

Playing with possibilities; 2 books consider the cultural and educational impact of video games

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By Terrence Hackett.

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NONFICTION.

Masters of Doom: How Two Guys Created an Empire and Transformed Pop Culture By David Kushner

Random House, 335 pages, \$24.95

What Video Games Have to Teach Us About Learning and Literacy

By James Paul Gee

Palgrave Macmillan, 225 pages, \$26.95

In 1983 PBS newscaster Robert MacNeil introduced a segment on his TV program by asking, "The video-game craze: Is it warping young minds or educating them for the future?"

This question is the common thread between two recently published books. Though written for different audiences, both have something insightful to say about MacNeil's 20-year-old question, one that educators, politicians and academicians continue to scratch their heads over today.

David Kushner's book, "Masters of Doom," tells the story of John Romero and John Carmack, the now legendary duo dubbed the Lennon and McCartney of video games. The "two Johns" are angst-filled school misfits from broken homes who go on to create Doom, the video game that revolutionized its industry in the early 1990s and, as Kushner's book's subtitle states, transformed popular culture.

The second book, "What Video Games Have to Teach Us About Learning and Literacy," lays out education professor James Paul Gee's argument for why video games can be incredibly effective tools for learning. Contrary to those who claim these games are a waste of time, Gee offers a critical rebuke of schools, arguing that they stand to learn a great deal from the design of video games.

Both books make clear that the boredom schools create by endlessly drilling students on lists of memorized facts yields no real learning and can leave students clamoring for something more engaging.

Kushner's narrative describes how for Romero and Carmack, creating video games stood in stark contrast to school. Both struggled through high school and neither went to college, finding it a tedious cycle of being forced to listen and told what to do. Programming games on their Apple II computers in the early 1980s, on the other hand, allowed them to create complex new worlds where they could be challenged, in control and incredibly entertained.

Kushner's book targets a broad audience, including gamers and anyone captivated by or curious about their appeal. Gee's book, because of its more scholarly tone, seems to target fellow university academics and educators. Both authors, however, frame video games as not simply a fad but as a rebellious and powerful cultural movement. Many on board this movement are

students who demand highly engaging, challenging, ever-changing stimulation-- elements often noticeably absent from their schools.

Kushner, a self-described avid gamer, spent six years interviewing Carmack and Romero, following them around everywhere, collecting enough information to re-create events and write his story as a novel. He does a masterful job of capturing the vivid and telling details that describe their meteoric, turbulent and exhilarating rise to fame and considerable fortune atop a multibillion-dollar video-game industry, one that today grosses more annually than the movie industry.

Kushner paints strong individual portraits of Romero and Carmack as children. Romero, whom Kushner calls "the rock star," grew up in California as a confident, cocky kid who continually defied his stepfather, sneaking off on his dirt bike to the Roundtable Pizza Parlor to pump quarters into the Asteroids arcade game. Carmack, dubbed "the rocket scientist," was a quiet, strong-willed, highly intelligent boy growing up in a suburb of Kansas City, Mo., immersing himself in the solitary role-playing game Dungeons and Dragons as early as 3rd grade.

When Carmack and Romero meet in 1989 at a small software company in Shreveport, La., they instantly connect. Their talents and passions complement each other perfectly. By early 1994-- after a string of tremendously popular video games released as for-profit shareware in the prebrowser days of the Internet--the two strike gold with the release of Doom.

They rake in millions, and in their early 20s they buy matching \$90,000 Ferraris, parking them side by side outside their Dallas office, where they order pizzas, drink cases of Diet Coke, crank heavy-metal music and work feverishly late into the night doing what they love: making games.

"Without an ad campaign, without marketing or advance hype from the mainstream media, Doom became an overnight phenomenon in an on-line domain that, as fate would have it, was simultaneously beginning to explode," Kushner writes.

The appeal of their games arises in equal parts from their two minds. Carmack's technical programming wizardry brings never-before- seen, three-dimensional, immersive graphics to the computer. Romero's design of a dark, dangerous, violent world of sights and sounds gives gamers something they have never before come close to experiencing.

