

“How Games Make Kids Smarter” by Gabe Zichermann

Transcript

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So, I'm 36 years old, and my first experience with video game business was neighbors who were wealthier than us bringing home an Atari 2600 and plugging it in. And it was a pretty definitive moment for me.

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I also remember going to school, and on an Apple II, playing a game called “Where in the World is Carmen SanDiego”, which was the first—yeah, awesome game!—which was the first time where I played a game kinda in the school context.

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And when you ask most people about the video game business and what's significant, most people think that the Atari 2600 is really, sort of the next is the catalyst of the video game business. But I actually think “Where in the World is Carmen SanDiego” is probably the most important video game ever made, principally because it was the first and the last time that parents, teachers, and kids all agreed that a video game was awesome.

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Now, that was a long time ago. In fact, it was 1987. And, it may surprise you to know that “Where in the World is Carmen SanDiego” continues to be the last substantial giant hit in the entertainment business, despite the fact that it was 1987, which is such an incredibly long time ago, and I'm only 36, so you can do the math, that things are completely different today from when they were. Just as a single example, in 1987, we thought this guy was kinda crazy, then we met *this* dude [shows pictures of President Bush] who's really changed our perspective on that subject. Things have changed. (Anti-Bush political humor goes a long way in Western Europe.)

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Okay. So between 1987 and now, I've played a lot of this game called “Civilization”, which was designed by a guy named Sid Meyer. In fact, I spent about 8-10,000 hours of my life playing “Civilization”, which is a long time I should have spent studying. But nonetheless, I managed to turn this love of video games into a job. First working on the game developers' conference, helping to start the first successful distribution company in years, which was called “TryMedia” and then now writing the gamification blog, I'm an author of two books on the subject of gamification including the recent *Gamification By Design*, which was published by O'Riley, and I chair the gamification summit, which is an event that brings all this stuff together.

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So in many ways, I am parents' sort of dream of how somebody can turn a sedentary lifestyle of playing video games into an actual career that pays real money. And so, when I get invited to an event like this, I'm sure that all of you expect me to get up here and say, “Games are *awesome* for your children!” Right? Because I'm a games guy, and this is how I make my living.

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Games will help children. But instead, I want to ask you a different question, which is “Who needs games’ help?”

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And so, I started this process by thinking about reading a particular article in the *New York Times* recently. And in the article, a neuroscientist was talking about how children were presenting themselves with Attention Deficit Disorder. And their parents would come in and they’d say, “My kid can’t possibly have ADD. Because they’re super super good at focusing on video games. But when they go to school, they’re really bad. And the neuroscientist was debunking this idea right in the article. She trotted out researchers like Dr. Christopher Lucas at NYU who said games don’t teach the right *kind* of attention skills. Right? Where kids have sustained attention where they’re not receiving regular rewards. And she trotted out like Dr. Dimitri Christakis at the University of Washington who said that kids who play a lot of video games may find the real world unpalatable, uninteresting, as a result of their sensitization to games.

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And so I sat there and I thought to myself, I’m scratching my head, and I thought to myself, *Is it that our children have ADD, or is our world just too freakin’ slow for our children to appreciate?* Seriously. Consider the picture you’re looking at right now. In my era, even my grandfather’s era, sitting down on a Sunday afternoon to read a good book with a good cup of tea? Like, I just have to say that I don’t think today’s kids are ever gonna do that. And the evidence is found in the games that they play.

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Consider the video game *World of Warcraft*. When I was growing up, the maximum skill that I was expected to display in a video game was simple hand-eye coordination with a joystick and a like firing button. Today’s kids play games in which they’re expected to chat and text and voice, operate a character, follow long and short-term objectives *and* deal with their parents interrupting them all the time to talk to them.

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Kids have to have an extraordinary multi-tasking skill to be able to achieve things today. We never had to have that.

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It turns out, things like *that* actually like you smarter. Research by Ardenmay et al at the University of Reagansburg in Germany found that when they gave participants (and this was actually done on adults) simple tasks to learn, like juggling, in 12 weeks, people who were asked to learn juggling displayed a marked increase in gray matter in their brain. On an MRI you can see people get more gray matter after 12 weeks of learning juggling. And in 2008, they went back and redid the study to see why the gray matter increased, and they discovered it was the act of learning that produced the increased gray matter, not performance at the activities themselves, which is a very interesting finding

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It may also reinforce the idea that should go over well here as well that multi-lingual people outperform monolingual people on most standardized tests, by about 15%. There’s something that happens in the brain from that kind of activity.

