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From the Perspectives Editor

Anna Tavis, Perspectives Editor

In this issue's Perspectives, we continue to build on this year's discovery theme of new ways for corporate learning in the 21st century. We invited **Sue Baechler**, a corporate games designer, to kick off the discussion on the efficacy of corporate games. It has long been recognized that games hold an important place in learning; furthermore, interactive corporate games engage learning audiences, enabling them to understand concepts and learn information in an entertaining way. Our current education systems, including our "corporate universities," are geared toward producing obedient workers rather than creative innovators. The cubicle layout of our average business office is great for efficiency but is the worst possible design for creativity and learning.

Games give learners of all ages the chance to challenge their imagination and develop vital life and work skills. Through their interactive nature, games also enable learners to be actively engaged in the learning process and even become involved in the teaching of others.

As Baechler explains here, despite the initial barriers to acceptance, there is an ultimate perfect fit between business requirements for performance improvement and better results and the way games are constructed. Aren't we playing games to win? Games give us instant feedback as they challenge our level of skill.

Our selected panel of experts radically agree with Baechler and collectively build a compelling case for the use of games in business learning. After all, don't "those who play, win" and aren't games a serious business?

Jesse Schell, for one, says that games are on the verge of transforming the way people work and learn, as they have already transformed consumer behavior in most societies.

Michael Carter asserts that the real value add in a game situation is the license to fail and the requirement of teamwork.

Mary Shapiro adds that games put people in the moment and get them emotionally invested, eliciting both emotional and behavioral response. In every case, the game is about being engaged, just like in real life.

Steven Kowalski adds a quote on the progress principle in games citing from Theresa Amabile's *Harvard Business Review* article) — "making progress in meaningful work becomes the key driver of creativity and innovation."

Joe Robinson references the "flow" experience that the games generate that leads to better retention of knowledge.

As you start to read this engaging exchange, please bear in mind the words of the ancient Chinese sage Confucius:

"I hear and I forget. I see and I remember,
I do and I understand."

— Confucius

Using Games to Improve Performance and Results

By Sue Baechler

When Institute for the Future researcher Jane McGonigal takes an interview for *Businessweek*, she turns it into a game-like experience with goals, points, timers and levels. She even invites readers/viewers to a website to score the interview's value. Why? To level up: Improve her performance and get better results. When Target's cashiers check out customers, they receive a score based on transaction speed and success rate over multiple transactions. Why? To level up: Improve their performance and get better results. When the world's top biotech company wants to reinforce sustainable performance behaviors, it uses gaming technology: *OASIS, Learning from Life's Deserts of Change*. Why? Same reason. To level up: Improve performance and results.

In his recently released book "Game Frame: Using Games as a Strategy for Success," digital strategist and entrepreneur Aaron Dignan explains: "Games give us information about our developing skills in the form of real-time feedback, points, leaderboards … They force us to face facts, press on and earn our way… by completing tasks that match and then challenge our level of skill … [We] have a

culture of gamers who are obsessed with leveling up in every aspect of their lives."

Games and game-based approaches have themselves leveled up. Experts like Jesse Schell ("The Art of Game Design: A Book of Lenses") say that games are on the verge of transforming the way people work and learn in the same ways they already change consumer behavior (e.g., points, miles, badges). Barriers to game adoption for corporate training and educational initiatives (e.g., cost, value, results) still exist but are breaking down. From Target's cashiers to SAP's corporate directors; from nurses at Johnson & Johnson to Siemens' plant managers; from Navy SEALs to air traffic controllers to UPS drivers, the use of games and game-like environments to educate, engage and generate business is on the rise: 80 percent of corporate employers will use games to train employees by 2013 (up from 70 percent three years ago, according to Entertainment Software Association).

What does this mean for you? The decision you have to make now isn't if you'll use games or game-based approaches instead of traditional mediums to get better results, but *how* you'll use games and game design to improve people and business performance. And what better way to make better decisions about using games than to "gamify" the content of this article? (Gamify: Use game design principles and mechanics to engage people in any experience and, ultimately, change behavior.)

Welcome to "Level Up – the game for making better decisions when using games to improve performance and results." You'll experience a broad range of game usage to learn about game design principles like collaboration, goals, feedback and repetition, and game mechanics like currency, persistence, progression and scarcity that drive behavior change. Play the game, score yourself and share what you learned with other participating HRPS members.

