



## Can Games Be Used to Teach?

### Yes

There is an assumption that games can't be "real learning." Traditionally we've approached education as an auditory experience—the lecture. We've all sat through lectures furiously scribbling notes as the wisdom from the sage on the stage spilled forth. It is an aural learning style that suits a very few students.

This puritan ethic ignores our students' reality of a digital world and ignores our responsibility to teach to various learning modalities. Rather than feeling threatened by the student fascination with digital games, we should use that hunger for auditory, visual, and kinesthetic stimulation for interac-

tive learning opportunities.

To quote a favorite Chinese proverb, "I hear, and I forget. I see, and I remember. I do, and I understand." It is the battle cry of the visual, kinesthetic learner!

Maybe the phrase "computer games" arouses suspicion by bringing up visions of the disenfranchised pimply



By Alix E. Peshette

### No

I've been one of the strongest fans of technology use by students for more than 25 years, and my dedication to this vision has never wavered. That said, there is a use of educational technology that I find extremely troublesome. It all hinges around one of the worst neologisms of all time, *edutainment*. The implication of this word is that education is, by itself, so boring that the only way we can get students engaged is to dress everything up in the form of a game. This trend started years ago, and it is as alive today as ever. Go to any educational technology conference and you'll see software designed to "teach" math skills by having kids do de-

contextualized math problems with enough speed to get race cars around a track before other students beat them.

Other games borrow pages from popular TV game shows. Each provides decontextualized questions for students to answer in the hope they can then outperform others on the similarly mindless standard-



By David Thornburg

faced youth hunched over flickering monitors in their darkened bedrooms, hands welded to joysticks, as virtual explosions issue from the game du jour. Expand the definition of *game* and one gets simulations of real-life situations, working within a set of constraints, data collection, synthesis of information for an informed action or anticipated outcome, even collaborative activity—in essence—Blooms' taxonomy dances with Howard Gardner's multiple intelligences.

Are all games created equal? No, certainly not! Think about the differences between the perennial favorites Trivial Pursuit and Clue. One is a game of memorization and recall; the other is a game of deductive reasoning. Consider the most common genre of computer games in the schools and up pops the old drill-and-kill remedial software program; a low-life form on Bloom's taxonomy of learning objectives.

Wonderfully educational computer games are available in which students must collaborate to compare and contrast data, develop generalizations, make predictions, draw conclusions, test the validity of an assertion by examining the evidence, and understand multiple perspectives and viewpoints. Doesn't that sound a lot like the real-life workplace we strive to prepare our students to enter?

What technology brings to a good educational computer game is the multisensory environment, the power of computing, and instant availability of Web resources, images, statistics, and real-time data. It provides a scaffold for the task and information. It also invites educators to relinquish the role of sage and step up to the role of facilitator. It can be the genesis of a constructivist learning experience. Constructivist learning, by definition, is the experience of each individual

using his or her unique learning style to synthesize a meaningful understanding of the material at hand.

I stated that terrific educational computer games exist, but in reality, they are a rarity. Why? Because the commercial entities that create computer games have noticed education's parochial disdain for edutainment and focused their sights on the general consumer market, hence the virtual explosions, screams, and mayhem. Only our interest, demand, and monetary support for high-quality, technology-infused learning experiences will coax creative software companies to expand into the educational market.

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ized tests that have allowed education in the United States to be redefined as test prep.

The net result of this drivel is that despite any short-term gains that may be achieved, there are precious few long-lasting effects. And, to make matters worse, the best of these programs might improve test scores but completely destroy any chance of a student finding beauty in the subject of study. Instead of helping children understand the process of mathematical thinking (which can be done with relative ease through the use of the Logo programming language) we create Skinnerian pigeons who can peck out the correct answers to mindless drills with no evidence of real understanding. In fact, I heard one of the leaders in this field many years ago announce (with great pride) that he could get students to give the right answers to questions whether they

believed it or not. That isn't something of which to be proud; that is an example of institutionalized child abuse.

Now, add the fact that such games feed right into the hands of the anti-technology folks who (correctly) see this approach as an abuse of good practice. They are too quick to lump all technology use into this pot, with the result that technology advocates like myself have to defend good uses against this muddled backdrop.

That said, there are "gaming" environments of value—simulations of real-world phenomena. I gladly recommend SimEarth and other programs of this kind to educators. But these high-quality simulations are few and far between.

One of the scariest things I see is at the educational technology conferences where teachers pile up five deep to see mindless game-based drill

programs, while the booths promoting tools for developing higher-order thinking skills are not so well attended. I fully understand the tyranny of the urgent as educators are under the gun to raise test scores by any means possible. But, if we are to truly prepare students to thrive once they leave school, we need to abandon the quick-fix candy-coated view of skill development and focus on the building of true thinking skills. When a student learns math, I want him or her to know what it means to be a mathematician, not simply be adept at shooting alien spacecraft by knowing the times tables.

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