

## Teaching Sustainability Skills through Gamification in Vocational Training Based on an Empirical Study with Student Perspectives

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### **Abstract**

This contribution empirically examines the teaching of sustainability competencies through the use of gamification elements in vocational education. The study focuses on innovative ideas from current students regarding the targeted application of gamification elements to effectively convey sustainability in vocational training institutions. As part of the study, a survey was conducted among students from various degree programs at Mittweida University of Applied Sciences to gather innovative and forward-oriented ideas. In the investigation, students assumed the roles of both trainers and trainees and responded to practice-oriented questions. The literature review provides a foundational overview of sustainability, competencies, and gamification, summarizing the current state of research as well as existing research gaps. The findings indicate that, according to the students, well-implemented gamification elements can promote the development of sustainability competencies and should therefore be integrated into training programs. The results offer insights into gamification elements that, from the students perspective, are particularly effective for teaching sustainability and can simultaneously foster both intrinsic and extrinsic motivation among trainees. In conclusion, the contribution provides an outlook on potential future developments. The outlook also highlights that this research area remains underexplored, especially compared to the use of gamification elements in higher education for teaching sustainability. Furthermore, it emphasizes that there may be an increasing need for scientific engagement with the topic, particularly to explore more specific areas such as the inclusion of individuals with disabilities in this context.

### **Keywords**

Teaching, sustainability, gamification, vocational education, students as instructors.