DIRECTIONAL
UP BUTTON
Accelerate

DIRECTIONAL
RIGHT BUTTON
Realign

◉ BUTTON
Launch

△ BUTTON
Communicate

SELECT
BUTTON
Change

START
BUTTON
Pause

ANALOG STICKS
Leverage

DIRECTIONAL
LEFT BUTTON
Align

DIRECTIONAL
DOWN BUTTON
Decelerate

⊗ BUTTON
Focus

◎ BUTTON
Restructure

Photograph by Opto Design

Bye-Bye Blackboards

Corporate training doesn't have to be dull. Game-based learning lets you play your way to smarter business.

You are reading this issue of *strategy+business*, not playing it. This is narrative, not a game. Interactivity here means turning the page or paying particular attention to a passage. But if this magazine were a game — if you could actually *play* with the ideas and insights in its articles instead of merely read them — would you enjoy them more? Understand them better? Get more from the experience?

How would you know?

Companies have always been ambivalent about the role of fun and games in educating and/or training executives and employees. Perhaps if Jack Welch declared that General Electric's management games and simulations were the single most important element in his company's efforts to grow its leaders, then enterprises worldwide might fervently embrace them. He hasn't; they don't.

Instead, the typical human capital–oriented organization tends to treat games as a sort of tangy intellectual sherbet — something to cleanse the cognitive palate before the truly serious learning begins. Educational games are not inherently trivial or frivolous; they've just never seemed essential to executive development.

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Moreover, a well-designed traditional business classroom curriculum seems far easier to create and manage than a well-designed business game. It's the path of least resistance.

True, having the traditional "sage on the stage" (replete with bulleted PowerPoint slides) is less risky than journeying into the more stimulating realms of digital learning products — in particular digital training games inspired by popular software-based card games, action games, and board games, and even computerized television game shows. But no one knows which provides a better learning experience, hearing a really good lecture or playing a really good game. And don't ignore the psychological costs: Some people feel silly playing a game, no matter how educationally valuable it may be. Ambitious 32-year-old MBAs don't like to feel silly. Neither do their bosses.

But there are corporate learning visionaries who argue it's time for a discontinuity in the staid world of training and development. They say — and rightly so — that we've fast-forwarded to a short–attention span society. Most people below a certain age (and not a few oldsters) have neither the time nor the temperament to sit through long, boring classes and/or read long, boring texts. A generation weaned on MTV, *Doom*, PlayStation, and the immediacy of the World Wide Web demands compatible genres of interactive enlightenment. Instead of people teaching and training people, computers should be the teachers and trainers. Instead of familiar drill-and-practice rote learning, management education should be as intense, instantaneous, and intimate as a video game.

What's more, technical platforms enabling new forms of edutainment are becoming ever faster, cheaper, more pervasive, and easier to program. Companies that genuinely care about boosting their human capital, these visionaries insist, should invest in digital game-based training not just because it fits the rhythm of the times, but because it will ultimately be the most cost-effective way to educate employees.

These are the core arguments in Marc Prensky's *Digital Game-Based Learning*, a mammoth manifesto championing a future in which digital media both dominate and define the corporate learning arena. Northwestern University Professor Roger Schank's *Virtual Learning* addresses many of the same methods and messages about generational learning differences found in *Digital Game-Based Learning*. But Mr. Prensky's work is an indispensable resource for its leading-edge research on how companies in 18 different industries are using digital games for functional training, customer and supplier training, and executive development.

Mr. Prensky, a former math teacher who has an MBA from Harvard, is that rare visionary who also implements. One of the better stories in his book tells how, as a human resource vice president at Bankers Trust (now part of Deutsche Bank Group), he designed a fast-paced video-action game called *Straight Shooter!* to train the bank's young traders in how to trade derivatives and comply with the law. He convinced senior management that this was a better way to train traders than sending them to a class led by a teacher charging no less than $10,000 a day.

Though pocked with annoying typos, *Digital Game-Based Learning*'s case studies and vignettes make tasty reading for C-level executives who worry about how well their white-collar workers will learn more in less time. Mr. Prensky recounts how a game called *Where in the World is Carmen Sandiego's*

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Luggage (based on a television game show and video-game software for children) was used as part of a class-room-based customer service training course at Scandinavian Airways Systems (SAS). The game was so effective that SAS commissioned a sequel, *Will Jørge Jørgensen Ever See Sweden Again?*, about a stranded traveler trying to journey around the world.

Another case shows how Holiday Inn uses the *Branch Manager Training Game* to instruct its hotel managers to make their properties more profitable. Playing the game, managers "walk" through a virtual hotel environment, searching for problems in marketing, customer service, and inventory management. The game offers a variety of remedies; players win points when they pick smart solutions and are penalized when they make matters worse.

