Sustainability education for in-service teachers:

Using program theory to understand intentions, effects and theories of change in professional development

Carlos R. Casanova and Daniel Fischer, Arizona State University

Abstract

The education and training of teachers is widely seen as a necessary prerequisite for a successful mainstreaming of sustainability education in the formal school sector. Despite the importance that is attributed to it, research on professional development in sustainability education for in-service school teachers is still in a consolidating phase. Existing research has primarily employed outcomes-based evaluation approaches like pre-post-assessments of participant learning or descriptive or evaluative case studies. While these approaches are helpful in providing insights into program effectiveness, they are limited in their ability to advance our understanding of how pre-training intentions and expectations, in-training experiences of implementation, as well as post-training changes interact to reinforce or inhibit each other and produce distinct outcomes. This paper presents program theory evaluation as a research approach that allows for a more comprehensive and nuanced account of in-service professional development programs in sustainability education. We argue that program theory is well-suited to connect different phases of professional development (pre-, in-, and post-training) as well as different stakeholder perspectives, potentially yielding a richer description of the dynamic interplay of intention, implementation, and impact. We use The Rob and Melani Walton National Sustainability Teachers’ Academy (NSTA) as a case study to explore the potential of program theory as a research approach to continued teacher education programs. We propose an evaluation framework to overcome the shortcomings of mainstream approaches and provide richer account of the factors, conditions, and processes that influence program (in)effectiveness in teacher education for sustainable development.