

# LEARNING GAMES: WHY INSTRUCTIONAL DESIGN NEEDS TO BE MORE LIKE GAME DESIGN

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**S**eymour Papert—the brilliant polymath who co-founded the MIT Media Lab—predicted twenty-five years ago that the future of learning would lie in the development of learning games. It has taken a while for the world to catch up to his visionary insight, but over the last five years the idea of “serious games” has become one of the hottest areas in education and training. The improvement in internet bandwidth and the development of so-called “game engines” like Unity and Unreal that allow for the creation of interactive 3D worlds like those in “AAA” video games at relatively low (and rapidly decreasing) cost have made it possible for almost any organization to create complex, game-like experiences that can rival what is available in the commercial game market.

The appeal of learning games is that they offer a possible answer to what has long seemed like an impossible dream: creating

educational content that learners actually want to interact with. Learning designers, as Papert noted, have long been “green with envy when they see the energy [people] pour into computer games.”

The marriage of games and learning may at first seem incongruous, but, in fact, learning design and game design are more alike than one might think. In a manner of speaking, game design is learning design. A game doesn’t work unless its audience can learn to play it. Moreover, it is actually the learning that makes the game fun. Most games become boring once they are mastered. Games are already effective learning experiences—they just don’t, for the most part, teach skills that are applicable to the real world. That’s where learning designers come in—if we can combine the best of what learning designers do with what the best of what game designers do, we may be able to revolutionize learning.

But what if we can’t? Papert highlighted the risk with a reference

to an old anecdote, according to which a famous beauty not noted for her intellect once suggested to George Bernard Shaw, a brilliant playwright not noted for his handsomeness, that they could have an amazing child together, “with my looks and your brains.” “But Madame,” Shaw is supposed to have responded, “what if the child had my looks and your brains?” In our case, the worry is that educational games may turn out combine all the fun of traditional education with the intellectual content of most games.

Unfortunately, that has often been exactly what happens when learning designers try to create games. Many of the games they produce involve a game-like quest—getting to Mars, say, or killing zombies—but make the learner answer multiple-choice trivia questions to get ahead in the game. Learners are not fooled—they can tell they are getting a quiz disguised as a game. Efforts along these lines tend to confirm one’s worst fears about what could happen to games in the hands of educators.

To do better, we have to acknowledge an awkward fact: Instructional designers have spent too long focusing on the demands of the institutions for whom we work to “deliver content,” while game designers have had to sink or swim in a marketplace in which their games will fail if they are not highly effective learning experiences. The end result, as Papert observed, is that “game designers have a better take on the nature of learning than curriculum designers.” To make a great educational game, we need to think not about how a learning designer would design a game, but rather about how a game designer would design a learning experience.

Here, in particular, are five critical things that designers know, and learning designers need to learn:

**1. It’s good for an educational experience to be difficult.** As Papert said, “Learning is essentially hard; it happens best when one is engaged in difficult and challenging activities.” Game designers understand this instinctively—challenge is what makes games fun. The learning community—corporate training especially—has largely embraced the opposite concept—the idea that learning should be easy.

**2. It’s okay for learners to fail.**

The first time playing any new game is usually a series of spectacular failures. In instructional design, it is axiomatic that you do not want your learners to fail, and if they do you want to treat them gently. Game designers know failures are all part of the excitement, and they dramatize rather than down playing them.

**3. Emotions drive engagement.**

Games are full of high-stakes situations and dramatic consequences, often wrapped in a compelling, detailed backstory. In education we tend to downplay emotional responses and edit out gritty, realistic details. Game designers, in contrast, embrace and put to good use what three millennia of accumulated wisdom about storytelling have taught us how to grab and hold an audience.

**4. Showing is better than telling.**

Doing is better than being shown. Game designers know that no game player ever wants to read instructions. If something can be learned by experience in a game, it will be, even though it may take considerable cleverness to engineer this. If there is no way for the user to get the knowledge they need from their own experience,



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they will be shown it—often in cinematic “cut scenes” that are more like watching a movie than like receiving instruction. In traditional learning design, again, this formula is almost inverted. The main event in learning has historically been the lecture, while letting the learners try things out for themselves has happened only they’ve been told everything there is to say about the subject—if it happens at all.

**5. You only learn what you can remember.**

In the end this basic truth about learning has been fully grasped by game designers, and largely missed by learning designers. Instructional design tends to focus on delivering the maximum amount of “content” possible, despite research that shows the learners generally retain only a small fraction of this material. Game designers know how to make things memorable, and they know that what isn’t remembered doesn’t help their users play the game.

It will change the culture of learning almost entirely if learning designers start thinking like game designers. But it will change it for the better, and the result will be games that teach real-world skills rapidly and effectively, yet have learners begging to play them. **CR**