

# Fostering Critical Thinking and Different Perspective Taking in Sustainability Management Education through Role-Play and a Cross-Semester Case Study

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## **Abstract**

*In this paper we present a teaching approach offered to sixth-semester students pursuing a Bachelor's degree in Business Administration at a German University of Applied Sciences, who have chosen Environment and Sustainability Management as one of their electives. The sustainable management course is designed to equip future (sustainability) managers with the knowledge, skills, and tools necessary to incorporate ecological and societal considerations into their decision-making, publicly and credibly report on them, and foster positive change within their future careers, organizations and industries. The utilization of role-play and the selection of a relevant and familiar case study, designed as a cross-semester approach, aim to enhance motivation and ownership among students and enable them to critically reflect on and evaluate sustainable impacts of business activities. Our work contributes on how teaching on sustainable management can be designed through role-playing and a real-world case study in higher education.*

**Keywords:** *sustainable management education; sustainability reporting sustainability strategy; cross-semester case study; stakeholder analysis; impact assessment.*

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## **1. Introduction**

As we face a global climate crisis and an urgent need for more sustainable practices in all industries, higher education institutions have a critical role to play in shaping the next generation of sustainability leaders (Arnold et al., 2021). Yet, as research has shown, the conventional approach used to date to teach content on sustainable management (Cole & Snider, 2019), and the lack of practical experiences among undergraduates, makes it difficult for them to apply management concepts to real-world situations and to transition from theory to practice (Felder & Brent, 2005). To overcome this challenge, we decided to adapt our teaching concept from scratch. Given the complexity and ambiguity of sustainable management, which involves

tackling challenges often labeled as wicked problems (van Tulder, 2018), we have developed a cross-semester teaching approach that incorporates both role-play and a case study. The primary objective of our sustainable management course is to empower students from diverse business administration disciplines with the skills to analyze and evaluate business decisions from various perspectives regarding their impact on the environment, society, and the economy, while maintaining a critical outlook (Howlett et al., 2016). We opted for a case study that is not only familiar to the students, providing them with a personal connection to it, but also aims to address a real-world need: The students will assume the role of sustainability managers of their university, tasked with developing a roadmap concerning its future sustainability strategy and reporting. Currently, the university has only laid the groundwork for its sustainable management, and there is a need for a structured development of a sustainability strategy along with approaches for reporting.

In this paper, we present our teaching approach, including relevant literature, and show our experiences in how sustainability education can be designed through role-playing and a case study with a cross-semester attempt. Our work contributes on how teaching on sustainable management can be designed through role-playing and a real-world case study in higher education, with the potential to cultivate an active and transformative learning experience.

## **2. Implementing a case study and role-play**

The sustainable management course is intended for 6th-semester students of a 7-semester (210 ECTS) Bachelor's program in Business Administration conducted in German. It is structured with 5 ECTS and 180-minute classes per week. The course underwent a fundamental redesign for the winter semester of 2022/2023 and is being implemented for the fourth time in the summer semester of 2024, adopting a cross-semester case study approach.

When designing the course, we were able to build upon two prerequisites regarding the auditorium: Firstly, we assumed that students enrolled in our course show inherent motivation to the topic, given that they are required to select two electives from nine distinct business administration disciplines, such as Marketing, Production and Logistics, Entrepreneurship, Taxes, Finance, or – which would be the relevant for our course – Environmental and Sustainability Management. Typically, students undertake their bachelor thesis within one of these chosen disciplines. Due to this semi-voluntary choice, it is anticipated that students bring intrinsic motivation to their selected elective, willingly immersing themselves in learning about the topic (Felder & Brent, 2005). Secondly, there was the capacity to leverage existing knowledge in the field of sustainable management (Vatalis, 2017). Before participating in our course, students engage in foundational courses covering key topics in sustainable management. These courses discuss fundamental sustainability aspects such as definitional basics, planetary boundaries, stakeholder theory, and sustainability reporting. The successful completion of the

elective's foundational courses is a mandatory prerequisite for undertaking the exam in the here described 6<sup>th</sup>-semester course. Moreover, most of the students acquire practical experience through mandatory internships, with some opting to complete them in the sustainability department of a company. Thereby, in our course, students can build upon foundational knowledge in sustainable management, incorporating theoretical and practical insights from the previous semesters. However, it is important to note that students may not always adhere strictly to the planned and recommended curriculum. As a result, students from various semesters may be present in the course which had to be considered when conceptualizing the course. When formulating our sustainability course, we encountered various challenges we chose to approach as targeted opportunities. They can be grouped into three dimensions:

- 1) The course aims to consolidate the complex and multidimensional field of sustainable management through a holistic and interdisciplinary approach (Howlett et al., 2016).
- 2) The course aims to equip students with the skills essential for sustainability managers to enhance their employability (Dacre Pool & Sewell, 2007).
- 3) The course aims to promote interpersonal competencies and social cohesion among students, which has been particularly challenging during the years of the COVID-19 pandemic and the associated remote lectures (Wildman et al., 2021).

