

# **Rethinking Learning Transformations: Project-Based Approach to Sustainability for Pre-Service Teachers**

**Roosa Karvonen**

*Faculty of Education, University of Lapland, Finland*

## **ABSTRACT**

Pre-service teacher education is identified as a catalyst in promoting the sustainability transition in our society. On the one hand, university educators long for pedagogical instructions on how to support students' transformational experiences in terms of sustainability learning. On the other hand, supporting and assessing students' transformative learning processes as an instructor is not simple or free from contradictions. Based on my four years-long design-based research among pre-service teachers I propose an alternative model of supporting and assessing students' sustainability-related learning transformations during the project-based learning process. In detail, I am applying a *learning transformation* model based on Kurt Levin's (1951) *Theory of Change*, further developed by Pan et al. (2019). Consequently, I introduce the idea of learning sustainability in pre-service teacher education including three stages of learning transformations, namely *unfreezing*, *changing*, and *refreezing beliefs* in the special context of project-based learning and peer-teaching method. Moreover, these stages consist of non-linear steps e.g. creating a motivation to change previous beliefs, and practicing new beliefs. In addition, based on my research it is evident that both personal and socially shared beliefs about teachers' profession and traits impact significantly in the sustainability learning process. As a result, I propose that boosting sustainability learning transformations among pre-service teachers requires instructed discussions forums for students to reflect on not only their sustainability-related perceptions but also, their beliefs related to teachers' profession.

**Keywords:** Pre-Service Teacher Education, Teacher Beliefs, Teacher Preparation, Project-Based Learning, Sustainability