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And Andrea Kuszewski speaking at Harvard, talked about these five things that people do to increase their brain matter, and to teach themselves, uh, to increase their fluid intelligence. And fluid intelligence is the intelligence we use to problem-solve. It’s different from crystalline intelligence; it helps us problem solve. And she identified, from the research, that there were five things that you could do. Seek novelty, challenge yourself, think creatively, do things the hard way, and network.

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Think about those five things. Any of you play video games? Does it resemble the basic pattern? Of a video game to you in any way? These are five things that recur in very successful video games. And it also is connected to a constant and exponential increase in learning. Video games fundamentally present a continuous process of learning to users. They don't just learn for a little while and stop. They're constantly evolving and moving forward.

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It may, in fact, help us to explain the Flynn Effect finally. And the Flynn Effect, for those of you who don't know, is the pattern that human intelligence is actually rising over time. So if we look at the history of IQ, people, in fact, are getting smarter. In the U.S. right now, the average IQ is rising by .36 points of IQ per year.

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Now, what's been very interesting is that in some countries (not to call anyone out, but Denmark and Norway), in some countries overall crystalline IQ has stopped, or slowed down, or declined. In other countries though, particularly when we are looking at fluid IQ, fluid intelligence, the number is increasing, and the rate of fluid intelligence increase is increasing, starting in the 1990s.

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Coincidence? I think not.

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In fact, games are wired to produce a particular reaction in people, right? So you've got this learning brain increase, multi-tasking brain increase connection. We also have a strong dopamine leap in the brain. So, as games present a challenge, and you struggle to achieve that challenge, you overcome it, dopamine is released in your brain, and that produces an intrinsic reinforcement. Uh, in the words of Judy, that produces an intrinsic reinforcement that causes you to go back and that keeps seeking that activity over and over and over again. So this is really, really powerful stuff.

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And I want to introduce you to an educator that understands this in intricate detail named Ananth Pai. Ananth was a very successful business person who worked on process reengineering. When his kids went into school, in White Bear Lake, Minnesota, a suburb of Minneapolis/ St. Paul, he saw the education system and decided he wanted to do something about it. And so as an adult, he went back and got a masters in ed, and took over a class at White Bear Lake Elementary School. And Ananth Pai replaced the standard curriculum with a video game-based curriculum of his own design. Separating the kids into learning styles, and giving them Nintendo DS's and computer games, everything off the shelf, nothing custom, giving them Nintendo DS's and computer games that were both individual and social to play, that taught them math and language.

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And let me tell you what happened. In the space of 18 weeks, Mr. Pai's class went from a below-third-grade level in reading and math to a mid-fourth grade level in reading and math. In *18 weeks* of a game-based curriculum. And more importantly, when you talk to the children, when they're interviewed on television, even though they're away from Mr. Pai, when they're interviewed on television, they say two things over and over again that helps them learn in his class: Learning is fun. And learning is multi-player. Whether they use those exact words or not, they say learning is fun, and learning is multi-player. And this is the key to making that experience really successful for kids.

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It's also true though that we need to talk about the relationship of kids and violence and games. Study after study very clearly tells you that violent games do not make children violent. We also must acknowledge, however, that if you have a child pre-disposed to violence, violent games may help make them a better violent child. If they train kids to do other things, they also will train kids to do that, and we need to accept that, and we need to start understanding the connection between games as a form of training. We can't blanket, say, no, they don't affect kids. It's not true.

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I like to call the group of people who are really driving this trend forward "Generation G." And there are a 126 million millennial in the United States and the E.U. plus younger kids we can't count that form Generation G. And what Generation G is different, in the way that Generation G is different from X, Y, and all the other generations that you may belong to, is that video games are the primary form of entertainment that Generation G is consuming. It's their primary form of entertainment. And this is already starting to have a tremendous effect on society. All around us, Generation G's desire for game-like experiences is reshaping industries. From Four Square, which caused the mobile social networking ecosystem to actually start to companies like Nike and Coke and Chase and also of course Zinga, which owes much of its success to games.

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The trend that underlines this whole pattern is called Gamification, and it's a word that I'm sure many of you have heard. And it's simple definition of gamification is it's the process of using game thinking and game mechanics to engage audiences and solve problems. Part of the reason why gamification has become such an emergent topic right now is because of Generation G's affect on culture and society already. Their expectation are different.

