The updated version of the tinkerability table of last week was added to the week 2 Session folder.

With regards to the LEGO serious play method, do adults need a different approach or role in facilitation?

Yes, adults need to be treated different than kids with these matters. Adults often see play as childish or unproductive. A facilitator should clearly explain the adults what the goal of the session is and should probably underline the serious aspect of the serious playing. Some important concepts in facilitating adults are constructive reflection in which the adult looks back on the work being done. Knowledge is best learned through experience and reflection.

In the book “Invent to learn” [1], Seymour Papert proposes “Eight Big Ideas Behind the Constructionist Learning Laboratory”. As the name suggests, he gives eight ideas that aid learning. One main key point is the idea that people learn best by doing. Especially when doing something meaningful. Papert also proposes that technology can be used as building material. People learn best when they enjoy what they are doing.

Montesorri focuses on hands-on and self-directed learning. One of her main concepts is that children should have freedom to choose what they want to do, but this should be within a framework of possible options. Her idea is that, with the right materials, children can educate themselves through exploration.

Both Papert and Montesorri believe that ‘doing’ is important when learning. Children should learn by interacting with the world. Both ideologies also allow the child to explore on their own.

One key difference however is that Montesorri often uses paper and is skeptical of technology whereas Papert embraces technology as a powerful learning tool. The Montesorri approach might be better suited for younger children where some independence is encouraged. Papert’s approach which might use technology such as coding or robotics is more suited for older children.

In chapter 9 of the book “Invent to learn” [1], the author empathizes how important a learning environment is. A high-tech FabLab or DesignLab is not needed. But there should be a place that conveys the message: “This is a place that is meant for learning and building”.

Me, I mainly use tinkering in the early stages of some kind of project. The ideate, design and prototyping phases are ideal for some tinkering. Design problems can be translated into a tinkering playground by grabbing some physical stuff and either drawing or building a (simple) concept. One way to get unstuck is to take a break and look at a problem later again. When doing so, I often give myself a ‘cliff-hanger’. When working on a project or reading a book, I don’t always finish on the end of a chapter. Sometimes I

make sure to read the first few sentences of the new chapter or write the first sentence of a new chapter of a report. By doing so, I already get a much clearer view of what needs to be done. This makes it easier to get in the flow as you already know what needs to be done. You already made a small 'start' to the new chapter. For me starting with something is often the most difficult, so this approach really helps me.

References:

1. Martinez, S. L., & Stager, G. (2013). Invent to learn. *Making, Tinkering, and Engineering in the Classroom*. *Torrance, Canada: Construting Modern Knowledge*.