How to Play, Score, Win. You have 16 opportunities to get better at making decisions about using games to educate and engage. To win the game, you need to score 16 points. In the first eight opportunities, you rate the value of game uses to your needs (1-10). (**You get 1 point for rating each opportunity.**) In the second eight opportunities, you identify game design principles and game mechanics in business and life situations. (**You get 1 point for every right answer.**) Read all 16 opportunities, write down your ratings and answers, and total your score.

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GAME USES: RATE THE VALUE TO YOU. WRITE 1-10 IN BOX.		
Game Uses (work, education, commerce)	**Rating (1-10)**	**Points**
1. Teams of call center employees go to work inside virtual games (like cruise ship environments) to improve motivation, loyalty and productivity. Stanford professor Byron Reeves, co-author of "Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Business Compete." 2009, Harvard Business School Press		
2. Collaborative gaming helps solve the most vexing problems of our times: climate change, hunger, obesity, war and disease. Jane McGonigal, director of Games Research, Institute for the Future		
3. Assurant uses "It's Your Business" game to help employees better understand the business and boost sales. CareerBuilder.com, "How Smart Companies Use Video Games to Recruit, Retain Employees."		
4. Siemens creates "Plantville," a game that fuels equipment sales and fosters greater employee knowledge of its products. Bloomberg *Businessweek*, April 4, 2011		
5. Air traffic controllers improve their vital societal role through graphics and game-like interfaces. Gregory T. Huang, Editor Xconomy, Boston. "Gamify This: Seattle Web Experts Give Pointers on Using Game Mechanics for Good and Evil."		
6. Johnson & Johnson recruits and educates new nurses through games that provide practical time in clinical settings. Andrea Higham, J&J, *Newsweek*, "On the Job Training," August 2008		
7. IBM employees play "Innov8," an online business process management game to solve problems like supply chain models, reducing carbon footprints, call center efficiency and customer response quality. BreakAway Games, CEO, Doug Whatley		
8. Foursquare makes a game (rewards) out of discovering new things by "recording the inane aspects of our lives like dropping into a Rite-Aid to fill prescriptions or buying Big Macs." *Fast Company Magazine*, Dec. 13, 2010, Adam L. Penenberg, "How Video Games are Infiltrating – and Improving – Every Part of Our Lives."		
Your Score	**Total:**	

To win the game, you need to score 16 points.

GAME DESIGN: NAME THE PRINCIPLE OR MECHANISM WRITE ANSWER IN BOX.		
Game Design Principles (collaboration, goals, feedback, repetition) **Game Mechanics** (currency, persistence, progression, scarcity)	**Answer**	**Points**
1. Microsoft's "Code Review Game" improves job satisfaction, productivity and quality by teaming up groups of highly educated programmers to make a game out of debugging major software releases. Ross Smith, director of Test, Microsoft Corporation, as reported in *Fast Company Magazine*.		
2. Finance companies such as Bankers Trust use game-like trading interfaces in which winning the game means making an actual profit. Games2Train.com, Mark Prensky, "Reaching Younger Workers Who Think Differently."		
3. SAP helps corporate board members prepare for meetings using an app with progress bars and leader boards to get directors more engaged in consuming key data. Businessweek.com, "The Games Companies Play," Rachael King, April 4, 2011.		
4. The Forum Corporation is introducing *Speed to Mastery*™, a business skills learning and teaching community that makes new behaviors stick with gaming elements like earning badges and achieving higher levels. Jocelyn Davis, executive VP research and development, The Forum Corporation, Forum.com		
5. One study found that surgeons who play games that improve decision making, vision and hand-eye coordination, commit 37 percent fewer errors and work 27 percent faster in laparoscopic surgery than doctors who don't. Study funded by New York's Beth Israel Medical Center and the National Institute on Media and the Family at Iowa State University, as reported in *Fast Company Magazine*, December 2011.		
6. HopeLab claims a 30 percent increase in physical activity for players of their health improvement game "ZamZee." "HundredPushUps" drives you to do more pushups. Nintendo's Wii game platform is so pervasive in rehabilitation use that some call it "Wii-hab." Grueling rehabilitative exercise becomes a game. "Playing Around with Your Health," *Fast Company Magazine*.		
7. At McKinsey & Co., potential recruits play "Team Leader," in which they manage a team whose client faces serious challenges. Players answer 10 questions based on a set of decisions and get instant results on how their scores stack up to other players. FastCompany.com, Adam L. Penenberg, "The Video-Game Workplace," December 2011		
8. Web-based performance improvement game "Rypple" gets employees to build and manage their own coaching networks by soliciting and sharing more of the scarce opinions they value. *The Economist*, "The Rypple Effect," December 2008		
Your Score	**Total:**	

Congratulations! Now you know more about how game use is improving performance and results and how you can use game principles and mechanics to evaluate existing games and/or design and integrate game-based approaches in your organization.

