

Helping Organizations Function Intentionally and Optimally in the Moment

By Robert Rasmussen

We received a request from NASA in Sept 2003. The Columbia shuttle disaster shocked the world earlier that spring. In response to the disaster, NASA was putting together a team of their best engineers to create the NASA Engineering Safety Center—a cross-organizational group with the responsibility of ensuring safety in NASA programs. The team kick-off was a five-day event, after which the head of the new group would be reporting out to Congress on the mission of this group.

The voice on the other end of the line was firm: “We need a team-building session, no more than 6 hours in length that enables these forty hand-picked scientists from all parts of NASA to align around the mission of this new team.

Oh, and by the way, there will be more than one skeptic in the room, given that most of these people are career NASA employees that have experienced numerous team-building sessions in the past. They believe they have seen it all and done it all, so why should this be any different? Can you help?”

Having been one of the main architects for LEGO Serious Play (LSP), a play-based problem solving and communication technique for helping groups be more effective, I knew what was possible with this method. Participants build 3-dimensional models using LEGO bricks in response to questions on individual identity, team identity, connections to other team members, and successful team behavior. Once a model is built, participants give it meaning and create stories around the model. The use of metaphor, imagination, and story-telling are integral to the process. The culmination of this process is the development of a set of guiding principles that allows a team to evaluate existing options and identify new ones, even when faced with tight constraints, complex situations, and unfamiliar territory.

LSP is based on the following assumptions:

- Leaders don’t have all the answers. Their success is dependent on hearing and engaging all the voices in the room.
- People naturally want to contribute, be a part of something bigger and take ownership.
- Allowing each member to contribute and speak out results in a more sustainable business.

All too often, project teams work sub-optimally:

- Leaving valuable knowledge untapped in team members
- Making poor decisions based on illusion rather than reality
- Reacting to events unconsciously rather than consciously and with intention

LSP was developed as a way for groups to interact so that afterwards:

- new insights have been uncovered and everyone’s experiences, knowledge, and understanding have been tapped into
- team members feel more confident and motivated to act on knowledge that was shared
- team members feel more committed to shared action

We said yes to the request from NASA. The process worked very well, even with engineers used to working in their heads and on whiteboards. To the surprise of many, the team found that building with their hands improved their thinking—the depth of insight, the clarity of ideas, and the speed with which it all took place. And in the end, the group rallied around their new

mission, saw the larger picture develop from multiple perspectives, and increased their commitment to the work because they had a hand in defining it.

The History of LEGO SERIOUS PLAY

The owner and CEO of the LEGO Company, Kjeld Kristiansen, was dissatisfied with the results of his strategy-making sessions with his staff. While his business was about imagination, the results from these sessions were decidedly unimaginative. At the same time, two professors from IMD (a leading business school in Europe) Johan Roos and Bart Victor were also noting the poor results from traditional strategy development techniques. When these parties connected up, they noted their similar dilemmas as well as shared values around people as the key to company success and strategy as something you live as opposed to something stored away in a document. Kjeld agreed to fund research on this problem by creating a separate LEGO subsidiary called Executive Discovery. Over time, the business school professors hit upon the use of building with LEGO bricks as means for tapping into unconscious knowledge that each individual possesses. However, they still had not figured out how to bring their academic interests into the mix of better strategy-making—concepts like identity, metaphor, landscape, and simple guiding principles. And imagination was still not emerging as part of the process.

In my role as director of product development for the educational market at LEGO, I was brought into the project to investigate the feasibility of applying LEGO bricks to these concepts. Once we realized that these concepts could be more than just theory, our work moved into developing a process for LSP—to make the results reproducible and the methodology robust. My background in education and training provided the insight to understand what was needed to make LSP a powerful technique for consultants to use with groups.

In working with my own team at the LEGO Company and with test bed companies outside of the LEGO Company over the course of several years, there were more than twenty iterations of the formal process. As well as being a testament to the rigor with which LSP has been tested, we've learned a lot. My team and I quickly discovered a pattern of working with the bricks that produced consistent results across different groups—an etiquette of sorts on how to use LSP successfully. And we were delighted to uncover the efficiency and ease with which unconscious knowledge came to the conscious and the richness of insights when using LSP.

One of the themes that emerged from our work with test bed companies was helping groups see the entire human system they are a part of in order to be better prepared for the future. By having a complete picture of the current system, including team roles, relationships, and culture, and by testing the system with specific scenarios, team members gain more confidence, insight, and commitment in dealing with future events.

