<u>Why Imagination and</u> <u>Curiosity Matter More</u> <u>Than Ever</u>

By Irving Wladawsky-Berger Guest Contributor

A few weeks ago I read a very interesting online article: Why John Seely Brown Says We Should Look Beyond Creativity to Cultivate Imagination. John Seely Brown, aka JSB, was chief scientist at Xerox Corp. Ltd. and director of its Palo Alto Research Center. He is now the independent co-chairman of the Deloitte Center for the Edge and a visiting scholar at USC. We've been friends for over 20 years. We both serve on the Advisory Board of USC's Annenberg Innovation Lab.

In his <u>personal website</u>, JSB calls himself *Chief of Confusion*, "helping people ask the right questions." The article, a conversation with journalist and <u>New</u> <u>School</u> professor <u>Heather Chaplin</u>, explores a few such questions, the most intriguing of which, I believe, is the distinction between creativity and imagination.

I think we're way too focused on creativity. It's misguided. We should be focused on imagination. . . The real key is being able to imagine a new world. Once I imagine something new, then answering how to get from here to there involves steps of creativity. So I can be creative in solving today's problems, but if I can't imagine something new, then I'm stuck in the current situation. . .

I think what's happening in STEM education is a tragedy. Art enables us to see the world in different ways. I'm riveted by how Picasso saw the world. How does being able to imagine and see things differently work hand-in-hand? Art education, and probably music too, are more important than most things we teach. Being great at math is not that critical for science, but being great at imagination and curiosity is critical. Yet how are we training tomorrow's scientists? By boring the hell out of them in formulaic mathematics – and don't forget I am trained as a theoretical mathematician.

How can you foster imagination and curiosity? This was the subject of the 2011 book co-authored by JSB: <u>A New Culture of Learning: Cultivating the Imagination for a World of Constant Change</u>. One of its key points is that learning has to evolve from something that only happens in the classroom to what that he calls *connected learning*, taking advantage of all the available resources, including tinkering with *the system*, playing games and perhaps most important, absorbing new ideas from your peers, from adjacent spaces and from other disciplines. As noted in <u>this interview</u> with JSB, *tacit knowledge* and *tacit learning* are important concepts in this new culture of learning.

Traditionally, a person who can answer a given question is said to *know* the answer. We say that person has explicit knowledge. It is content that is easily identified, articulated, transferred, and testable. In general, explicit knowledge is what the educational system teaches. But, it's not the only kind of knowledge there is.

The twenty-first century, however, belongs to the tacit. In the digital world, we learn by doing, watching, and experiencing. Generally, people don't take a class or read books or manuals to learn how to use a Web browser or e-mail program. They just start doing it, learning by absorption and making tacit connections. And the more they do it, the more they learn. They make connections between and among things that seem familiar. They experiment with what they already know how to do and modify it to meet new challenges or contests. In a world where things are constantly changing, focusing exclusively on the explicit dimension is no longer a viable model for education.

JSB's comments on the importance of imagination reminded me of a book <u>I read</u> a few years ago, <u>Innovation – the Missing</u> <u>Dimension</u>, by MIT professors <u>Richard Lester</u> and <u>Michael</u> <u>Piore</u>. The book explored the essence of innovation in new product development by examining a few truly novel products in different market areas. They concluded that innovation involves two fundamental processes: *analysis* and *interpretation*.

Analysis is essentially rational decision making and problem solving. It's the standard approach underlying management and engineering practice. It involves a relatively linear set of steps and works quite well when you are looking for a solution to a relatively well defined problem.

But where do the problems come from in the first place? How do you decide what problems to work on and try to solve? This second kind of innovation—which they call *interpretation* is very different in nature from analysis. You are not solving a problem, but looking for a new insight about customers and the marketplace, a new idea for a product or a service, a new approach to producing and delivering them, a new business model. It requires the curiosity and imagination that JSB talks about.

According to Mssrs. Lester and Piore, the analytical perspective dominates the practice of management and engineering in business, the education of students in universities, as well as the scholarly literature on innovation and competitiveness. By contrast, even though coming up with brand new products, services, business models and management practices is increasingly important in today's fast changing and highly competitive world, the interpretive approach to innovation that this requires is not widely understood or even recognized. It is innovation's missing dimension.

Their research showed that interpretive innovation generally takes place through a process of conversations among people and organizations with different backgrounds and perspectives, until the problems can be identified and clarified to the point where a solution can be developed. This is akin to connected learning. It requires a business culture that encourages these conversations and removes the organizational barriers that might prevent them from taking place.

What can managers do to create such a culture? The authors offer a novel metaphor. They liken the role of the manager in encouraging such conversations to the role of a good hostess at a cocktail party, "identifying the guests, bringing them to the party, suggesting who should talk to whom and what they might talk about, intervening as necessary to keep the conversations flowing, and generally navigating between the shoals of boredom and hostility, either of which would cause the party to break up and the participants to leave."

Similar views were expressed by professor and author <u>Roger</u> <u>Martin</u>, former dean of the <u>Rotman School of Management</u> at the University of Toronto, in this 2010 NY Times article: <u>Multicultural Business Theory</u>. At B-School? He has long been advocating what was once a radical idea in business education. In addition to learning quantative, analytical subjects like finance or marketing, students needed to learn how to think critically and how to approach problems from many perspectives in order to find innovative solutions.

"Learning how to think critically – how to imaginatively frame questions and consider multiple perspectives – has historically been associated with a liberal arts education, not a business school curriculum, so this change represents something of a tectonic shift for business school leaders," says the article. To do so, business schools have to move into territory "more traditionally associated with the liberal arts: multidisciplinary approaches, an understanding of global and historical context and perspectives, a greater focus on leadership and social responsibility and, yes, learning how to think critically."

Learning and working in our fast changing changing world requires us to go beyond today's problems, methods and tools. We need to keep looking for new problems to solve as well as for novel approaches to existing problems. And doing so effectively requires an open mind, curiosity and imagination.

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