To find out what other HRPS members are doing to level up, go to: www.hrps.org. Share what you learned and how you're using (or will use) games and game mechanics to educate and engage for improved performance and results in your organization.

Answers (Game Principles and Mechanics)

1. Collaboration
2. Goals
3. Progression
4. Currency
5. Repetition
6. Persistence
7. Feedback
8. Scarcity

Online Content Capture/Sharing

(Let's discuss how this simple fill-in-the-blank online data capture might work in HRPS and member's favor.)

Member Name:
Organization:
Game Score:
Email:
How did the game change your thinking/behavior?

Sue Baechler is a learning product strategist and game designer. As founder and CEO of Originaliti Media Inc., she does what many other top game designers won't do: design games for corporate audiences. Originaliti's games, simulations, apps, interactive books and tools span industries, content and media and are used by brand name U.S. and global companies. She holds trademarks and copyrights on more than 25 games, books and learning products and is the designer behind Genentech's *Oasis*™ boardgame and the Forum's *Speed to Mastery*™ web-based business skills mastery system.

Why Those Who Play, Win

Michael P Carter, Ph.D.: principal, Twin Learning LLC

Recognition of the value of play in training did not begin with the Battle of Waterloo and the playing fields of Eton. Thinkers as far back as Plato and as radical as Rousseau discussed its place in both learning and education. But Tom Malone, now the Patrick J. McGovern professor of management at the MIT Sloan School, was perhaps the first modern business scholar to write formally of intrinsic motivation in games more than 30 years ago,[1] and it is to Sega's Sonic the Hedgehog that we owe the short version of the lesson, "Welcome to the Next Level."

What Sue Baechler has imparted so succinctly, drawing on not only her own work but that of outstanding colleagues such as Jane McGonigal and Jesse Schell, is that the canon of best practices in the use of games to train has gone beyond menus of exotic efforts to become a rich collection of recipes that have proven to engage players and improve their performance and satisfaction on the job. In some cases, the critical ingredient is simply the suspension of disbelief: Players enter a simulated environment that prompts them to make choices, solve puzzles and generate original solutions. All the while they are tackling the challenges as if they were real. The value-add to a real situation is the license to fail, the no-fault nature of gameplay — it's great to win but not really fatal to make a mistake, which, after all, is one of the best ways to learn something so you'll never forget it.

And when you do get it right, that sense of efficacy carries over into your everyday approach to problems. Before HopeLab developed "ZamZee," their "Re-Mission" (think of: "Laura Croft takes on disease") let cancer patients control a nanobot that blasts different forms of cancer cells in the bloodstream. It proved not only to give those patients a sense that they could fight their cancer but improved their ability to do so.[2]

In other cases, the special sauce is the teamwork, where players learn to gauge each others' value to the effort and judge whom best to rely on at critical junctures. Scholar Mimi Ito has characterized the spectrum of participation in things digital from *friendship-driven* (Facebook, which at least starts with real friends) to *interest-driven*. At that end, in such role-playing games as "Final Fantasy," dozens of complete strangers come to rely on each other to accomplish missions that last weeks at a time.[3] Seeding games to train with the need to come together and work as a team while respecting individual talent and experience lets players learn better to judge themselves and those with whom they work.

In all cases, the game is about play, learning and trying to excel. As such, it draws as deeply as possible from those who engage. Baechler has picked outstanding examples and has used them so the reader can experience the lesson she embeds in the article as she does in her work. That's why those who play, win.

