

## Does Easy Do It? Children, Games, and Learning

By Seymour Papert

From the June 1998 issue of *Game Developer* magazine, "Soapbox" section, page 88. Also included is a letter in response to Papert's article and Papert's response to that letter, both of which appeared in the September 1998 issue of the magazine. Reprinted with permission.

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Most of what goes under the name "edutainment" reminds me of George Bernard Shaw's response to a famous beauty who speculated on the marvelous child they could have together: "With your brains and my looks..." He retorted, "But what if the child had my looks and your brains?"

Shavian reversals—offspring that keep the bad features of each parent and lose the good ones—are visible in most software products that claim to come from a mating of education and entertainment. To bring out the general point in a short space, I shall oversimplify a more complex situation by focusing on a particularly bad example. The extension of the idea to more subtle cases just needs a little thought or perhaps a few hours reading my book, [\*The Connected Family: Bridging the Digital Generation Gap\*](#).

The kind of product I shall pick on here has the form of a game: the player gets into situations that require an appropriate action in order to get on to the next situation along the road to the final goal. So far, this sounds like "tainment." The "edu" part comes from the fact that the actions are schoolish exercises such as those little addition or multiplication sums that schools are so fond of boring kids with. It is clear enough why people do this. Many who want to control children (for example, the less imaginative members of the teaching profession or parents obsessed with kids' grades) become green with envy when they see the energy children pour into computer games. So they say to themselves, "The kids like to play games, we want them to learn multiplication tables, so everyone will be happy if we make games that teach multiplication." The result is shown in a rash of ads that go like this: "Our Software Is So Much Fun That The Kids Don't Even Know That They Are Learning" or "Our Games Make Math Easy."

The language of these ads betrays the way in which this software throws away what is best about the contribution of game designers to the learning environment and replaces it with what is worst about the contribution of school curriculum designers. What is best about the best games is that they draw kids into some very hard learning. Did you ever hear a game advertised as being easy? What is worst about school curriculum is the fragmentation of knowledge into little pieces. This is supposed to make learning easy, but often ends up depriving knowledge of personal meaning and making it boring. Ask a few kids: the reason most don't like school is not that the work is too hard, but that it is utterly boring.

The crux of what I want to say is that game designers have a better take on the nature of learning than curriculum designers. They have to. Their livelihoods depend on millions of people being prepared to undertake the serious amount of learning needed to master a complex game. If their public failed to learn, they would go out of business. In the case of curriculum designers, the situation is reversed: their business is boosted whenever students fail to learn and schools clamor for a new curriculum! I believe that this explains why I have learned very little about learning from reading textbooks on curriculum design and have learned a great deal from both the users (mostly kids) and the designers (often "grown-up kids") of computer games, of construction kits (especially Lego) and of classical Disney theme parks and animations.

Two big lessons I have learned from computer games are opposites of the messages of the ads I was quoting. The first, which I have already noted, is echoed by kids who talk about "hard fun" and they don't mean it's fun in spite of being hard. They mean it's fun because it's hard. Listening to this and watching kids work at mastering games confirms what I know from my own experience: learning is essentially hard; it happens best when one is deeply engaged in hard and challenging activities. The game-designer community has understood (to its great profit) that this is not a cause for worry. The fact is that kids prefer things that are hard, as long as they are also interesting. The preoccupation in America with "Making It Easy" is self-defeating and cause for serious worry about the deterioration of the learning environment.

The second lesson is the opposite of the idea that somehow learning can be encouraged by hiding the fact that it is happening. Frankly, I think that it is downright immoral to trick children into learning and doing math when they think they are just playing an innocent game. To make the situation worse (as if anything can be worse than lying to children), the deception does not achieve any purpose, since cooperative learners who know what they are doing will learn far better than children who go mindlessly through the motions of learning. I can imagine no better example to support this than observing how much more children learn in mastering a tough game than in the same amount of time in math class.

