

## Workplace Value of Games Article Summary

The final report of the 2006 *Summit on Educational Games: Harnessing the Power of Video Games for Learning* indicated that U.S. employers are increasingly interested in workers who have higher order thinking skills; skills that are often not assessed by testing in schools. More of the American work force must have these skills to compete in a global economy.<sup>1</sup>

The report says that workers in the U.S. need to be prepared to move quickly in response to technical change and be ready for new jobs and careers as they emerge. Workforce globalization is driven by economic reforms in developing countries, high-speed telecommunications, and global delivery of goods and services. The U.S. can't compete with the low wages and standardization services of other countries, so it must take the lead in the creating the next generation of knowledge, technologies, products and services, business models, and management systems. Businesses must be able to translate innovations to new products, services and processes and quickly respond to rapidly changing markets. The key resources needed are creative people with good ideas.

According to the report, the new workforce will need to work well on multidisciplinary teams in agile organizations. Workers will need excellent oral and written communication skills, and those higher level thinking and doing skills including the ability to:

- learn on the fly
- adapt to rapid change
- assess what needs to be done
- budget time, costs, and resources
- think analytically
- identify problems
- develop plans and carry them out
- work independently
- prioritize multiple tasks
- think creatively
- negotiate and influence other people
- focus on the customer

Kurt Squire and Constance Steinkuehler explain that gamers grow up in a media landscape that is more complex with more shifting dynamics than did their parents. Instantaneous access to both information and social networks is the norm. Older workers may perceive even cell phone calls as an interruption and can't imagine how younger people can get any work done. While workers under 30 can't imagine how anyone can get their work done without access to digital tools. They use their social networks like "lifelines" on the TV show "Who Wants to be a Millionaire." They want persistent access to networks, which in turn provide continuous access to both collective information and collective intelligence. Game cultures emphasize expertise rather than status. They promote international and cross-cultural media and communities.<sup>2</sup>

Businesses are increasingly looking at technology to enable flexible, effective, low-cost training. The training must transcend language, as well as cultural and geographic boundaries.

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<sup>1</sup>*Summit on Educational Games: Harnessing the Power of Video Games for Learning*. Federation of American Scientists. 2006. Washington DC.

<sup>2</sup>Squire, Kurt and Steinkuehler, Constance. "They Research, Teach, Learn, and Collaborate. So Far Without Libraries." *Library Journal*. April 15, 2005.

The training must be able to bring workers in developing nations up to acceptable performance levels, while supporting the learning needs of more advanced workers. Speed is an important factor in training because it allows companies to adjust quickly to rapidly changing markets and bring out new products and services as needed. Businesses need training that can be customized and delivered in remote locations at times that are convenient for employees.

The *Summit* report indicates that currently 20% of all business learning content is delivered via technology, with self-paced learning elements growing increasingly popular. Many companies use games and simulations in management, customer service, and sales. According to Preeta Banerjee, in her article for *Business Week OnLine*, the trend toward using videogames for training is spreading. By 2012, at least 100 of the Fortune 500 companies indicate they will use gaming to train their employees. While it is too early to measure the full implications, a new business environment is emerging.<sup>3</sup>

As more businesses look for gaming technologies to train their far-flung employees, more gaming publishers are looking at the opportunity of creating business games. According to Jessie Scanlon's article in *Business Week Online*, serious, non-entertainment games are being used for education, in the military, in health care fields, and by the corporate world. Recreational game makers are not likely to take an offer of even \$5 million to develop a game for a corporation because they have to take their staff off commercial products that bring in millions in sales. But new game makers are focusing on serious games.<sup>4</sup> Elizabeth Danforth explains in her article for *BiblioTech* that businesses find gaming applications in their training programs far more motivating than a PowerPoint presentation, and the information is internalized much faster.<sup>5</sup>

The *Summit* report suggests that many workers prefer training in their real-work context rather than be exposed to abstract theories and concepts. Information technology workers said they preferred hands-on training in the context of a project or problem that needs to be solved. They also indicated they needed to use their skills immediately because if they did not, they forgot them.

According to the *Summit* report, games and simulations can serve as powerful tools to teach practical and technical skills for jobs from everything like car repair to heart surgery. Students who have grown up with digital technology and videogames are in an especially good position to take advantage of the skills educational games can teach. According to the report, videogames are especially good at teaching higher order skills such as:

- strategic thinking
- interpretative analysis of strengths and weaknesses, the pros and cons of specific actions
- problem solving
- plan formation and execution to achieve a goal
- manage complexity
- adapt to rapidly changing, ambiguous situations under time constraints and performance pressure

While these are the skills employers most want, there is a need for research to identify and measure how higher-order thinking skills are attained, so that guidelines and measures for assessment of learner performance can be developed. Most current testing in schools does not

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<sup>3</sup>Banerjee, Preeta M. "Video Games Aren't a Waste of Time." *Business Week Online*. February 2, 2008.