Michael Carter has been focused on new technologies, learning and games for many years. He shaped the curriculum that Oxford, Stanford and Yale delivered to their alumni online and created programs with faculty from leading business schools at Pensare. At Apple he oversaw educational new media research and funded laboratories worldwide. At Digital Pictures he created "What's My Story?" to help children learn to speak for themselves. As Chief Playwright at Zookazoo.com he designed and produced games for kids in a virtual world.

Gaming to Improve Performance? Really?

Mary Shapiro, professor, Simmons College

Gaming to improve performance? Really? Isn't this just a way to get 20-somethings who were weaned onto Game Boys and wasted their adolescence on RPGs to learn grown-up skills now that they're in the real world? That was my initial reaction when reading Sue Baechler's article on "leveling up." The use of games for building skills and changing behavior seems like a concept custom made for our "there's an app for that" world.

And yet, hasn't gaming been around for years? Confucius understood the power of games 2,500 years ago when he said, "I hear and I forget. I see and I remember. I do and I understand." In the 21st century, as a mother, I used gaming theory to get my 3-year-old daughter to see how quickly she could put her toys away. As a college professor and organizational consultant, I use gaming theory to get my MBA students and executives to develop/practice management skills. Games are one form of experiential learning pedagogy that, as David Kolb in the early 1970s explained, are based on having a concrete experience (created by the game) and then reflecting on it to form new concepts, ways of thinking and iterative experimentation.

Clearly the persistence of gaming pedagogy over many years is due to its effectiveness. So what makes it so powerful? Games put people in the moment and get them emotionally invested, eliciting both emotional and behavioral responses similar to how they'd behave in the real world.

Here's an example: I was conducting a game at a large medical practice where the hierarchical stratification of doctors over the nursing staff resulted in poor medical decisions. The doctors disregarded all input from the nurses even though the nurses had a better understanding of their patients' conditions. I was using the "Barnga" game, created by master game builder Sivasailam Thiagarajan.

1 Malone, T. (1980). *What makes things fun to learn? A study of intrinsically motivating computer games*. Xerox Palo Alto Research Center Technical Report No. CIS-7 (SSL-80-11), Palo Alto, CA.

2 Tate, R., Haritatos, J., & Cole, S. (2009). HopeLab's Approach to Re-Mission. *International Journal of Learning and Media. I*(1), 29-35.

3 Ito, M., et al. (2009) *Hanging Out, Messing Around, and Geeking Out*. Cambridge MA: MIT Press.

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It was no surprise when the game, designed to elicit one's response to being in a situation where one's beliefs are challenged, resulted in one doctor strongly pushing and yelling at a senior administrator. It was, to say the least, a "teachable moment."

I've learned the following lessons in the classroom and in organizations when using games:

- Games aren't an effective pedagogy for everyone. Whether that stems from different learning styles or from people's varied reaction to competition (a singularly American concept), the use of games should be selected thoughtfully.
- Games have winners and losers, and just like on the athletic field, the facilitator must be skilled at dealing with the employee who "lets down" everyone else and skilled at helping the team to reabsorb the weakest link.
- Because "it's not whether you win or lose, but how you play the game," a game's debrief is critical. Allow people time to reflect. Help people tease out what they've learned and how to apply it. Generally, the debriefing should be twice as long as the actual game.

Finally, here's two terrific repositories of games: David Kolb, Osland and Rubin's "Organizational Behavior: An Experiential Approach;" and Johnson & Johnson's classic "Joining Together: Group Theory and Group Skills."

Mary Shapiro's expertise is team leadership, communication strategies, high performance teams and gender in workplace.

Progress and Competence: Keys to Learning and Creativity

Steven Kowalski, founder and president, Creative License™ Consulting

As Sue Baechler points out in her article, the use of games and game-based approaches is on the rise in corporate training. Why? In addition to tapping into a cultural phenomenon that is part of the fabric of how new generations entering the workplace learn and collaborate, game-based approaches rely on two of the most powerful and intrinsic motivators for people through the ages: progress and competence.

Progress and competence work so effectively because — even with only intermittent reinforcement — they inspire persistence in the face of ambiguity, obstacles, uncertainty and complexity. And who today could say they don't encounter these on a daily basis in both our personal and professional lives?

In her article in the May 2011 issue of *Harvard Business Review* (HBR), Teresa Amabile clarifies the link between small wins (progress and competence) and persistence in one of the most important processes of all — the creative process. The "progress principle" as Amabile calls it — making progress in meaningful work — turns out to be a key lever in driving creativity and innovation. "People are most satisfied with their jobs (and therefore most motivated) when those jobs give them the opportunity to experience achievement," Amabile states.

