

An Autoethnographic Study on Using Challenge Based Learning to Teach Sustainability Competencies

Ita Kavanagh , Timothy Savage

Technological University of the Shannon, Ireland

Abstract

Higher Education plays a critical role in developing graduates sustainability competencies, enabling them to address complex environmental, social and economic challenges. Studies have shown that achieving this requires an innovative pedagogical approach that encourages active learning, collaboration, critical thinking and systems thinking Rieckmann, Mindt et al. (2017), (Lozano, Barreiro-Gen et al. 2019). The literature increasingly identifies Challenge Based Learning (CBL) as an innovative pedagogy for teaching sustainability competencies in HE (Gallagher and Savage 2022, Dikilita?, Marshall et al. 2025). However, there is limited research examining the practical challenges of implementing CBL, particularly where sustainability is not the core discipline. This represents an important gap, as achieving institute-wide sustainability goals requires the integration of sustainability competencies across all disciplines, not only those where sustainability is the core focus. An autoethnographic study was conducted to examine the researchers' lived experience of introducing CBL to teach sustainability competencies in computing programmes. An analytical autoethnography approach facilitated a rich understanding of the personal, professional, cultural, and institutional factors. The findings indicate that while many of the benefits and challenges of using CBL to teach sustainability align with current research, unique challenges arise when sustainability is introduced in disciplines where sustainability is not the core focus. These include context-specific challenges, particularly in demonstrating the relevance of sustainability within the discipline and balancing sustainability objectives with programme learning outcomes. The study also contributes to a broader understanding of the cultural and power related challenges and opportunities associated with introducing a new pedagogy to teach sustainability competencies.

Keywords: Challenge Based Learning, Sustainability Competences, HE