Mr. Prensky's relentless recognition that organizations care far more about the cost of education than the knowledge it produces is refreshingly pragmatic. He offers advice to companies with small and large annual training budgets, and shares many examples of cost-effective ways to utilize games. His account of turning computer solitaire into a training game template at Bankers Trust —

covering subjects from new hire orientation to IT help desk skills to sexual harassment prevention — shows he cheerfully errs on the side of opportunism over idealism.

As ambivalent as organizations are about fun and games in education and training, they're even more ambivalent about their role as educators and trainers. Although companies like Motorola, General Electric, Ericsson, and Accenture have their own "universities" for executive education and training, firms increasingly look to outsource education to consultants and academia. Bluntly put: Most organizations don't really know how to be educators or want to be in the business of education and training. They value education as a tool to amplify their operating efficiency and effectiveness, but it's not their core competency. So long as people cost effectively learn what the firm needs them to, talent- and results-hungry CEOs are happy.

Whether to outsource management education to experts or keep it in-house is a painful perennial question for the Fortune 1000. The economic trade-offs are extraordinarily difficult to calculate, which is why so

many firms turn to computers to help "automate" the education and training function as surely as digital technology has automated payroll.

Mr. Prensky's edutainment ideology had a decidedly mixed reception at Bankers Trust, which he ruefully acknowledges. Despite having supported his establishing an internal gaming and training unit in the human resources department called Corporate Gameware, management ultimately decided the bank did not need an in-house resource to create such games. Sounds like a classic make-versus-buy decision, doesn't it?

Increasingly, companies are relying on outside vendors for computer-based learning products and services. Mr. Prensky subsequently left the bank to start his own company, games2train.com.

It's no wonder companies struggle with managing the costs of training and justifying the investment. That is to say, just because people know a lot more because they've been through training doesn't inherently mean they will do their jobs better. And even if they do, it's hard to pinpoint which training investments made them more effective and which had no effect at all.

Although the costs of training are

Companies should use digital games not because they fit the times, but because they're a cost-effective way to train employees.

a central issue of *Digital Game-Based Learning*, the book's soul is its relentless focus on engagement. "For four years, I taught math in a New York City public high school," Mr. Prensky writes. "In the late 1980s and early 1990s, I worked at a small training firm. In both cases, the hard part was never what to teach. That was either prescribed or not too hard to figure out. The real struggle was always how to do it — how to hold the attention of people who were usually convinced that they had better things to do than be in your classroom."

This is the challenge all corporations face. Competent executives have a good idea of what they want their people to know. But how do the world's top companies ordinarily communicate this knowledge? They stick their people in a classroom — physical or virtual — that Mr. Prensky wickedly dismisses as an educational "Pleasantville," a placid place where the corporate trainers "go pretty slowly, love PowerPoint slides, and love laying out the material." In other words, a learning environment that harks back to the duller sophomore geometry classes in a 1970s suburban high school.

The debates about digitally enhanced management training echo the vehement arguments surrounding the role of computers in schools. Advocates of computer-based learning say technology can complement teachers or replace them. Computers can better customize individual learning and empower classroom learning. And let's not forget that classic oldie but goodie, digital technology can make learning — all together now — more fun.

Mr. Prensky and his fellow "edudigicrats" see no shades of gray. Whenever and wherever companies can use clever software to replace boring books, they should. Whenever and wherever companies can tailor education and training to the individual instead of the institution, they should. Using digital technologies to create virtual classrooms is stupid; using technology to turn required courses into engaging edutainment games is smart.

Still, when it comes to education, core values always matter more than innovative applications of technology — not an assertion Mr. Prensky consistently appreciates. Indeed, it is reasonable to assert that a lot of learning shouldn't be fun or entertaining. Genuine learning requires personal qualities such as intellectual rigor, persistence, self-discipline, and a willingness to recognize that all those boring bits might burst into that flame of insight that confirms real understanding.

Other obstacles to the adoption of game-based learning are institutional. Service firms cherish their methodologies; manufacturers cherish their processes. Culture as much as economics determines how core competencies are taught to new managers and the next generation of associates and employees.

In academia, computer science and molecular biology have each changed dramatically over the past 50 years; however, one is still required to write a thesis on paper and get it approved by a thesis committee in order to earn a Ph.D.

Consider how Harvard's law school was mocked by America's legal community in the 1870s when its new dean, Christopher Columbus Langdell, introduced the nascent "case method" to train students. What is case method but an interactive genre that encourages engagement, simulation, and playing with ideas about facts and facts about ideas? The case method represented a genuine educational revolution — a technique rather than a technology — more than 125 years ago. That

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technique, of course, ultimately has defined the educational philosophies of any number of business schools.

Intriguingly and importantly, the case method approach to education requires dialogue and dialectic; knowledge comes from the interaction of people with each other as well as individuals' interactions with ideas.

This "knowledge management" aspect of the case method maps flawlessly to the trade-offs organizations must face when they consider the kinds of learning environments that work best for their people. To wit, is it in the best interest of an organization to optimize learning for the individual? Or might organizations be wiser to recognize the social aspects of learning and invest in developing more collaborative human capital? After all, most people work with somebody, not just for somebody.

