Sustainable ICT Development in Bricks

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Description and Rationale

Brief description: 90-minute hands-on workshop where the participants will have a chance not just to come across but also practice the Lego® Serious Play® (LSP®) method while we will be exploring how ICT can contribute to sustainable development.

A great interest in LSP last year encouraged us to propose our workshops once again. For all three of creative and innovative pedagogy is a research subject. Since we already ran it a number of times in a virtual environment, we have confidence that we are more than capable to meet expectation of virtual womENcourage 2020.

As research shows ICT may drive societal change and contribute to sustainable development. It has been proven recently when, first, during the lockdown we had to try a different way of approaching our regular work hence many different digital solution have been introduced, second to manage pandemic governments have been working on tracing and similar applications. To achieve that any technical innovation needs to be introduced with care and consideration of its potential social and ethical pitfalls such as privacy and individual's rights breaches, copyright, computer abuse, digital citizenship and exclusion or technology addictions. ICT has become a profession that requires to have some of the

sustainable skills such as life-long learning. Therefore, it is of great importance to pay attention to ICT education, of those who are going to take an active part in technological development, both – the futures computer scientist and members of the society who are going to use it. To face some of the challenges within education, meet a diversity of students' needs and make it more effective a variety of active learning tools could be exploited. From the research that we are doing on computer ethics education we learn students need not only guidelines but also toolkit they could easy use in their everyday work. Lego® Serious Play® (LSP®) is a method introduced in 2010 by the Lego Group to support communication and problem-solving. It has been recognised that "talking and thinking with hands" is a powerful way of overcoming some barriers with expressing an opinion and reflecting on one's own work or a discussed topic. LSP® can be used as an alternative tool to ideate (brainstorm) and conceptualize the outcome, for example during meetings or focus groups, but also as a way to develop perspective thinking that helps to embrace diversity and "facilitates depersonalization to increase the sense of security in the narrative process and to facilitate reframing personal experience" (Harn, 2018). This makes it a very powerful tool that helps to (1) identify different perspectives (stakeholders) as well as (2) explore a variety of possibilities and concerns that stakeholders may have so important for professionals working within ICT.

Intended Goals and Outcomes

Intended goals: Open up discussion on possibilities of education in building-up positive ICT futures and inclusive society in the Information Age through LEGO®

Outcomes:
- To introduce Lego® Serious Play® method as a tool supporting active learning
- To provide experience in using LSP® to explore ICT contribution to sustainable development
- To use the metaphor and analogies as tools to help with sharing ideas and public speaking
- To practice storytelling
- To learn how to generate and synthesise ideas with the use of LSP® method
- To bring forth dialogue about building-up positive ICT futures and inclusive society
- To collect data for the research that facilitators conduct

Intended Audience

All backgrounds valued and welcomed - educators, computer scientists, students and members of the society from around the world interested in (1) exploring LSP especially metaphor, analogies and storytelling possibilities in education; (2) bringing forth dialogue about building-up positive ICT futures and inclusive society; (3) understanding how to use LSP in the research.

Maximum number of participants: 16

Format and Outline

Time	Activity	Outcome
5 min	Introduction (facilitator)	Explain the goal and rules
5 min	Introduction to the LSP® (facilitator)	Introduce LSP® method as a tool to generate, analyse and discuss complex ideas with a group
5 min	Introduction to metaphor (facilitator)	Understand the concept of metaphor as a way to discuss complex or troublesome ideas
10 min	Picking the model of animal and reflecting on the choice (participants)	Reflect on the way how each of the participants perceives themselves within the discussed topic
5 min	Introduce to storytelling technique (facilitator)	Familiarize with the storytelling technique (derived from creative thinking training)
10 min	Building individual models (participants after a short introduction and setting up the question - the same for each participant)	Create a model that for each of the participants represents an answer to the question asked by the facilitator so is a form or set of ideas generated

10 min	Individual to share (participants)	Share a story around the built model to rest of the group
10 min	Connecting individual models (participants after a short introduction)	Identify, connect and label common areas (concepts)
20 min	Discussing the outcomes (everybody)	Reflect on findings and discuss concepts around possibilities of ICT education
5 min	Wrapping up: final comments on the method (everybody)	Summarize and comment on the method and its potential use
5 min	Evaluation and feedback (everybody)	Comment on the workshop and its outcome

Requirements and Resources

A virtual space with two breakup rooms.

Organizers' Bios and Contacts

Name: Gosia Plotka

Affiliation: Polish-Japanese Academy of Information Technology (PJATK), Gdansk / Computing and Social Responsibility at De Montfort University (DMU), Leicester, UK

Expertise: FHEA, Business Analysis, Computer Ethics, Design Thinking, Active Learning

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Brief Bio: An experienced HE lecturer with a BA expertise and researcher in ICT with a special interest in ethics education. Co-organizer of a conference on computer ethics and a presenter during several events. Held workshops on computer ethics, chaired and co-chaired a few LSP® workshop also in virtual environment.

Name: Julia Reeve

Affiliation: Teacher Fellow, Library & Learning Services, De Montfort University (DMU)

Expertise: Creative Learning Specialist and Lego Serious Play Facilitator

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Brief Bio: Julia's work focuses on creative and compassionate pedagogy: she adapts Lego Serious Play plus other visual, tactile techniques to create memorable learning experiences. She specializes in developing and delivering learning experiences that foster confidence, self-reflection and creative thinking for diverse learners and staff teams.

Name: Marta Czerwonka

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Brief Bio: Marta's work focuses on creativity (specifically creative self-beliefs) and self-regulation in learning process: she is co-investigator in Creative Learning research grant (National Science Centre). In work with gifted high school students and computer science students she focuses on boosting their creative way of thinking, as well as improving metacognition skills.