No wonder that learning and development professionals are starting to leverage gaming design principles and mechanics in everything from online programs to executive development. Gaming technologies rely on the small win — and often the sudden leap — in achievement and skill. That's why they are so compelling.

Although many games played today use virtual and electronic technologies, one of the most exciting arenas for the evolving use of games is in old-fashioned, face-to-face interaction. Consider how you might use the principles and mechanics described by Baechler in the following learning contexts:

- An intact team in a weekly staff meeting
- A departmental offsite designed to set strategic three- to five-year goals
- A group of high-potential leaders, engaged in a live, scenario-based simulation
- An executive working with a high-potential leader she is sponsoring to promote visibility and career development

As we experiment with leveraging progress and competence through gaming principles — both within virtual technologies and through face-to-face interactions — our learning designs are becoming increasingly sophisticated. Next, we can branch out beyond the learning arena to consider how to use these same principles in ongoing organizational processes such as performance management, goal

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setting, career development and, potentially, even the budgeting process.

Beyond even these longer-term processes, the most powerful application of gaming principles and mechanics that develop progress and competence might end up being that ultimate game of all — the "Game of Life." After all, that's where learning and doing collide — and where collaboration, feedback, currency, persistence, progression and competence all come together to create the story of our lives.

Steven Kowalski is founder and president of Creative License™ Consulting, a San Francisco-based collective focused on applying the famed Stanford Business School program, Creativity in Business, to solve tough business challenges. He is also a member of Genentech's Leadership Development Team, delivering leadership and innovation solutions for VPs and high potential directors.

The Power of Serious Play

Joe Robinson

There's a reason we encourage kids to play games. It's called learning. Games allow children to learn without judgment and have fun while they're doing it. But what works for kids has been thought to be, well, childish for adults. Grownups have responsibilities — problems — for crying out loud. They can't have fun while learning. Sue Baechler's article shows well how far off base the myopia is on this topic, as more and more serious companies use games to increase engagement and instructional horsepower.

The active ingredient that makes games powerful is another item adults have an inexplicable bias against: play. It turns out that this lowly realm that once provided us with a quick source of energy and enthusiasm still does. Researchers have found play does a host of things that pump up engagement for any employee. It increases positive mood, reduces stress, increases risk-taking and changes the mental set. When your brain is stuck, play has the ability to reassemble the associations that form ideas so that you can break through to innovation. A study in Taiwan, a place not known for Guinness records in levity, found that playfulness at work increased job performance, innovation and satisfaction.

As intrinsic experiences, play and games are particularly well-suited for instruction. We learn much more and retain it longer when we do things for the sake of the inherent interest in the activity itself and not for an external payoff. Games focus attention on the experience itself, not on what we're going to get out of it. A study by Harackiewiez and Elliot found that intrinsically interested employees are "continuously interested in the work they are doing."

The rules and structure of games serve as focusing tools, preventing even attention-challenged minds from straying off course. The structure also lets us know how we're matching up against a challenge, a marker that measures progress. This can lead to optimal experiences, or flow — the ultimate in satisfaction that occurs when we have maximum engagement in the moment. One of the hallmarks of the flow experience (and games) is clear goals and immediate feedback. Rules lead to the absorption level key to flow and tell us how our skills are meeting a challenge, another key to optimal experience.

The interactive nature of games create more involvement, and, as a result, more retention of knowledge. Humans are thought to retain 90 percent of what we do but only 20 percent of what we hear and 30 percent of what we see. Games extract us from spectator mode and promote the hands-on learning that comes with the participant experience.

Then there is fun and games. Few motivators are as effective as fun, a tool that can get employees or customers to engage despite themselves. Games transform tasks that otherwise would be drudgery into volitional experiences that satisfy core psychological needs, such as competence and autonomy. You're not a cog; rather, you're someone called on to use talents and imagination. Suddenly, you're being treated as an adult through a process that's not so childish after all.

Joe Robinson is a work-life balance speaker and corporate trainer at **http://www.worktolive.info**.

Robinson is the author of the new book "Don't Miss Your Life" on the power of play to satisfy core need and "Work to Live" on how to overcome burnout through sustainable performance.

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