Moreover, the difference is not merely quantitative. I have also observed that children who are heavily involved with computer games often show an exceptional degree of sophistication in their ways of thinking and talking about learning. It is easy to see why.

Serious players of video games get their glory largely from being the first on the block to master the game that just came out, and this means that kids have a powerful incentive to get good at learning well and quickly. But the games provide more than incentive. They also provide excellent exercises for practicing the development of the skill of learning. One factor making for their merit is that learning a new game is a demarcated learning project, with a beginning, a middle and an end. The fact that playing a video game takes place in a limited time period makes it different from activities—for example, baseball—whose presence in the individual's life stretches far into the past and the future and are therefore difficult to recognize as a thing apart that one is doing well or badly. Another factor is that games are designed so that the learner can take charge of the process of learning, thus making it very different than school learning, where the teacher (or the curriculum designer) has made the important decisions and the "learners" are expected to do what they are told—which is no way to learn to be a good learner.

By engaging children in conversations about learning new games, I observe most directly the greater sophistication about learning that is developing among children—for example, by asking a child to help me learn. To do this, you have to listen sensitively because most do not have a developed vocabulary for talking about how to learn. But if you take the time to listen, you will find that many surprisingly young people have very definite and sensible ideas on the subject. You will also verify that the level of discourse and the kind of help they can give you is dramatically superior to what you hear if you try to get them to talk about learning school math.

These observations lead to a strategy for those who wish to contribute to improving "education." Forget about making games to teach children multiplication or spelling or any of those old-fashioned basic skills. The really basic skill today is the skill of learning, and the best use of games is to leverage their tendency to enhance it. I myself have two strategies for doing this. Professional game designers might add a third.

The first of my two strategies is to recognize that talking about games and learning is an important activity

and to give it whatever boost I can. I encourage parents to engage in conversations with their kids about learning and I work at encouraging them to do this in a spirit of respect for the kids who have as much to teach as to learn in this area. I try to develop and disseminate vocabulary and concepts for doing so.

The second of my two strategies is to encourage children to become game designers themselves. This requires more technological infrastructure and more support from knowledgeable people. But I have found that when they get the support and have access to suitable software systems, children's enthusiasm for playing games easily gives rise to an enthusiasm for making them, and this in turn leads to more sophisticated thinking about all aspects of games, including those aspects that we are discussing here. Of course, the games they can make generally lack the polish and the complexity of those made by professional designers. But the idea that children should draw, write stories and play music is not contradicted by the fact that their work is not of professional quality. I would predict that within a decade, making a computer game will be as much a part of children's culture as any of these art forms.

Finally, the third strategy suggested for members of the game-designer community is to be aware of the kind of contribution their work is making to the learning environment and to shift it a little here and there, whenever they can, away from deceptive Shavian matings towards empowering children as independent learners.

## FOR FURTHER INFORMATION

Kafai, Yasmin. [Minds in Play: Computer Game Design as a Context for Children's Learning](#). Mahwah, N.J.: Lawrence Erlbaum Assoc., 1995, and  
Papert, Seymour. [The Connected Family: Bridging the Digital Generation Gap](#). Marietta, Ga.: Longstreet Press, 1997.

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*(Below is a letter in response to Papert's article and Papert's response to that letter, both of which appeared in the September 1998 issue of Game Developer magazine in the "Says You" section on page 5. Reprinted with permission.)*

### "In Defense of Curriculum Designers"

Zarah MacPherson Artinian wrote via e-mail:

I was outraged by Seymour Papert's irresponsible, self-serving "Soapbox" in the June 1998 issue of *Game Developer*. As an instructional designer, I believe he paints a very misleading picture of what motivates us. I'm offended by his accusation that it's in a curriculum designer's best interest for a student not to learn (so that a new curriculum is needed and brings more business). The instructional designers I've known are dedicated to educating others. Teaching is not a lucrative profession. Clearly, financial gain isn't our primary motivator.