The original question posed, “How can we be better prepared as an organization to respond optimally to the unexpected, all the time?” lead us to the development of the Real-Time Strategy workshop. In developing the methodology, we became aware that it was generic enough to apply to more than the business issue of developing strategy. The LSP process can also be applied to:

- Organizational issues
- Team issues
- Personal issues

The Real-Time Identity workshop emerged as the means for addressing these other issues. It's clear now that LSP is a thinking and problem-solving methodology with a wide range of applications.

In 2000, to continue research on some of the core concepts at work in Real-Time Strategy, LEGO helped to set up the Imagination Lab, a non-profit research foundation. This group of researchers in Switzerland is focused on play, imagination, and emergence as it relates primarily to organizations.

Since 2001, LSP has been used in over 200 companies, many of them leaders in their industry—from Daimler-Chrysler to NASA to Verizon to Eli Lilly. Consultants, trained by the LEGO Company have found it to be quite versatile, from jump-starting new teams, to breathing new life into teams that have become stale, to helping existing teams become more creative in the face of new challenges, to leading dysfunctional teams out of crisis and unproductive conflict.

The Secret Behind LSP: Why it Works !

LSP draws upon extensive research from the fields of business, psychology, organization development and education. LSP distinguishes itself as a:

- Remarkably **efficient** tool. Comments from participants include:
 - “We accomplished more in two days than we had previously done over the course of several months of long tedious meetings.”By having participants make use of multiple intelligences—visual-spatial intelligence, linguistic intelligence, and bodily-kinesthetic intelligence¹—teams discover what they didn't know they knew in a very direct manner.
- Method for **developing fresh insights** into tough issues. Comments from participants include:
 - “The ideas and creativity just start to flow. LSP brings out the best each team member has to offer.”
 - “New ideas emerged from unexpected sources.”
 - “The session helped our imaginations take off.”

LSP is built on the theory of Constructionism² from Seymour Papert at MIT and his idea of concrete thinking--thinking with and through concrete objects. Constructionism proposes we gain knowledge when we construct something external to ourselves. Research has shown that the use of objects as part of an inquiry process can make hidden thought more discussable.³ Constructing internal mental maps becomes easier when you build external models that can be examined, shared, and discussed. This is consistent with psychology and art therapy that uses drawing, collage, and sculpture to create analogues of internal mental maps.⁴

In building 3-dimensional models with LEGO bricks, participants literally think with their hands. The hand becomes an avenue for the brain to construct its own knowledge of the world. In the words of Imagination Lab researchers who have been working with the LEGO Company on the conceptual underpinnings of LSP, “One of the roles of the hand is to shape how we think. If we move our hands or make gestures to help us think, we can assume that using LEGO materials to construct physical representations of ideas, concepts, and models of strategy might generate new content.”⁵ And it's no wonder that

the hand is such a powerful avenue for learning. The link between the hand and the brain is well-researched.⁶ 80% of brain cells are connected to the hands. In a mapping of the brain that shows proportions of it dedicated to controlling different parts of the body, a disproportionately large part of the brain is dedicated to controlling the hand.

Much of the new insights from participants are a result of bringing the unconscious to the conscious. Learning encompasses both conscious and unconscious processes. We make unconscious associations between various events. In addition, we have different ways of organizing memory that work in concert, including spatial organization (memory in relation to three-dimensional space), temporal organization (memory organized by chronology), and semantic organization (universal concepts independent of space and time, e.g., mathematical rules). For each type of memory, there is an explicit type of memory that we can consciously talk about and an implicit part that we cannot talk about directly because it functions unconsciously. Just as we know unconsciously, we remember unconsciously.⁷

All of this bringing forth of new ideas and imagination would not be possible without a robust method of expression, some medium for giving form to a person's inner thoughts and ideas. LEGO bricks provide part of this rich medium for expression. Consider that eight LEGO bricks can be combined in 102 million different ways; the possible combinations for hundreds of bricks is mind-boggling. LSP also makes use of metaphor, as participants are asked to make a story around what they have built. Metaphors provide richer descriptions of our realities that might challenge assumptions and reveal new possibilities. The link between metaphors and learning has been widely researched:

- Metaphors generate radically new ways of understanding things.⁸
 - A series of dominant metaphors shape the way we understand organizations in which we work.⁹
 - Metaphors transform us in their potential to uncover perceptions, attitudes and feelings which were previously subconscious or unarticulated.¹⁰
- The results are **deep and sustainable**. Comments from participants include:
 - "LSP has changed the way we work"
 - "LSP provides a tool to have fierce conversations, interrogate reality, provoke learning, tackle potentially tough issues, and enrich relationships."

