

# LEGO<sup>®</sup>, Learning, And Facilitation: A Reflective Approach

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## **Abstract:**

The aim of the paper is to capture my reflection after facilitating two LEGO<sup>®</sup> workshops in a summer school for Entrepreneurship organised by Democritus University of Xanthi (Greece) and Nottingham Business School-Nottingham Trent University (United Kingdom), in Xanthi. The reflection is based on an integrated approach of Gibbs' reflecting cycle and includes three factors, LEGO<sup>®</sup>, learning, and facilitation. Each one of them corresponds with the material used, the process and the result of learning, as well as the facilitation process. The main conclusions reached are that LEGO<sup>®</sup> bricks can be transformed into bridges; bridges with the Self, with the Other, with the group, with ideas and concerns, with creativity, learning and reflection. They can establish multiple dialectical schemata embedded with personal experiences, feelings and subjective meaning.

**Keywords:** Constructionism, Experiential Learning, Self-identity, Higher Education, Creativity, Entrepreneurship, Teambuilding, Reflection, Greece

## **1. Introduction**

Learning by using LEGO® bricks has always been a fascinating experience for me, notably when I use them with adults. As a PhD student, I had the opportunity to become member of a local non-profit organization in Thessaloniki (Greece) that uses LEGO® in teaching and learning with primary and secondary students. Soon enough, I was enchanted by the concept of playful learning as well as the potentiality of the bricks. Moreover, working as an adult educator, I was highly interested in carrying out workshops and activities in the field of soft skills, or transversal competencies, as United Nations Educational, Scientific and Cultural Organization (UNESCO) proposed in 2013.

Those experiences formed my interest in utilizing LEGO® in an adult learning environment and eventually in higher education. Not being fully aware of how I would use them in practice, I carried out a short literature review and soon realised that LEGO® could combine elements from multiple learning theories. Firstly, constructionism suggests that a person constructs mental models in order to understand the world around him/her by emphasizing the value of prior learning and experiences (Papert and Harel, 1991). Secondly, flow theory provided me with some enlightening insights regarding the process and the experience of learning in relation to control, attention, curiosity and intrinsic interest (Csikszentmihalyi, 1990). Thirdly, experiential learning indicates that learning can be achieved through our experiences and gives prominence in the process of reflection (Kolb, 2015). Fourthly, activity theory systematizes the multiple factors that can affect an activity such as the subject, the object (e.g. experiences, knowledge, physical products, etc.), the community, the artefacts (e.g. tools, documents, recipes, etc.), the rules and the division of labour (Engeström, et al., 1999). Taking these together, much of adult learning is experiential by its very nature since it involves the learner to act, observe, and make sense of his or her experience. One increasingly popular methodology adopted by educators in higher education classroom is LEGO® SERIOUS PLAY®, which is well-suited for adult learning. Using LEGO bricks as medium for communication, participants could express complex ideas through metaphors and storytelling. Dann (2018) presents the adaption of LEGO® SERIOUS PLAY® in higher education setting and suggests a step-by-step guide to utilize the method. The researcher concluded that “*LEGO® SERIOUS PLAY® introduced students to new ways of describing the world, listening to understand rather than respond, and ultimately, improve many of the processes we are seeking from marketers in the commercial wilds—creativity, customer centricity and communication*” (Dann, 2018: 130).

## **2. Reflective Framework**

In order to develop my reflection I adopted the reflective cycle of Gibbs (2013), as it promotes systemic thinking about the phases of an experience. According to Gibbs, the process starts with factually describing your experience and then focusing on the feelings of the people involved in that particular experience. In the third phase, the person evaluates the situation objectively, trying to become aware of what went well and what did not, while in the analysis phase, the writer thinks about what helped or hindered the situation. Therefore, the person is capable of forming a conclusion regarding learning, the improvement of positive practices and the modification of the

negative ones. That way the writer reaches the final phase, the action plan, in which (s)he reflects on the possible ways of responding when faced with similar situations in the future.

Nevertheless, I have intentionally given up the linearity of Gibb's approach. I tried to adopt an integrated approach, in which elements of the description of my experience are embedded with feelings, evaluative judgments, as well as theoretical knowledge. The idea of integrated reflection derived from the work of Husu et al. (2008) who explored the ways in which reflection of student teachers' teaching practicum contribute in the development of their professional knowledge. One of the forms of reflection they have observed was integrated reflection, during which the "*participants combined their theoretical knowledge with their practical experiences and their own viewpoints*" (Husu et al, 2008: 45). Therefore, this dynamic schema led me to form a meta-level of my own reflection and rethink my teaching practice.

