



Science at Play: A University Curriculum Introducing LEGO SERIOUS PLAY

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The realms of use for the LEGO SERIOUS PLAY (LSP) method are expanding. Traditionally, LSP was typically utilized in boardrooms and for kickoff meetings in order to develop common strategies and ensure buy-in from all stakeholders. However, in recent years, as people from diverse fields have become certified facilitators, LEGO SERIOUS PLAY has been introduced to new areas, among others, exploring ethical issues in science technology and society.

As we train the next generation of students to understand the opportunities and responsibilities involved in creating and using emerging technologies that have the potential to benefit society, we need to advance our capacity to teach diverse stakeholders how to communicate effectively. Could LEGO SERIOUS PLAY be one of the missing links in effective cross-disciplinary understanding and communication?

Being in the Right Place at the Right Time



*Student comment:
"I gained a perspective as to how ideas cannot take place entirely in the head, but rather must be put outside of the mind for more development. Think outside the box basicly."*

While engaged in a doctoral program at Arizona State University (ASU), I connected with an interdisciplinary team of researchers who share my passion for providing students with experiences and tools for effective cross-disciplinary and cross-cultural communication. This core team includes Thomas Seager, an associate professor of Ethics and Sustainability in the School of Sustainable Engineering and the Built Environment, one of ASU's Ira A. Fulton Schools of Engineering; Cynthia Selin, an assistant professor in the School of Sustainability and the Center for Nanotechnology in Society, housed at the Consortium for Science, Policy and Outcomes at ASU; and Mark Hannah, an assistant professor in the rhetoric and composition program in the ASU Department of English, College of Liberal Arts and Sciences.

Working together, we designed an innovative cross-disciplinary curriculum. Our program received a \$200,000 grant from the National Science Foundation (NSF) to pilot, refine and document the impact of an innovative class design. We believe Arizona State University may be one of the first universities in the United States to use LEGO SERIOUS PLAY in undergraduate education.

Exploring the applications and implications of nanotechnology



Our new curriculum focuses on supporting conversation on ethical concerns raised by nanotechnology. There are many potential benefits, including reduced energy use, better medical treatment, and lower costs for computing and other common technologies. There are also potential risks; e.g. environmental, social, and political. When problems are too complex to be solved by one discipline alone, approaches to them need to go beyond disciplinary silos.



*Student comment:
"I experience my ideas
coming to life as I built the
model rather than before I
built it. It was interesting
to see how my idea
emerged as I put the
pieces together."*

The program was piloted in Spring 2014 with two groups of engineering students. This fall students from all majors will be able to enroll in this new course, consisting of four three-hour workshops. Teams of five students from different disciplines (material science, communication, industrial design, English and public affairs, for example) will be introduced to basic principles of what makes nano-phenomena special--both its advantages and unexpected consequences. After modeling opportunities and challenges related to specific aspects, the final challenge will be for each trans-disciplinary team to create a landscape of the potential nano future they have explored together.

LSP: A Versatile Communication and Research Tool



*Camilla was trained as
a LSP facilitator in
2012*

So why use LSP to deal with a complex issue, such as nanotechnology, in a university setting? The method can help students articulate tacit knowledge and tap into their creativity by thinking with their hands -- activities which are all too often neglected in higher education today. The models serve as boundary objects, building bridges between different disciplines, enhancing communication on challenging trans-disciplinary topics.

For me, this is the beginning of a research path I plan to pursue. In the future, I hope to apply LEGO SERIOUS PLAY and other tools for design thinking to a multitude of complex problems ranging from gender equality, sustainability and chronic pain management to social entrepreneurship in third world countries and bereavement therapy.

For more information about the research project you can reach Camilla at camilla.jensen@asu.edu

For information about other LEGO SERIOUS PLAY research projects check out www.lspresearch.org/

For more information about train-the-trainer sessions check out the [latest schedule](#)".

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Rasmussen Consulting specializes in using LEGO SERIOUS PLAY to effectively harvest an organization's collective intelligence to enhance strategic behavior for better and faster decision-making. We are based in Denmark with offices in US, Japan and Singapore. www.rasmussenconsulting.dk

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