<sup>4</sup>Scanlon, Jessie. "Getting Serious About Gaming." *Business Week Online*. August 14, 2007.

<sup>5</sup>Danforth, Elizabeth. "Games, Gaming, and Gamers: Why You Want Them in Your Libraries." *BiblioTech*. October 2007.

evaluate high-order skills. Schools' activities typically allow students to make low-level decisions that require short-term memorization of facts. Most tests in schools measure memory of facts and standards of learning. The types of thinking required by videogaming are typically not tested in schools.

According to the report, videogames and simulations also address other business skills such as:

- training for high-performance situations that require complex decision making
- reinforce skills seldom used, for example, emergency medical procedures that are only rarely encountered rarely real life situations (terrorist attacks etc.)
- teach how experts approach given problems
- teach team-building and leadership skills, such as negotiation and collaboration
- teach resource management including how to apply workforce multipliers such as knowledge and technology
- offer opportunities to interact with systems and understand the interaction of variables
- help workers learn compromise and to use trade-offs to satisfy diverse interests, needs, and demands

It is important that workers are given the opportunity to learn how experts evaluate a problem situation and how they use what they already know about other situations to find a solution to the current problem. Games and simulations provide an opportunity to develop mental models quickly.

According to the *Summit* report, some games can be used to teach workers team building skills, which are among the most in-demand skills in the workplace today. Games often require information sharing, goal-directed cooperation, and formation of networks. They offer practice in group decision-making and exercising judgment to solve problems under pressure. Games can help teams improve communication by developing information flows. They offer practice at task sequencing. Team members can give each other feedback, and games allow them to switch roles to reallocate the workload.

Chris Suellentrop explained in his article for *Wilson Quarterly*, that videogames can improve spatial orientations skills. U.S. Army studies indicate playing as much as ten hours can improve the ability to process information.<sup>6</sup>

In their book *Got Game: How the Gamer Generation is Reshaping Business Forever*, John C. Beck and Mitchell Wade suggest gamers come out ahead in the business world. Their study indicates that gamers intuitively acquired traits that more senior managers take years to develop. Gamers are more likely to consider themselves knowledgeable and even experts in their fields, than are non-gamers. They are more likely to want to be paid commissions or bonuses based on their performance. They describe themselves as sociable and tend to be mildly bossy. They understand that repeated failure leads to success.<sup>7</sup>

Preeta Baneerjee asserts that tomorrow's professionals may want to work in "virtual teams" with others around the world, working on multiple projects, using many of the same processes that worked for them in their online gaming activities. Supply chain software and customer relationship software could allow decision makers to be immersed in real-world simulations, where they can judge cause and effect before making decisions. Baneerjee says employers can

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<sup>6</sup>Suellentrop, Chris. "Playing with Our Minds." *Wilson Quarterly*. Summer 2006 30:3.

<sup>7</sup>Beck, John and Wade, Mitchell. *Got Game: How the Gamer Generation is Reshaping Business Forever*. Boston, MA: Harvard Business School Press. 2004.

not afford to ignore the changing group dynamics of the workforce. They need to tap into the advantage of using graphics and the decision-making steps of games in the business world.<sup>8</sup>

According to Beck and Wade's book, *The Kids are Alright: How the Gamer Generation is Changing the Workplace*, games require the simultaneous use of various mental and social skills. "Serious gaming" is no longer an oxymoron. Videogames help make players social, strategic thinkers. Studies indicate businesses continue to use "serious games" to teach business and technology skills. Regardless of whether teens are using game controllers or keys on computers to play online games, they are acquiring skills that companies increasingly value as the gaming generation enters the workforce.<sup>9</sup>

Beck and Wade assert that videogaming is a fun and engaging way to bridge skills games between respective business sectors and IT graduates. Today's jobs require both IT and business professionals to acquire crossover skills in each other's domains. IT personnel can benefit from personalized learning activities using videogames. Business videogames allow students to practice making real-life decisions, such as redesigning a call center process. They can see the results of their work right away, identify mistakes, and correct them. They can then discuss their experiences with others.<sup>10</sup>

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<sup>8</sup>Banerjee.

<sup>9</sup>Beck, John and Wade, Mitchell. *The Kids are Alright: How the Gamer Generation is Reshaping Business Forever*. Boston, MA: Harvard Business School Press. 2006.

<sup>10</sup>Beck.