### **3. The LEGO® workshops**

The workshops were designed and implemented during the Third International Entrepreneurship Summer School in Xanthi, organized by Democritus University of Xanthi (Greece) and Nottingham Business School-Nottingham Trent University (United Kingdom). EduACT, a non-profit organization in Thessaloniki that aims at introducing students with educational robotics through LEGO®, received an invitation by the organizers in order to conduct two three-hour workshops. The workshops were team building oriented and their main goal was to develop and enhance a sense of familiarity among the culturally diverse participants. The majority of the participants were undergraduate and postgraduate students from the Business School of Nottingham and the Faculty of Engineering from the Democritus University. Furthermore, I wanted to provide the participants with engaging and meaningful learning experiences that are relevant to entrepreneurship summer school, I made use of the content given by the Business School.

#### *3.1. Workshop A*

During the first workshop, twenty-four participants who have no prior experience using LEGO® as part of their learning formed four groups. Each group received a box with the same amount and kinds of LEGO® bricks. Participants were asked to construct a model that represents their "super power", namely the personality trait that may contribute the most during their collaboration with other people. After the construction, each member presented their model to the rest of their group peers and asked the question "*What do you think is my superpower?*", without giving away the true answer, neither by verifying nor by refuting what has been already shared. When all the participants presented their model and received feedback to their question, each of them revealed their true super power. Then, on a follow-up discussion, participants argued on their actual personality traits, as well as on those traits that were attributed to them by their peers. Hence, students had the opportunity to become familiar with each other and, most of all, become aware of how others perceive them. At the end of the activity, participants displayed their models on a grey base that was given to them and, through reflection and dialogue, defined the super powers of their group.

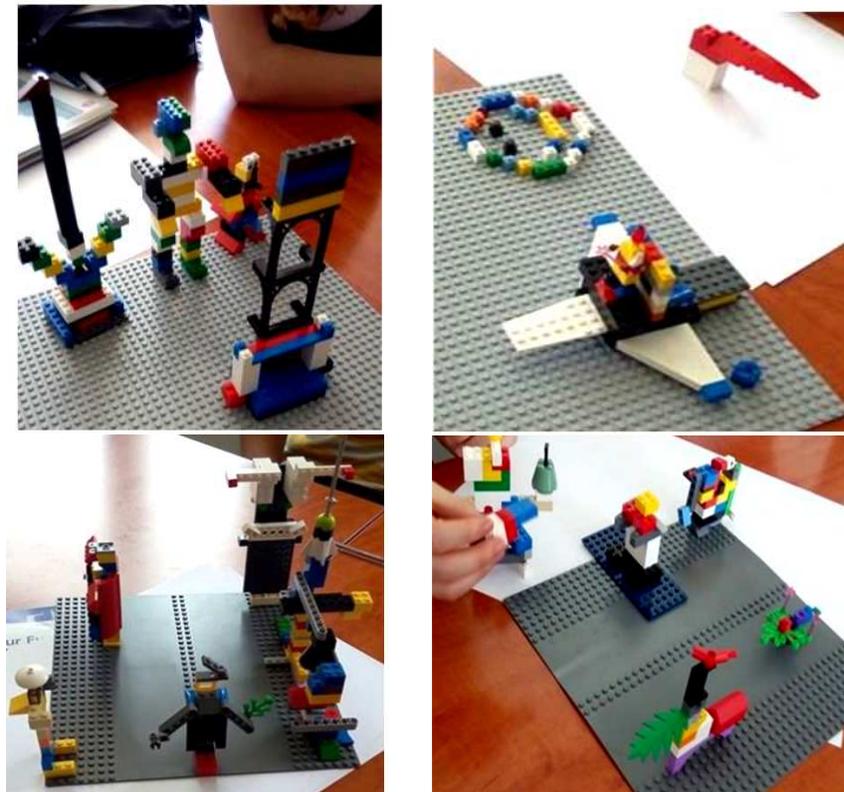
### *3.2. Workshop B*

Upon completion of the introductory workshop, students joined the second workshop that was based on elements and procedures of the LEGO® SERIOUS PLAY® method, introduced by Kristiansen and Rasmussen (2014). The content of the workshop was adapted from four business case studies, with each has different scenario but share a common learning outcome: to maximize operational efficiency and optimise profit, and at the same time remain environmentally friendly.

Participants were divided into groups and were provided with one of the above scenarios, a box of LEGO® bricks, a grey base, paper and pens. In addition, students were prompted to use their mobile devices (i.e. smartphones, tablets, laptops), in order to search for essential information and resources. As soon as participants decided on the topic(s) that they would work on and after finding the solutions with which they would manage their materials (e.g. organic waste, debris, spare parts and energy), students were expected to construct a model that captured and depicted their suggestions and eventually present it in the plenary session.

Figure 1 illustrates some of the artefacts produced during the workshops.