The first challenge led us to focus on two topics of sustainable management, that consolidate the complex field of sustainable management holistically: strategy and reporting (Lozano et al., 2016). While fundamental concepts of sustainable management are regularly revisited and reinforced in the course, particularly the development of sustainability strategies and how to report on an organization's sustainable management are explored in greater depth. The decisive advantage lies in the interdisciplinary nature of these two aspects of sustainable management. Aiming to consolidate the knowledge the students have gained so far, they can leverage their previously acquired foundational and, where applicable, practical knowledge to apply it in a more nuanced and context-specific manner. In addition, we had to structure the course in a way that would captivate students from various Business Administration disciplines with diverse focuses. Our goal was to ensure that all students recognized the relevance of sustainability thinking in every aspect of a company and across all those disciplines (Howlett et al., 2016). Embracing the opportunity to unite a spectrum of perspectives in the course, we consistently sought to proactively engage and integrate interdisciplinary insights from other electives of the Bachelor's program throughout the sessions. This approach was designed not only to enhance student motivation, but also to bolster their ability to cultivate a holistic understanding of the impacts of business decisions across different departments (Lozano et al., 2016).

The second challenge led us to incorporate role-play and a case study to enhance the employability of students in the realm of sustainability education (Gordon & Thomas, 2018). Research has shown that role-play has the potential to foster an experience-based learning

environment that supports sustainable development and can result in heightened sustainability awareness and actions among students (Vatalis, 2017; Oliver, 2016). Substantiating the contribution of role-play and case studies in educating, we designed the course to include numerous discussions and group activities. Not only did we aim to encourage personal exchanges and connections among the students (Haller et al., 2000), but also to allow students to develop the skills of engaging in constructive exchanges and critically reflecting from diverse perspectives (Howlett et al., 2016; Vatalis, 2017).

The third challenge led us to choose the students' university as the case study as well as to a cross-semester approach. The purpose was to go beyond discipline-specific and operational skills, but to foster interdisciplinary and interpersonal competencies. The choice of a case study focusing on their own university, with relations to personal experiences (Warburton, 2003), aimed to strengthen the feeling of community among the students, which had been compromised by the COVID-19 pandemic and the predominantly remote learning situation for the current enrolled students (Wildman et al., 2021). We also intended to reinforce the idea that students could gain a better understanding of their institution and explore the opportunities available for active participation. It was during this process that we observed a surprising lack of prior knowledge among the students about their own university. The choice of the case study also centered on the university due to an identified real need for development. While students engage playfully in the role of sustainability managers at the university, they are actively working on the non-existent or highly expandable sustainability strategy of the institution. The methods, tools and reporting standards they apply and analyze are not only precisely relevant in practice and visible on the desk of every sustainability manager, but also align with tasks the university is concurrently addressing. To give even more weight to the role-play and case study, and positively impact student motivation, the university's sustainability management team actively participates in specific course sessions. This involvement takes place through guest lectures by university representatives during lectures or by having them attend student final presentations, actively asking questions. We see this as a powerful motivational lever for students, resembling a real-world business meeting with their own superiors.

Furthermore, the course is designed to pass on students' work to their fellow students in the following academic semester, allowing them to build upon the knowledge and results obtained. This should also further strengthen the students' interpersonal relations, aiming to foster motivation and personal employability when building on the work of your peers (Warburton, 2003; Dacre Pool & Sewell, 2007). The first academic semesters also show that it can motivate students to compare their own results with the results of previous semesters and to interpret the reasons for differences. However, the success of the cross-semester approach is dependent on the quality of the students' results and their documentation. For that it is important for us as the lecturer to convey to the students that their work is not solely for getting a good grade, but it has the potential to make a real impact in practice (Felder & Brent, 2005).

### **3. Adapting a deep approach to learning**

Acknowledging that orchestrating a role-play and a case study might be viewed as resource-intensive and necessitates thorough planning, the argument remains that the learning outcomes achieved by students are worthwhile (Gordon & Thomas, 2018). To enhance effectiveness of our efforts and to achieve the learning objectives, we aimed to motivate a deep approach to learning (Felder & Brent, 2005), when conceptualizing the course. Warburton (2003) has identified deep learning as particularly relevant to the field of sustainability education, especially when it promotes principles such as self-directed learning, connection to personal experiences, the use of cooperative and active learning, and students' critical self-reflection, all while recognizing that sustainable development is an ongoing process rather than a fixed set of solutions. We focused on incorporating five aspects to achieve a deep learning approach: 1) Learning in context; 2) Interpreting information rather than repeating; 3) Active learning; 4) Cooperative learning; 5) Alignment. The adaption of the five elements during the course are described in the following.

