

Transforming Mindsets and Driving Action through Environmental Sustainability Education: A Course in Case Studies and Project-Based Learning in Public Education

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Abstract : Our society is currently experiencing a profound transformation, demanding a proactive response from governmental bodies and higher education institutions to empower the next generation as catalysts for change. Environmental sustainability is rooted in the critical need to maintain the equilibrium and integrity of natural ecosystems, ensuring the preservation of precious natural resources and biodiversity for the benefit of both present and future generations. It is an essential cornerstone of sustainable development, complementing social and economic sustainability. In this evolving landscape, active methodologies take a central role, aligning perfectly with the principles of the 2030 Agenda for Sustainable Development and emerging as a pivotal element of teacher education. The emphasis on active learning methods has been driven by the urgent need to nurture sustainability and instill social responsibility in our future leaders. The Universidad Tecnológica of Uruguay (UTEC) is a public, technologically-oriented institution established in 2012. UTEC is dedicated to decentralization, expanding access to higher education throughout Uruguay, and promoting inclusive social development. Operating through Regional Technological Institutes (ITRs) and associated centers spread across the country, UTEC faces the challenge of remote student populations. To address this, UTEC utilizes e-learning for equal opportunities, self-regulated learning, and digital skills development, enhancing communication among students, teachers, and peers through virtual classrooms. The Interdisciplinary Continuing Education Program is part of the Innovation and Entrepreneurship Department of UTEC. The main goal is to strengthen innovation skills through a transversal and multidisciplinary approach. Within this Program, we have developed a Case of Study and Project-Based Learning Virtual Course designed for university students and open to the broader UTEC community. The primary aim of this course is to establish a strong foundation for comprehending and addressing environmental sustainability issues from an interdisciplinary perspective. Upon completing the course, we expect students not only to understand the intricate interactions between social and ecosystem environments but also to utilize their knowledge and innovation skills to develop projects that offer enhancements or solutions to real-world challenges. Our course design centers on innovative learning experiences, rooted in active methodologies. We explore the intersection of these methods with sustainability and social responsibility in the education of university students. A paramount focus lies in gathering student feedback, empowering them to autonomously generate ideas with guidance from instructors, and even defining their own project topics. This approach underscores that when students are genuinely engaged in subjects of their choice, they not only acquire the necessary knowledge and skills but also develop essential attributes like effective communication, critical thinking, and problem-solving abilities. These qualities will benefit them throughout their lifelong learning journey. We are convinced that education serves as the conduit to merge knowledge and cultivate interdisciplinary collaboration, igniting awareness and instigating action for environmental sustainability. While systemic changes are undoubtedly essential for society and the economy, we are making significant progress by shaping perspectives and sparking small, everyday actions within the UTEC community. This approach empowers our students to become engaged global citizens, actively contributing to the creation of a more sustainable future.

Keywords : active learning, environmental education, project-based learning, soft skills development

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