

## Developing a sustainability competences paradigm or a White elephant?

Higher Education Institutions' (HEIs) have been at the forefront in creating and breaking paradigms, and educating the future decision-makers, entrepreneurs, and leaders. However, modern education has been based on Newtonian and Cartesian paradigms, which relegate learning and action to reductionist thinking, causality, and mechanistic interpretation.

HEIs have engaged, during the last two decades, in efforts to address such ailments by incorporating sustainability into their systems, operation, and in particular into their curricula. European HEIs have, generally, been leaders in this process. Two of the most important recent developments in the incorporation of sustainability in HEIs' curricula have been the research on sustainability competences, and the use of pedagogical approaches to develop the competences. Recent discourses have focussed on how educators use pedagogical approaches to develop such competences, which has begun to develop a sustainability competences paradigm.

Educators need to rethink and redesign the way they use pedagogical approaches to better develop competences and a sustainability education paradigm. This paper is aimed at analysing the factors (i.e. the benefits and challenges that arise in teaching sustainability, using pedagogical approaches, and developing sustainability competences) that affect the creation of a sustainability competences paradigm.

A survey was sent to 4,099 European HEI educators, with 319 full responses obtained for the open-ended questions. The responses were analysed using quantitative content analysis, to create a set of categories, and network analysis using VOSviewer tool to identify thematic clusters and interactions within the elements.

The results provide insights into the rankings of the benefits, and challenges in Teaching, Competences and Pedagogical approaches. The co-occurrence maps show a high students' awareness and engagement when educators use pedagogical approaches other than lecturing, and they focus on providing a practice-oriented perspective. Several topics are included in the benefits and challenges in the three categories, which represents a fine balance between the creation of a sustainability competences paradigm, i.e. obtaining more benefits than challenges, and ending up with a waste of efforts, i.e. ending up with a White Elephant.

The research discusses that in order to develop a sustainability competences paradigm the benefits of teaching sustainability, using pedagogical approaches, and development of competences need to be fostered, whereas the challenges need to be addressed to avoid creating a White Elephant.