Instead of only repeating acquired knowledge and reproducing it in an exam, in our course students are encouraged to apply theoretical knowledge to the case study, specifically in the context of their university (Element 1), and, as a result, interpret their learnings specific to the context (Element 2) (Felder & Brent, 2005). We not only emphasize and encourage students repeatedly to actively participate and ask questions, but also consistently conduct small group work during sessions (Element 3) (ebd.). This facilitates discussions and interpretation of the material learned, enabling students to apply their understanding to various scenarios and corporate contexts, extending beyond the university's scope. This approach is aimed to activate students to deepen their learning actively, collaboratively solve questions with other students, and ultimately prepare students to actively participate in effective teamwork in their future careers (Haller et al., 2000). Additionally, throughout the academic semester, various collaborative work phases are implemented during lessons (Element 4). For instance, students collaboratively develop a stakeholder analysis and a materiality analysis, with the supervision and support of the lecturer. Further, the final course assessment includes a group component, emphasizing the importance of collaborative effort to ensure each team member is responsible for meeting the learning objectives linked to the assignment (Felder & Brent, 2005; Haller et al., 2000). Crucial for adopting a deep approach to learning, topics related to the case study are not only regularly explored, but there is also continuous reference to the requirements of the assessment throughout the semester (Element 5). This involves not only reviewing what students have learned and its implications for the case study but also providing a perspective on where the journey is heading and how the acquired theoretical knowledge could influence the students' upcoming assessments. It is constantly emphasized that the results of the collaborative work phases during the semester and the outcomes of the students' assessments are relevant to the real world, in our case to the university's leadership.

Additionally, the course assignment aims to strongly emphasize on conceptual understanding while minimizing rote memorization (Felder & Brent, 2005). The students have two exam components, each weighted equally at 50 points, contributing to the overall grade of the students: An individual written exam covering on one hand the theoretical inputs, where we assess key fundamentals of sustainable management, particularly focusing on the topics strategy and reporting; And on the other hand covering questions related to the conducted collaborative working phases, requiring students to critically reflect on jointly developed outcomes and approaches during these working phases. This is designed to support memorization to some extent but also to reward those who were present and actively engaged during the sessions. The other 50-points-component involves a collaborative group presentation where each group concentrates on a chosen reporting standard, along with a corresponding status quo and gap-analysis of the university's sustainable management. As a group of four to six students, they select from five reporting standards and frameworks predefined by the lecturers (GRI, DNK, SDGs, UNGC, ESRS). Throughout the semester, students consistently apply their acquired theoretical knowledge to their chosen standard or framework, always considering the question: What does this mean for the case study, namely, the university? These standards and frameworks not only cover aspects of sustainability comprehensively, proving highly relevant to practice, but also provide additional support to students in understanding the essence of sustainable management, the skills required for a sustainability manager, and the goals that must be set and achieved by an organization. Students face the challenge of collectively managing the sheer complexity of the standards and frameworks, while critically reflecting on what goals and measures for an organization, specifically their university, might be appropriate and how they can be prioritized and implemented effectively.

#### **4. Conclusion**

Upon reviewing our teaching approach, we understand it as an effective model for educating and preparing future managers in sustainable business practices. It could be replicated in other universities and educational institutions to foster sustainability practices within the business community. After completion of an academic semester, we gather oral feedback from the students and reflect on what worked well and what aspects of the course concept could be enhanced. Based on this feedback, we incorporated more active group work and included review sessions throughout the semester to keep students engaged and provide moments for reflection. We also identified needs to further adjust our approach in refining our expectations and allocating more class time for the student groups to collaborate on their assignments.

For the upcoming semesters of our course, we aim to further amplify the role-play concept. We recognize that the students have difficulties to fully immerse themselves in the scenario as sustainability managers where the university entrusted them with a specific task to solve within a designated timeframe. For instance, we plan to involve university members more often

throughout the semester, e.g. at its very beginning by having them deliver the assignment in the lecture instead of us as lecturers, and interim to reflect on first results and discussing questions with university officials to provide students with reassurance regarding their assignments.

We also recognize the need to intensify the cross-semester approach. We plan for an in-depth validation of the previous iterations and results to integrate them comprehensively and from an overarching perspective, including reflecting on them for practice relevance with university officials. While this will require resources and capacities, we perceive added value in the cross-semester approach for both the learning objectives and the practical application within the university, aiming for closer collaboration and synergies with the university.

With a practical outlook, we aim to integrate software solutions into the lecture and potentially incorporate them into the group assignments. Proficiency in software solutions is highly relevant in practice, and it can help simplify the complexity that students may face when engaging with the reporting standards and frameworks. We are considering tools such as AI-supported tools or metric data collection.

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