

Developing the Capstone Project in Multidisciplinary Groups through ChallengeBased Learning Focused on the Sustainable Development Goals

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Abstract

This paper describes an educational experience based on Challenge-Based Learning (CBL) applied to the development of capstone projects in multidisciplinary student teams aligned with the Sustainable Development Goals (SDGs). Implemented as a pilot project at the Universidad Autónoma de Barcelona, the initiative involved collaboration between students, faculty, and local municipalities to address real societal challenges related to sustainable cities. Through a structured CBL process, students developed context-based solutions while strengthening transversal competencies such as teamwork, problem-solving, and social responsibility. The results indicate high levels of participant satisfaction and highlight the potential of CBL to integrate sustainability and real-world challenges into capstone projects in higher education.

Keywords: Challenge-Based Learning; Capstone Project; Multidisciplinary Teams; Sustainable Development Goals; Higher Education Innovation; University–Community Collaboration