LSP integrates social, cognitive, and emotional dimensions into group exercises. Research shows that people are changed significantly and irreversibly when movement, thought, and feeling fuse together during the active, long-term pursuit of personal goals. Learning is much deeper and the experience becomes memorable, almost "hard-wired."

LEGO bricks convey both strong cognitive as well as emotionally-charged information.¹¹ Emotions play a particularly strong role in learning--they are useful in alerting us to important environmental changes, to appropriate responses, and to anchor important events in our long-term memory.¹²

- Tool that is particularly adept at **leveling the playing field** so that the power of a team's diverse resources and competencies can be realized. Comments from participants include:
 - "LSP equalized diversity and differences that were inherent in the group."
 - "Biggest difference was how people were involved. The entire team was engaged and sharing their ideas with the group."
 - "LSP overcame cultural and linguistic barriers".

LSP has a formal etiquette that ensures that all participants have a chance to express their own viewpoint before being influenced by the rest of the team.

- Way of productively **addressing tough conflicts** in organizations. Comments from participants include:
 - “LSP enabled discussion of sensitive issues without it becoming personal”
 - “In normal circumstances, a conflict or approach might lead to arguments or shouting. This changes the way we interact.”
 - “Safe to talk about the difficult and sensitive issues which otherwise all too often are left untouched.”
 - “LSP enables rich dialogue respecting the views and values of each team member.”

Most people aren’t willing to be open and honest with conflict. LSP focuses attention on the model, not on the creator of the model. By doing so, the learning environment remains safe, even in the face of emotionally-charged issues. The decision to address emotions brought to the surface during an LSP session remains with the creator of the model. In the words of researchers from the Imagination Lab, “LSP enables participants to communicate about difficult issues through use of the models, rather than face-to-face confrontation...for example, pointing to the logistics part of the model in identifying and describing the problem rather than to the logistics manager present in the room”¹³

- Means for **revealing complex human systems** so that teams know the landscape and are better prepared for the future. Comments from participants include:
 - “It became easy to describe complex relationships in a complex process.”
 - “We now act with a stronger sense of “self” in the face of competition for resources internally and in the face of external competition.”
 - “We uncovered simple guiding principles in order to move into meaningful and effective action.”
 - “LSP improved our decision-making process.”

The Real Time Identity workshop starts with solidifying the individual identity, moves to the team identity, and then uses the “landscape” in physical form to test probable scenarios, e.g., the retirement of key team members. This use of a physical medium is consistent with research on the use of visual representations to name and indicate relationships between important entities on a bounded landscape.¹⁴

The sequence of establishing the individual identity first before moving to the team identity is purposeful. It allows a full range of perspectives to come out, unbiased and untainted by others, before developing a team identity.

And what’s the importance of a strong team identity? To the extent that individuals identify with their organization, their commitment and attachment to the collective—their in-group cooperation—may increase.¹⁵ In addition, research shows that organizational identity:

- Provides groups with the confidence to be proactive¹⁶
- Allows groups to be better able to avoid, weather, and rebound from crisis¹⁷
- Is essential to long-term success of a group¹⁸
- Has powerful impact on decision-making processes¹⁹
- Helps define issues as threats or potential opportunities²⁰

- Provides a frame within which resources can be prioritized²¹

Once the landscape is identified, scenario testing allows the team to uncover “hot spots” that are impacted by a large number of probable events and to understand how the system reacts under different conditions. The team is asked to look specifically at past behaviors that resulted in good outcomes and answer the question, “Why was what you did the right thing to do?” Seeing patterns and principles behind decisions that worked well leads the team to a set of Simple Guiding Principles. These become guidelines that enable team members to make good decisions, impacting the system favorably, even when situations are complex and new. Simple Guiding Principles are the beacon of light in stormy seas, something that is preserved at all costs because it allows for the survival of the group.

Summary

LSP is a way of building the capacity into a group to respond intentionally and optimally to the unknown, at every moment. It improves the quality and speed of their decision making, which again leads to faster and better implementation of changes and solutions.

