as time management or sexual harassment? Or what do we do if the target audience loves video games. That's how Battle Stations (http://nsgreatlakes.navy.mil/battle_stations.html) wins the war for hearts and minds.

Quadrant 2: When I was very young, I ignored the multiplication tables. Once my parents noticed that I hadn't a clue, it was games and rewards that got my attention and skills to where they needed to be. Consider fish and oceans. While there are many ways to foul this tasty topic, Build-a-Fish handles it beautifully. (Build-a-Fish is online at <http://sv.berkeley.edu/showcase/flash/fish.html>.) Pick an ocean environment; construct a fish to thrive in it, with numerous parts to choose from. Then check your answers. Will your fish survive in that context? If students must know the topic by heart, or must have a robust sense of it, but if they resist I look to games to move the material to memory and fluency. (An example of the way some people approach online games can be found at <http://www.quia.com/>.)

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Quadrant 1: Alas, this is life as many employees know it. It happens in classrooms and online. Recently a student stopped me in the hall, "There's so much my people all over the world must know about _____. I have them for four hours, no more no less. It's required. And I can't be everywhere, so we want to create a technology-based program that tells them what they need to know. I intend to lay an audio track on all these PowerPoint slides." I asked about carving the materials up into smaller, use-based segments. I asked about creating a way for them to interact with the materials through activities or reference. He responded, "Nope. Four hours. I need to tell them what they need to know." No nod to gaminess or authenticity. While the material is going to get OUT to the people, no doubt, I wonder if there is any hope of it getting IN. Moving out of quadrant 1 makes sense here. There are aspects of games and simulations that

could greatly improve this strategy.

Good Harry

Let me introduce you to AZTEC Inc., my wholly owned and non-existent subsidiary. For the purposes of this piece, I'll pile some work on Harry, esteemed Director of Workforce Learning and Performance. Let's charge him with doing something about fulfilling sexual harassment requirements; assuring that sales people become more successful at making sales; and encouraging employees towards retirement planning.

Harry, good professional that he is, turned to analysis to plan his approaches. (Analysis? Find a guide to knowing what to do at <http://www.jbp.com/rosett.html>.) He can't decide how to work on these challenges without deepening his understanding of them.


Harry discovers that the vast majority of employees are not keen on another class about sexual harassment. Based

on an admittedly unfocused request from me for more sales, the analysis discovered that sales people have hesitations about closing sales and are fuzzy about certain newer products. The sales people also affirm that they do not want training that takes them away from the field. And nearly every employee is concerned about readiness for retirement and open to getting smarter about the topic.

Let's use Table 1 below and refer to Figure 1 in order to think about how to handle each challenge. What did Harry propose to do about these tasks? When would you invest in simulations? In gaming? In both? Are there aspects of simulations and games that would strengthen the effort, even if you do not build out full blown simulations or games? Table 1 states the possibilities.

Good news

A few weeks ago, I taught about the history of educational technology. Mired in quadrant 1, it was a struggle. Oh, my students were polite. They always are. But they most certainly were not compelled. What my efforts needed was a dose of those strategies available in the other quadrants. A game would have been dandy. Even better would be an opportunity for them to step back in time and into Thomas Edison's shoes or those of the government leaders frantic to win World War II or reeling from Sputnik. Muzzy Lane (<http://www.muzzy-lane.com/products/making-history.htm>) does just that with World War II and the difficult decisions Neville Chamberlain had to make. What would you have done? How would you decide?

In a world of knowledge work, global threats, regulations, compliance, and fierce competition, there are many good reasons to make tough choices in favor of the strategies associated with simulations and games. 

