

# From Visible to Invisible – Teacher Students Beliefs and Intentions Combining Art and Science

Antti Sakari Lokka  
University of Jyväskylä, Finland

## Abstract

The in-service schoolteachers might experience switching over to new curricula as a challenge, in which the teachers' education wanted to respond. The Checkpoint Leonardo learning and research project, started 2013 in the University of Jyväskylä, tackles to this challenge. In courses within CPL approached combining researching natural science, technology and mathematics with other subjects, especially visual arts (STEAM). In the process in-service teachers and students are taken out of a physical classroom to make use of learning environments outside of the school and also to actively find information benefiting technology and perceptions from environment. In the spring term 2017 students (N=15) developed learning unities to some Jyväskylä area primary schools based on model of project-based learning with the theme being "Camouflage". The targets of the course were two-sided, multidisciplinary collaboration of learning contents of visual arts and natural science on the one hand and conscious experimenting of project learning as a working method on the other. The research questions of this study were: What are the intentions and beliefs about using phenomena-based teaching? How will multi-

**disciplinary learning project be planned and put into practice to match these needs? In which ways art education came up at the learning unities?**

**The research material was collected from students with questionnaires and interviews during the course and analyzed by both statistical and qualitative methods. My presentation consists of briefly presenting previous research and publishing activity of the Checkpoint Leonardo, description of the course "Camouflage" as well as the current results of the research.**

### **Keywords**

Art and science, Multidisciplinary learning, Project-based learning, STEAM.