Collaborative learning games potentially have substantial value. Unfortunately, Mr. Prensky gives short shrift to the social aspects of digital gaming in education and learning. Both Mr. Prensky and Professor Schank view simulations and games as media for personalization and customization. This is not illogical, but organizations need to know at what point educating the individual impedes effective collaboration in a high-performance team.

Successful educational institutions from Britain's Open University to Harvard Business School recognize and encourage the role of small study groups to foster shared learning. In fact, optimizing group learning apparently enhances individual learning. So should organizations design games for groups or games for individuals? To the extent that organizations care about promoting cooperation and collaboration to boost productivity and innovation, they will have no choice but to promote social learning. Will games become more important then? Perhaps.

Another key insight that Mr. Prensky and other game designers offer is that anything can be turned into a game by the introduction of competition. Want to get people to learn how to do spreadsheets better and faster? Have teams race against one another for a prize. Create a tournament with rules, regulations, recognition, and rewards. Competition may not always bring out the best in people, but the fear of losing and a lust for winning, however it is defined, can create the intensity of engagement that Mr. Prensky and so many other educators deem essential for learning.

Visionaries tend to be idealists. Yet there's absolutely no denying that Mr. Prensky and the digital games folks are essentially right. The culture of learning in business organizations is changing, and the technology is delivering ever more bang for the buck. In fact, the increasing digitalization of business products, processes, and programs effectively guarantees that managers of all stripes will be playing games online whether their company formally uses these training methods or not.

I have long wondered why there are not more spreadsheet-oriented games that not only encourage people to learn more about the software's functionality, but get them to apply it in innovative ways. Consider that the same spreadsheet software used to crunch numbers for a budget can also be used to conjure up "what-if" scenarios for a leveraged buyout or hostile takeover. Using existing software for digital game-based learning incurs only a marginal cost compared to buying new games and building new training infrastructures.

So how does the brave new world of digital gaming and simulation fit into the brave new world of business?

Is it simply a matter of time before college and business-school curricula come to resemble video game training sessions? Is it inevitable that Pleasantville training will be overrun by simulations designed to teach management at "twitchspeed," the term Mr. Prensky uses to describe how MTV and action videos and films stimulate the mind?

The answer is no. I am a huge fan of simulations and games. I would never want to fly in a plane if the pilot hadn't spent time being challenged in a simulator. I admire well-designed business games where interaction and information are elegantly fused. But I also know that, in the first and final analysis, only a tiny fraction of firms are truly going to differentiate themselves by how well they educate and train their people, whether or not that education is game-based.

The ultimate irony of Marc Prensky's proselytizing is that we're not going to see games and simulations emerge from people in the field of business training, or from educators in general; we're going to see them extend from the increasing digitalization of the enterprise. The more networked, the more digital, our organizations become, the more managing them is like playing a video game or running an air traffic control tower or interacting with an online auction. In other words, we won't be training people with digital games and simulations because that's the most engaging way to educate and train people; we'll be educating and training people with digital games and simulations because that's what

Gaming Resources
Works and Web sites relevant to this review.

Marc Prensky, *Digital Game-Based Learning* (McGraw-Hill, 2001), 442 pages, $29.95; www.games2train.com

Roger Schank, *Virtual Learning: A Revolutionary Approach to Building a Highly Skilled Workforce* (McGraw-Hill, 1997), 212 pages, $27.95

Don Tapscott, *Growing Up Digital: The Rise of the Net Generation* (McGraw-Hill, 1999), 336 pages, $14.95

Web Sites for Games
www.twitchspeed.com/site/games.html
SimCity 3000: simcity.ea.com
Doom: www.idsoftware.com
Duke Nukem: www.3drealms.com
You Don't Know Jack: www.sierraattractions.com/ydkj/index.php

the foundation of the working environment in tomorrow's enterprises increasingly will be.

Of course, if you really want to see for yourself how effective these games are, reading about digital game-based learning is not enough. A book about digital gaming suffers from the same inherent handicap that books about musical genres or cinematography do. You can't, for instance, meaningfully read about jazz without hearing it played by greats Louis Armstrong, Ornette Coleman, and Miles Davis.

Similarly, reading about digital game-based learning without having played such a game is grossly misleading. And there's no way to understand how game-based learning works if your only computer experience is using PowerPoint and Excel, visiting

Amazon and eBay, or playing that lonely game of solitaire on your laptop when you can't sleep on the red-eye.

Alternatively, you can play *Doom*, *SimCity 3000*, or *You Don't Know Jack* for just a few minutes with a friend or colleague, or try some of Mr. Prensky's games2train. (Demos are available on the Web.) That is the best possible training for reading *Digital Game-Based Learning* — or, for that matter, reading this Knowledge Review.

If a picture is worth a thousand words, then an interactive game should be worth a thousand pictures. If it's not, it's probably not a very good game. ✚