Suggested resources

Learning Vocabulary Can be Fun:
<http://www.vocabulary.co.il>
 Games and the Military:
<http://www.dodgamecommunity.com>
 Digital Games Research Association:
<http://www.digra.org/>
 Dialog/Coaching template:
<http://www.thedialogcoach.com/index.htm>

TABLE 1 *Harry tackles real tasks*

The Challenges	Reflecting on simulations and games
Fulfilling sexual harassment requirements	In the bad old days, Harry's group handled this challenge in quadrant 1, with instructor-led training. Now, Harry focuses on more authenticity, helping instructors bring real cases and problems to the group, urging them to attempt to solve problems and compare their solutions to those of experts and each other. They commit to quadrant 3. At a minimum, more authenticity, see quadrant 2, would improve the effort.
Assuring the ability to close sales	Resistant sales people must see the usefulness of the material and be given opportunities to move skills to memory in realistic, active, and lively contexts. Look to quadrant 4, if instructor-led, and focus on closing sales, not everything about sales, since it's the closing that concerns them. If online, it makes sense to invest in quadrant 3.
Assuring fluency in product knowledge	Share data that came from customers re: lack of fluency on products. Build fluency, driving information into memory through gamey drills and practice. Quadrant 2 ought to do the trick. Quadrant 3 would be even better to assure transfer to customer interactions. Technology makes great sense here and will allow them to stay in the field, where they want to be.
Encouraging retirement planning	Willing participants matter here. No need for fun and games—get to the heart of the matter by providing stories about people and their choices. Provide useful, realistic information, with direction about how to apply to life. Quadrant 4 is appropriate, perhaps through online tutorials, a performance support tool, and rich knowledge bases. Grab attention with a simulation that tells the tale of somebody with whom they can identify, and the impact of varied choices.

Games for learning:

<http://www.angelfire.com/wi2/GamesForLearning/>

MIT and Microsoft sponsored consortium:

<http://www.educationarcade.org/>

North American Simulation and Gaming

Association: <http://www.nasaga.org/>

Rossett, A. & Sheldon, K. (2001).

Beyond the Podium: Delivering Training and Performance to a Digital World,

<http://www.pfeiffer.com/go/BTP>

SDSU's Bernie Dodge's Sims and

Games course: <http://edweb.sdsu.edu/Courses/EDTEC670/>

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Beyond the Podium: Delivering Training and Performance to a Digital World. She is a member of The eLearning Guild's Advisory board. Contact Allison by email at arossett@mail.sdsu.edu.

Additional information on the topics covered in this article is also listed in the Guild Resource Directory.

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Even if you have not been published before, we encourage you to submit a query if you have a great idea, technique, case study or practice to share with your peers in the e-Learning community. If your topic idea for an article is selected by the editors, you will be asked to submit a complete article on that topic. Don't worry if you have limited experience writing for publication. Our team of editors will work with you to polish your article and get it ready for publication in the **Journal**.

By sharing your expertise with the readers of the **Journal**, you not only add to the collective knowledge of the e-Learning community, you also gain the recognition of your peers in the industry and your organization.

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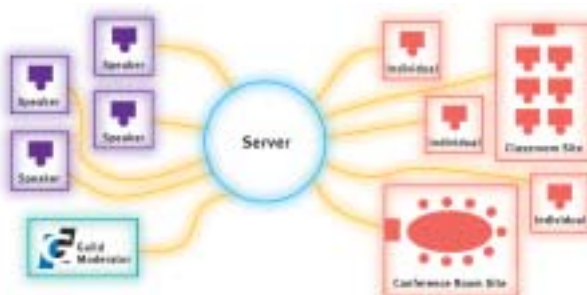
The eLearning Guild's ONLINE FORUM™ SERIES

The eLearning Guild has created *The Guild Online Forum Series*, a new series of online events that will be held throughout 2004. On the 2nd Thursday of every month (except January) you can register to participate as an individual, or as a group, in a one-day "virtual conference" that includes four highly interactive seventy-five minute sessions designed to explore a specific topic.

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OCTOBER 14, 2004

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The *eLearning Insider* is sent by email every other week and includes current e-Learning industry news, excerpts from Journal articles, highlights from Guild surveys, e-Musings, and information on Guild matters.

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Write for the Journal: *The eLearning Developers' Journal* articles are written by industry leaders and practitioners just like you who are working in this field every day.

Join the Program Advisory Committee: This committee works to craft the program content of all events produced by the Guild.

Join the Research Advisory Committee: This committee works to identify the topics for Guild surveys and studies, and also develops the survey instruments.

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