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Some examples of gamification that you may have seen that are really fascinating to me are the emergence of in-dash games in cars. Today if you buy a hybrid or a electric, plug-in electric vehicle, you will almost certainly see the product of a 100 million dollars worth of tooling and research and development in the form of Tamaguchi-style game in the dashboard, designed to make you a more ecological driver. It is a simple, sorta, most of the game mechanics are very simple, a plant grows as you drive more ecologically, and withers if you don't. Like those virtual pets, Tamaguchi. This is an example of, you know, gamification at work.

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Another really interesting example is a thing called "Speed Camera Lottery" designed by Kevin Richardson, based in San Francisco, works for MTV. Awesome guy. And this is the concept in Speed Camera Lottery. You know those speeding cameras that you pass by, and they take your picture and send you a ticket. So in many Scandinavian countries, the ticket that you get is based actually not on how fast you are going, but how much money you make. So, the more you make, the bigger the ticket. So Kevin reengineered a speeding camera in Sweden, that instead of just giving tickets to people who drive over the speed limit who passed the camera, anybody who drives under the limit is entered into a lottery to win the proceeds of the people who speed.

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It is game thinking, that term I described earlier, the core foundation of gamification, it is game thinking in its purest and most beautiful form. Take a bit negative reinforcement loop and turn it into small, incremental positive reinforcement loop. It had the effect of dropping speed by over 20% by the point of intervention.

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Corporations have also become aware of the trend of gamification of effective games on people like Generation G. Gartner Group says that by 2015, 70% of all the Global 2000, the biggest companies in the world, will be actively using gamification, and 50% of their process of innovation will be gamified. Which is an astonishing, astonishing thing. It's a huge change. And what this all points to is a future that looks pretty different from the world we live in today.

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Generation G, and those driving the gamification move forward, are advocating for a different world. It's a world in which things move at a faster pace than they did for you and me. It's a world in which there are rewards everywhere for actions people take. The rewards don't always have to be cash rewards. They can be meaningful status rewards, meaningful access rewards, meaningful powerful rewards. A world in which there is extensive, collaborative play. This is one of the things that Generation G does so much differently than even my generation. I mean I remember going to school and teachers struggling to come up with exercises that we could do as a team that would be graded as a team. Right? In the end, those group exercises always boiled down to an individual score, which distorted the way that people behaved.

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But, Generation G plays a lot of games that are purely collaborative, in which there is group value, and this will also affect our world in untold ways. And Generation G, the fun future, is a much more global world.

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It turns out that we are already out of touch. We are the generation most out of touch with our future, our current children, than any generation in history. We like to think that Baby Boomers' parents were the most out of touch people—right?—in the world. They're the ones who had to deal with the like "summer of love" and sex and drugs and all that kind of stuff.

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We still make phone calls. I mean, we are the ones with the problem. And we are going to be the most out-of-touch generation in history. Of course, it's also true, and I'm here to tell you, and I will be the one to tell you. The kids are alright. They're gonna be just fine. And we, we don't need to worry strictly speaking about kids and games and the effect it will have on the world.

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And not just are the kids gonna be alright. Frankly, the kids are gonna be awesome. But it's gonna take your help to make the kids awesome. And I have a prescription for you. This is the best prescription anybody is ever going to write in your life. But I'm going to write it for you right now—in your mind. I don't have an actual pad. And just for clarity disclaimer I'm not actually a doctor. Alright. So, I am, however, going to write a prescription for you all. And this is the prescription that if you have children, or you work with children, or you desire to work with children, or you want to change the world, this is the absolute, positive, best thing that you can do with your time from now until I see you in the retirement home on the coast of Spain, or in the virtual world, wherever you choose to retire.

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Which is get into the game with your kids. Stop fighting the game trend—if that's where you are right now. Don't fight the game trend; become one with the game. Enter the game. Understand it. Understand the dynamic of how your children play the games that they play. Understand how their minds work from the context of the game outward, rather than from the world outside inward.

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The world that we live in right now, the world of Sunday afternoons, drinking a cup of herbal tea, reading some old book, chillin' out by the window, is over. And that's okay. There's a lot more things that we can

do that are fun and engaging. And if you take away one thing from today's presentation, I hope it is, you get a chance to go play with your kids.

Thank you.