The rise to the top is rocky, and fame and financial success for the two Johns and their company, id Software, is followed quickly by mounting stresses and strains. As they develop their next game, Quake, Romero feels that the company atmosphere has changed from " 'let's make a great game together and have fun' " to " 'shut up and work.' " Romero secretly starts plans to form a new company of his own. For Carmack, the driving force behind Quake, Romero had stopped pulling his weight and begun to hurt the project and the company. The situation comes to a head in summer 1996 when, at Carmack's urgent request, Romero resigns from id Software.

Unlike Kushner's storytelling approach, Gee's book is a long, persuasive essay spelling out 36 learning principles. These principles all support his central argument that video games are designed to foster real, active learning--setting them apart from schools, where students are often forced to passively memorize lists of decontextualized facts.

Gee, a professor at the School of Education at the University of Wisconsin at Madison, became fascinated with video games watching his 4-year-old son romp through interactive games like Winnie the Pooh, Freddy Fish and Pajama Sam. Noticing his son's concentration, how he continually learns from his small mistakes and proceeds with enthusiasm and without fear figuring out the rules as he plays, Gee understands the solid learning principle at play.

Allowing students to probe new material, form a hypothesis, reprobe and then rethink their hypothesis is what Gee calls the "Probing Principle," one of the 36 he spells out. By contrast, schools often fail by not allowing this probing and, instead, providing students with facts to memorize and repeat.

"One good way to make people look stupid is to ask them to learn and think in terms of words and abstractions that they cannot connect in any useful way to images or situations in their embodied experiences," Gee writes. "Unfortunately, we regularly do this in schools."

Gee feels that video games also provide multiple solutions to any given problem, allowing players to choose strategies that fit their learning styles. Also, games succeed by allowing players to adopt virtual identities and become immersed in realistic environments with immediate and exciting consequences. Students are active and are forced to think critically to survive--determining, for example, that what is true in one situation for one game character is not true in a different situation for another. In the Nintendo game Pikmin, for example, children learn that yellow characters, when faced with a rock wall, can throw bombs to help them, but blue or red characters cannot.

The discussion in academic circles about the difference between telling students information as opposed to allowing them to somehow actively experience a situation is not new. Gee references all the usual suspects from cognitive science and education research in supporting his arguments. His writing is at its best when he identifies examples from the many games he has played personally and focuses on how they promote learning.

Gee delves deeply into the specifics of how some of the games are played, and these sections can be tedious to non-gamers. Equally challenging are the sections in which he draws on his background in theoretical linguistics, the field in which he received a doctorate in 1975. Such sections, while often relevant, may flow naturally to academics, but lay readers will need a machete to hack away at some fancy professorial language.

Gee astutely points out that for video game-makers, unlike schools, failing to engage children is not an option. Such failure promptly puts them out of business: "Good video games incorporate good learning principles, because otherwise there would be no video games, because too few people would have purchased them."

Gee acknowledges that the violence in video games is a concern and that some games can go too far. But for the most part he sidesteps the issue, focusing on the good they provide in terms of learning. Kushner, however, discusses violence at length, telling about its origins in the violent imaginations of Doom's designers and documenting the shock waves their blood-and-guts games sent through society.

From Gee, you get the sense that his enthusiastic descent into the intricate, detailed worlds of video games has taken him through a profound personal revolution. His extensive game-playing has lifted a middle-age professor out of often-stuffy, theory-laden academia and thrust him into a high-octane world created by cocky, rebellious, over-caffeinated kids like Romero and Carmack who are half his age.

Gee experiences firsthand worlds where the goal is to captivate children and adults alike for as long and often as humanly possible. Through his writing, you can picture an enthused Gee tenaciously solving a tricky puzzle or, after repeated attempts, successfully dodging enemy fire to navigate a complex maze.

To his credit, Gee bravely risks the failure and frustration that many adults encounter in a digital world in which, by their mere age, they are immigrants. And in so doing he lays his finger on the pulse of what made Romero and Carmack and designers like them so successful.

Gee concludes, simply, "No wonder it is hard for today's schools to compete."

[Illustration]

PHOTOS 2 GRAPHIC; Caption: PHOTOS (color): (Book covers.) GRAPHIC (color): Tribune photo illustration by Earl Toledo/photos from Doom III.

Credit: Terrence Hackett designed interactive computer games at Jellyvision Inc in Chicago and has a master's degree in education from Harvard University

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