**Figure 1: Indicative LEGO® SERIOUS PLAY® artefacts produced during the workshops**



### *3.3. Comparative Evaluation of the Workshops*

In an attempt to evaluate each workshop comparatively, I used three basic criteria, the workshops' goal and activities, as well as the facilitation style. During the first

workshop, participants became acquainted with each other. This goal was accomplished by implementing an open-structured set of emotion-oriented activities. Therefore, the facilitation style implied a more flexible approach, in which the facilitator encouraged and prompted participants' awareness and reflection. The second workshop was somehow different. More specifically, the purpose of the second workshop was to develop soft skills, namely communication, collaborative, and presentation skills. Consequently, the set of the activities were content-oriented and based on four case studies. The facilitator had a less active role, allowed the participants to work independently and intervened only when asked to do so. The contribution of this comparative evaluation led me to adopt LEGO® bricks, learning and facilitation as the three factors, based on which I developed my reflection.

### 4. Outcomes

Most people either have heard about or have played at some point in their lives with LEGO® bricks. LEGO® not only enables thinking to be imprinted, but also provides the opportunity to reflect and develop a narrative involving the artefact. In fact, this was the main reason that I decided to use LEGO® bricks and some elements of the LEGO® SERIOUS PLAY® (LSP) method during the workshops. According to Frick, et al. (2013), the LSP method has three main applications. The first application is known as the *Real Time Identity for You* where the participants are prompted to develop their self-awareness, as well as the awareness towards their peers. The second application -- *Real Time Strategy for the Team* -- aims at unlocking the full potential of a team in a deeper and more effective way, while the third application *Real Time Strategy for the Enterprise* refers to the process of constantly developing new strategies and approaches in a world that seems less and less predictable.

These three applications proved to be an excellent framework for my reflection regarding LEGO® bricks. The first two applications –real time identity for you and real time strategy for the team– were adopted in the first workshop. The participants were not acquainted with each other, so my initial goal was to make them feel comfortable, build relationships and enhance their learning experience during the summer school. When students opened the boxes and saw LEGO® bricks, I noticed some instant smiles and whispers among them. When I asked them to explain the reason for their reactions, some responded that they love LEGO®, others recalled some memories from their childhood, while some of them were just curious –or sceptical– about how implementing LEGO® could be a good fit for a summer course in entrepreneurship. These reactions proved to be promising. At the instant that LEGO® bricks were introduced in the workshop, a friendly, playful, familiar and at the same time mysterious space was created, just at their sight. The most exciting thing was that this happened rather quickly, a finding that Peabody and Noyes (2017) also mentioned; namely, LEGO facilitation is less time-consuming in comparison with other traditional strategies.

During the second workshop, participants realized that there are two important characteristics linked with LEGO® bricks: agility and creativity which have growing significance in today's job market. LSP enabled them to think out of the box, appreciate the value of diversity, leverage different perspectives, and collaborate for quick work-around that address the issue as soon as it arises. Moreover, students were

actively engaging themselves in the activities, communicating and later on collaborating, gradually overcoming their scepticism. As James (2015: 7) states, “*Building activities help break down barriers and silos, upend routines, and open up closed or limited possibilities*”.

These favourable conditions formed a safe and friendly environment, which encouraged students to construct their own learning and participate in a more active and enthusiastic way throughout the whole process. Since LSP is explicitly designed as a vehicle to promote “hands-on engagement” (Peabody and Noyes, 2017: 233), all participants were given opportunities to explore and voice, thereby allowing introverts to share their thoughts and collaborate with others.

Another vital element of my reflection analysis is that LEGO® not only made the participants fully engaged in the activities, but also established active listening by the group. During the storytelling process, students were actively listening to their peers and paying attention to their model. Thus, LEGO® bricks led into the formation of equal participation, active listening, as well as the group cohesion. Nerantzi, Moravej and Johnson (2015) reached a similar conclusion, while using LSP in an undergraduate unit evaluation. As students progressively opened up, they began to actively listen to others as well as collaborate with their peers.

Another interesting aspect was the notion of creativity. Many of the students suggested that creativity is a really broad and theoretical concept that corresponds to Arts. However, many of them referred to the terms *creations*, *creativity*, *creating* and *creative*, while discussing and reflecting on their experiences at the end of the workshops. Taking this opportunity and by providing incentives to go deeper and find meaning in those terms, I asked the participants: “*What do you mean by being creative? How did creativity emerge during the workshops? What are the elements that helped you develop your idea(s)?*” In their responses, the majority of the participants had realized that they were able to communicate abstract ideas and translate those abstract ideas into something tangible and more understandable. Although students were bounded by the available materials they could use in brick creation, their openness to new things allowed them to quickly move to a higher degree of self-disclosure which simultaneously feeds creativity (Peabody and Noyes, 2017: 233).