Papert seals his hypocrisy by using his article simply to promote his latest book. This cripples his argument and makes his column a self-serving advertisement that panders to a target audience of programmers and others in the game industry who might read it and think "I've always said we didn't need instructional designers!"

As an instructional editor and project manager of computer-based training programs at Total Learning Concepts, I made sure that our customers learned key concepts. Any perpetuation of business came not from doing a poor job, but rather from always doing the best job that I could. If our clients didn't learn from our material, they certainly wouldn't come back to us for help in the future.

Another serious flaw in Papert's argument is his comparison of learning how to play a video game with learning math or reading. A "professor of learning" must be aware that the brain does not process all information in exactly the same way. How can Papert justify clumping all these different types of information processing into one category? I suggest he, or anyone interested in how people learn different skills, read any work by the foremost expert in the field of learning, Howard Gardner. Professor Gardner's pioneering theories have led to the identification of eight different types of learning. I'd like to know exactly which games Papert thinks teach players how to learn, and what specific learning skills he thinks they are developing by playing these games.

Papert's column might lead a reader to assume that all types of learning can be grouped into one category, or that a designer who is great at teaching one set of skills may be an expert in every field. It's true that teaching a person how to learn is considered the ultimate goal of academia, but when it comes to educating students in specific subject matter, the medium cannot afford to become the message.

A panel discussion at this year's E3 on educational software presented another important reason for a curriculum designer to lend input on an educational product: promoting the product in the classroom market. In order for a school system to adopt educational software, the software must comply with the school's curriculum. Great instructional designers are not only familiar with a given school system's curriculum; they also have experience implementing the curriculum in the classroom.

I have the utmost respect for everyone involved with project development, and recognize the important contributions of each member of the team. I've learned much about game design from incredibly talented, insightful programmers. I hope game developers recognize the advantages and benefits that a good instructional designer can bring to an educational product. Instead of simply replacing instructional designers with programmers, I recommend that the two work closely together to create better educational games.

Papert responds:

I'll refrain from devoting more than one sentence to Artinian's personal flames. What Artinian sees as venal book-selling commercialism, someone more familiar with academic practices would see as a standard scholarly responsibility. But the issues at stake are deeper than a Ping-Pong debate between Artinian and Papert. Our conflict of opinion is an incident in a worldwide confrontation between two opposed perspectives on learning.

I am not cowed by the fact that eminent members of the education establishment would support Artinian's position. Of course they would. The battle is about a challenge from new technologies and from new theories of learning that threaten to overthrow the accepted structure of school, the idea of curriculum, the segregation of children by age and pretty well everything that the education establishment will defend to the bitter end.

Artinian throws out a challenge that highlights one key position in this battle: "I'd like to know exactly which games Papert thinks teach players how to learn, and what specific learning skills he thinks they are

developing by playing these games." The most important learning skills that I see children getting from games are those that support the empowering sense of taking charge of their own learning. And the learner taking charge of learning is antithetical to the dominant ideology of curriculum design. By definition, curriculum design means assigning to experts the job of deciding the best way for each individual to learn each subject. The power of the idea taking responsibility for its own learning applies to all learning. It is sheer mystification to suggest that no principles can be shared by all forms of learning. Saying that the learner is in charge does not mean that everyone has to reinvent every wheel. Good learners will recognize the limits of their inventiveness and seek help. In the past, the opportunities for school-age people to do this effectively were extremely limited. They still are today. But the presence of digital technologies is rapidly moving us into a period where learners can learn what they need to know on their own agenda rather than on the predetermined agenda of a curriculum. We will soon be able to give up the assembly line model of grade after grade, exercise after exercise.

It would be naive to believe this could happen without resistance from the education establishment—which includes several multibillion-dollar sectors of the education industry as well as huge bureaucracies with a vested interest in maintaining the status quo. I grant that most people who make and apply curriculums are underpaid and motivated by the welfare of children. But this does not alter the fact that present-day schools, to which (as Artinian actually boasts) they have to cater in order to sell their products, are relics from an earlier period of knowledge technology.