

## **Integrating LEGO® SERIOUS PLAY® into Adult Learning**

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### **Abstract**

Lego® is a product that has been used widely in contexts beyond its original intent as a toy. The principles of LEGO® SERIOUS PLAY®, originally created as a commercial consulting process using dedicated Lego brick sets, have been available in a simplified open-source format since 2010. Despite its commercial origins, its means of expression and collaborative potential can be valuable in teaching and experiential learning. Emphasising metaphor over literal representation, it can represent all kinds of experiences, feelings, and responses. It is a process where everyone builds, and everyone discusses.

The workshop that is the focus of this article grew out of the regular integration of Lego activities into postgraduate courses. Having gained some experience and insights into using Lego as a means of constructionist learning through delivering a range of activities, we have recently explored a more formalised approach to using Lego in learning by adopting and adapting LEGO® SERIOUS PLAY®. Therefore, although this is a discussion paper and not an empirical study, there was an informal question behind it: Can the principles of LEGO® SERIOUS PLAY® improve the structure and delivery of workshops using Lego?

The chosen context of the study was a workshop that served as an introduction to wicked problems, which were then addressed through a mess mapping process based on Megatrend Mashup Cards. We explored how LEGO® SERIOUS PLAY® could be introduced into this workshop. In the design process, we followed the principles of the method as closely as possible while applying it to a context that was very different from the examples and activities suggested in the open-source materials. We adapted the ideas in various ways, including the use of other materials (paper and pens, game cards) in addition to Lego. We also included further steps to capture learning and encourage abstract thinking.

We discuss the rationale for our adaptations to the method while maintaining its principles, and how mess mapping and the Megatrend Mashup Cards were integrated into a learning activity. We conclude with reflections on how our workshop compares to the standard method and identify its benefits.

### **Introduction**

Lego provides a means of expression and collaboration for experiential learning (Said et al., 2001). It has been used for learning about control systems (McGookin & Gawthrop, 2004), assisting those with autism (Legoff & Sherman, 2006), teaching agile software development methods (Krivitsky, 2017), and exploring the Cynefin framework (agile42, n.d.), among other examples. However, we have recently considered whether a more structured and formalised approach to Lego in learning would be beneficial, so we have adopted LEGO® SERIOUS PLAY® (hereafter referred to as 'Lego Serious Play').

The principles of Lego Serious Play began as a commercial consulting process but are now open source (Lego Group, 2010). Although its focus still reflects its business and consultancy

roots, it “can be used to represent all kinds of experiences and feelings, and responses to things” (Gauntlett, 2015, p. 5). Perhaps the most important aspect of this approach is that the built artefacts are not representational, but metaphorical.

To experiment with the method, we addressed a learning topic that has proved challenging to deliver - an introduction to wicked problems and mess mapping. The complex systems involved in wicked problems are an ideal focus for serious play, where the process builds towards creating system models to understand their forces, dynamics, and impacts (Isaac, 2023).

After observing a Lego Serious Play session at another institution and building on the educational case studies outlined by Isaac (2023), we looked at how educators have adapted the original business-oriented method, for example by breaking up the recommended day-long sessions to fit an educational timetable. We also looked at the suggested tools - specific and expensive brick sets and connectors, and the reliance on only using the bricks in these sessions (although sticky notes are often used by others in practice). Collaborative builds are normally done using Lego base plates. We tried a different approach using large sheets of paper for information and organisation and brought in other activity support materials by using the Megatrend Mashup Cards (DIA, 2021), but ensuring that we still adhered to the principles of the method.

### **Practice under scrutiny**

We adapted the three phases of Lego Serious Play: Challenge, Build, Share - as outlined below.

#### *Step 1: The Challenge*

The first step in the process is to connect to what is to be explored, and to understand the context and meaning, so the session begins with an exploration of wicked problems. To structure the activity, we use the 18 wicked problems included in the Megatrend Mashup Cards (DIA, 2021).

Lego Serious Play is commonly deployed in business situations where the context is shared by participants, with the assumption that the knowledge is already in the room. However, our students, randomly assigned into groups from diverse disciplines, do not have a common problem or shared understanding. Introducing the Megatrend Mashup Cards provides this common starting point around which individuals can anchor their knowledge. A randomised process assigns one of the 18 problems to each group. These include ‘Low democratic engagement’, ‘Social Inequality’, and ‘Transport Capability’, each pervasive enough to assume individuals have a basic understanding of the problem upon which to build.

#### *Step 2: The Build*

The second step is to create a product connected to ‘targets of exploration involving participants’ own knowledge, reflections, and creative skills’ (Lego Group, 2010, p. 14).

This is where we introduce the concept of mess mapping, defined as “a common mental model of the problem at hand that shows the important ‘chunks’ of information and their relationships with other ‘chunks’” (Weber, 2007, para 2). By chunking the wicked problem into meaningful groupings such as organisations/sectors, problems (as seen by organisations/sectors), causes of problems (linked to problems), sources of problems (from other organisations/sectors), and data, we set the scene for collaborative exploration.

We then introduce Lego with individual builds, where each group member creates models of relevant organisations/sectors for their Megatrend Mashup wicked problem. These models are then discussed within and across the groups. Then, in a group build, participants create models of problems related to their wicked problem, placing them by the relevant organisation/sector models on a large sheet of paper. Following the mess mapping process, participants add collaborative notation, capturing causes, sources, data, and connections. The addition of paper and pens, and the ability to draw free-flowing insights, adds another dimension of connection and possibility that improves communication over the usual approach of using Lego connectors that lack semantics.

The final component introduced to the activity is the Megatrend Mashup technologies. Each group selects two or three megatrends to consider how the trend mashup might be applied to different chunks of their wicked problem. Groups are given a set time to build Lego models to represent each of these applications of technology to their wicked problem.

### *Step 3: The Share*

The third step is to encourage students to reflect on what they have created and become aware of the insights gained. At various points throughout the process outlined above participants share the thinking behind their builds with others in their group, contributing not just the artefact to the collective effort but also the knowledge, reasoning, and reflection behind it. At the end, all groups share their work. This adds to the groups’ collective wisdom while helping individuals clarify their own understanding of the process.

### **Discussion and Conclusion**

The final output, enriched by the stories, experiences, and reflections shared throughout the process, demonstrates the value of a tactile approach coupled with a reflective process to explore complex problems. Participants gain a deeper understanding of system complexity, the ability to break down complex problems, the benefits of a collaborative approach, and the importance of focusing on process over outcome to unlock knowledge. All of these provide valuable insights for participants to take forward into their postgraduate studies, where they will inevitably encounter complex problems or systems in their areas of research.

Many educators use Lego in their practice but have not necessarily applied the methods of Lego Serious Play. This practice paper has outlined an approach that may encourage more to do so, since it provides alternatives to the standard practice that assumes very small groups, requires the participants to have a shared problem context, and relies on complex (and expensive) Lego sets to capture all the ideas without additional materials. Using support materials, pens and paper for collaborative builds, and structured group feedback, this approach broadens the application space of the method.

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