Furthermore, the connection between mental processes and applicability emerged several times during my reflection analysis. Using LEGO® bricks, students had the opportunity to transform their thoughts and ideas into models, continuously constructing and reconstructing them. Visualizing thoughts and ideas into the models functioned as a way of instant feedback. Participants of LSP were expected to explain what the model meant for them and verbally share the story with their peers. During this process, they were constantly creating and re-creating, assigning and re-assigning meaning in their creations. As some of the participants stated, having to explain to their peers what this model represented, allowed them to make meaningful connection between their past and current learning experiences, as well as work experiences they encounter. Additionally, it helped them address concepts that were not recognised in their initial thinking process. In a way, LEGO® models advanced their analytical skills, while at the same time improved their presentation skills due to the engaging hands-on environment. This view is in accordance with the study of James (2013)

which implemented the LSP method in the context of creative arts and concluded that recollections and learning become more memorable when visualized. Likewise, Nerantzi and Despard (2014) used LEGO® in assessment, during a Postgraduate Certificate in Academic Practice (PGCAP) and concluded that LEGO® models facilitated participants' visualization of their learning and reflection.

Regarding facilitation, LEGO® had also affected the way that I, as a facilitator, acted during the workshops. The flexibility that LEGO® bricks provided was both an advantage and a disadvantage. On the one side, the range of activities could be delivered is very broad; on the other side, the content of learning could be undermined. Of course, playing with LEGO® can be fun, but not necessarily productive. The facilitator should be aware of the preparation needed beforehand. In this case, the preparation included planning and preparing appropriate materials that are suited for students come from diverse cultural background and relevant to the curriculum of the summer school. As I had limited background experience or knowledge on entrepreneurship, I had to devote a lot of time and effort in making the workshops meaningful and relevant to the entrepreneurship summer school.

Another dimension related to preparation that needs to be mentioned is that the facilitator needs to be fully prepared in terms of implementing the workshops. To begin with, I had to manage resources effectively to make sure sufficient supplies and tools are in place. In addition, I had to be aware, and make the participants aware, of the time limits and constraints while engaging with LEGO® bricks; time really flies. Most importantly, as a facilitator I need to ensure equal participation among all participants. In the beginning of the workshops, some participants see LSP as a fun distraction rather than an opportunity to learn. As Peabody and Noyes (2017: 234) pointed out: "*not all adults easily pair play with learning*". To overcome this challenge, I explained the rules and etiquette of LSP to the students, and highlighted that the important part of these workshops is the "*multitude of contributions to the dialogue*" (The LEGO Group, 2010: 17). Additionally, I also need to make sure that the learning objectives are met and help students to remain focused on the given tasks. And last but not least, I was ready to readjust my plan and approach to instruct. Body language, facial expressions, participants' reactions and behaviour are great indicators of how they perceive the whole process. To promote the participants' experience of flow (The LEGO Group, 2010: 20), I encouraged introverted students to be more confident of themselves and reminded them "there is no ONE right answer" (The LEGO Group, 2010: 17). I always bear in mind that the accomplishment of students' learning goals are more important than the accomplishment of my goal as a facilitator. In other words, I try to be agile and flexible, as LEGO® bricks are.

## **5. Conclusion**

LSP is an engaging methodology which could enhance learning experience. The LSP involves several rounds of model creation and storytelling, allowing participants to make sense of their past experience and learning. When used in the context of teambuilding, the participants of LSP also benefit from group cohesion and collaborative learning (Peabody and Noyes, 2017: 234). My experience led me to perceive LEGO® bricks as bridges: bridges with the Self, with the Other, with the group, with ideas and concerns, with creativity, learning and reflection. They

contributed to establishing multiple dialectical schemata embedded with personal experiences, feelings and subjective signification(s).

The main goal of these workshops was to provide students with an opportunity to understand the importance of teamwork in a multicultural context. Even though my goal was achieved, there were some challenges emerged during the workshops. All of the students were accustomed to playing with LEGO®, but not learning with LEGO®. In the cases where participants were not familiar with LEGO®, this would probably resulted in feelings of anxiety, frustration or even cancellation. Another challenge of the workshops was time constraints. A prolonged duration of the workshops would prove beneficial to the students, since they would have more time for reflection, as well as for deeper discussion with their peers. Finally, at some points, I was overwhelmed –as a facilitator– by the flow of the process. LSP requires meticulous planning and preparation. An additional facilitator would probably enrich the overall experience for both facilitator and participants.

### **Acknowledgements**

I would like to thank Dr Chrissi Nerantzi and Ms Maria Gkountouma for their willingness to devote time and provide me with comments that greatly improved the present paper.

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