“[One prepares} for the unexpected by constructing new knowledge, sharing meaning with each other, and maintaining an open, poised, and curious attitude towards change. LSP prepares one emotionally to embrace change.”²²

It is a process of thinking with your hands that reveals the richness of the system. And the more people know about the system they are a part of, the more impact they can have in terms of input to discussions and decisions.

“Imagery and objects can play tremendous roles in leading to rich, surprising, emotional, and honest descriptions that are salient to the context in which the organization is situated at a given time.”²³

¹ Oliver, D. and Roos, J. (2003) Constructing Organizational Identity, *Imagination Lab Working Paper 2003-10*, Lausanne, Switzerland.

² Harel, L. and Papert, S. (1991) *Constructionism*. Norwood, NJ: Ablex Publishing Corporation

³ Edwards, (1986) *Drawing on the Artist Within* NY: Fireside Books; Barry, D. (1994) Making the Invisible Visible, Using Analogically-Based Methods to Surface Conscious Organizational Processes, *Organizational Development Journal*, 12(4), 37-47.

⁴ Edwards, (1986) *Drawing on the Artist Within* NY: Fireside Books; Case, C. and Dalley, T. (1992) *The Handbook of Art Therapy*, Routledge

⁵ Roos, J., Victor, B., and Statler, M. (2003) Playing Seriously With Strategy, *Imagination Lab Working Paper 2003-2a*, Lausanne, Switzerland.

⁶ Wilson, F. (1998) *The Hand: How Its Use Shapes the Brain, Language, and Human Culture*, New York, NY: Pantheon Books.

⁷ Caine, R. and Caine, G., (1994) *Brain-Based Learning*.

⁸ Schon, D. (1971) *The Reflective Practitioner: How Professionals Think in Action*.

⁹ Morgan, G. (1997) *Images in Organization*. Beverley Hills, CA: Sage Publications.

¹⁰ Barry, D. (1994) Making the Invisible Visible, Using Analogically-Based Methods to Surface Conscious Organizational Processes, *Organizational Development Journal*, 12(4), 37-47; Marshak, R. (1993) Managing

the Metaphors of Change, *Organizational Dynamics* 22(1), 44-56.; Sarbin, T. (1986) *Narrative Psychology: The Storied Nature of Human Conduct*, New York: Praeger.

¹¹ Said, R., Roos, J., and Statler, M. (2002) Lego Speaks, *Imagination Lab Working Paper 2002-7*, Lausanne, Switzerland.

¹² Scherer, K. and Tran V. (2001) Effects of emotion on the process of organizational learning, *Handbook of Organizational Learning*, 369-392. New York: Oxford University Press.

¹³ Oliver, D. and Roos, J. (2003) Constructing Organizational Identity, *Imagination Lab Working Paper 2003-10*, Lausanne, Switzerland.

¹⁴ Huff, A. (1990) *Mapping Strategic Thought*. NY: John Wiley.

¹⁵ Oliver and Roos, (2003) Constructing Organizational Identity, *Imagination Lab Working Paper 2003-10*, Lausanne, Switzerland.

¹⁶ Gioia, D. and Thomas, J. (1996) Identity, Image and Issue Interpretation: Sensemaking During Strategic change in academia, *Administrative Science Quarterly*, 41, 370-403.

¹⁷ Whetten, D. and Godfrey, P. (1998) *Identity in Organizations*, Thousand Oaks, CA; Sage. Gioia, D., Schultz, M., and Corley, K. (2000) Organizational Identity, Image and Adaptive Instability, *Academy of Management Review*, 25(10), 63-81.

¹⁸ Collins, J. and Porras, J. (1996) *Built to Last*, Chatham: Random House.

¹⁹ Fornbrun, C. (1996) *Reputation: Realizing Value from the Corporate Image*. Boston: Harvard Business School Press.

²⁰ Dutton, J. and Dukerich, J. (1991) Keeping an Eye on the Mirror: Image and Identity in Organizational Adaptation, *Academy of Management Journal*, 34, 517-554.

²¹ Glynn, M. (2000) When Cymbals Become Symbols: Conflict Over Organizational Identity Within a Symphony Orchestra, *Organization Science*, 11(3), 285-298.

²² Statler, M. and Roos, J. (2002) Preparing for the Unexpected, *Imagination Lab article*, Lausanne, Switzerland.

²³ Oliver, D. and Roos, J. (2003) Constructing Organizational Identity, *Imagination Lab Working Paper 2003-10*, Lausanne, Switzerland.