

Education for Sustainable Action: The Role of Sustainability Mindset

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Abstract

This developmental paper provides an introduction to sustainability mindset education and Sustainability Mindset Principles. As part of a funded project between 3 universities in 3 different countries, we outline a short overview of the Sustainable Mindset Indicator we use and introduce our research project approaches – in essence, we intend to present and discuss our core findings and recommendations at the main BAM conference. The purpose of our work is to inspire education for sustainable action. This is demonstrated through innovative teaching approaches applying didactic interventions that changes sustainability-related thinking using the Sustainable Mindset Indicator. We are hoping our work will inspire other academics with a blueprint for education for sustainable action.

Introduction

It is a truism to state that sustainability is a crucial pillar within today's higher education, regardless of subject area or focus (Förster et al., 2019; Franco et al., 2019; Horn et al., 2023; Trechsel et al., 2018). Indeed, there are several initiatives that seek to integrate the agenda of the Sustainable Development Goals (SDGs) into business higher education in particular. Internationally, this includes the Principles for Responsible Management Education (PRME), the Network for Business Sustainability (NBS), and UNESCO's Education for Sustainable Development (ESD). In Switzerland, the core focal point of this study, there are several initiatives that pursue this goal, aligned with the federal strategy for sustainable development 2030¹, the national strategic direction of awareness raising and skills development², and the policy of the State Secretariat for Education, Research, and Innovation (SERI) to promote sustainable development and equal opportunities³.

¹ <https://www.are.admin.ch/are/en/home/sustainable-development/strategy/sds.html>

² Swiss Federal Council, 2030 Sustainable Development Strategy, Bern, 23 June 2021

³ <https://www.sbf.admin.ch/sbf/en/home/services/publications/data-base-publications/s-n-2020-2/s-n-2020-2b.html>

Crucially, little attention has been given specifically to the development of sustainability-related mindsets. This gap is surprising since successful sustainability transformations go hand in hand with long-term thinking, recognizing and processing systems connections, as well as tensions and contradictory sustainability challenges (see Edwards, 2021; Hahn et al., 2010; Hahn et al., 2015; Luo et al., 2020; Ozanne et al., 2016; Van der Byl et al., 2020). Academic research has systematically proven important correlations between certain mindsets of decision-makers and sustainable action (see Gröschl et al., 2019; Hahn et al., 2014; Soderstrom & Heinze, 2021). This research has shown that committed actors of sustainable transformation rely not only on sustainability-related knowledge; additional cognitive abilities are needed which enable decision-makers to recognize and process the complexity of relationships, and to develop comprehensive solutions. Examples include research on 'paradoxical thinking' (see Kemp & Scoffham, 2022; Reuter, 2022; Schulte & Paris, 2024; Sharma & Bansal, 2017; Soderstrom & Heinze, 2021), intertemporal tensions (see Slawinski & Bansal, 2012, 2015), or 'system thinking' (see Dentoni, 2023; Grewatsch et al., 2021; Meadows, 2008; Reuter & Ueberbacher, 2024; Schad & Bansal, 2018).

To strengthen the role of sustainability-related mindsets in education, the Sustainability Mindset approach has been developed (Ivanova & Rimanoczy, 2022; Kassel & Rimanoczy, 2018; Rimanoczy, 2021). In a project funded by Movetia, the Swiss agency for the promotion of exchange and mobility in the education system (project number 2023-1-CH01-IP-0057), we focus on anchoring sustainability thinking in higher education using the Sustainability Mindset approach. Within this project, a collaborative community for sustainability mindset education not only facilitates content exchange but also cross-country testing of innovative teaching and learning materials with students. This developmental paper is an introduction to sustainability mindset education and its underpinnings, a short overview of the Sustainable Mindset Indicator we use, and an introduction to our research project approaches – we intend to present and discuss our findings and recommendations at the conference.

The Sustainability Mindset and its Principles

The Sustainability Mindset is a value-based approach that integrates management, ethics, entrepreneurship, environmental studies, systems thinking, self-awareness, and spirituality. A Sustainability Mindset is a "way of thinking and living that predisposes an individual to act for the benefit of the planet and people" (Rimanoczy & Klingenberg, 2021, p.43). The conceptual framework of the Sustainability Mindset Principles (SMPs) (Rimanoczy, 2021 – see Figure 1) was developed following a study of motivations and thought patterns of business leaders who championed initiatives to improve the social or ecological footprint of their companies (Rimanoczy 2010).

These SMPs influence actions, as they serve as internal guidelines that govern behavior. They reflect fundamental ways of thinking that help make consistent and value-based decisions in complex and challenging situations. On this basis, they can also be used as guidelines for designing teaching units. They ensure that teaching not only imparts knowledge but also promotes relevant action competencies that actively involve students and foster sustainable

learning. The SMPs can guide didactic and methodological decisions, determining which learning objectives are prioritized. They promote competence and action orientation, thus enabling student-centered teaching (Rimanoczy, 2016).

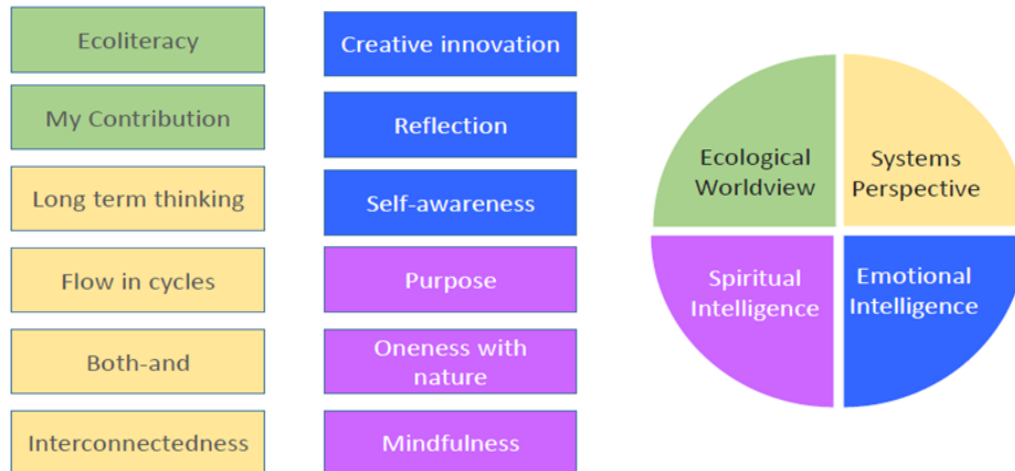


Figure 1: The 12 Sustainability Mindset Principles

The Sustainability Mindset Indicator

The SMPs serve as a conceptual framework for the Sustainability Mindset Indicator (SMI). The SMI is a self-assessment tool that allows individuals to gauge where they stand in relation to the SMPs and is also a personal development tool to advance on this journey. Thus, the SMI can be used both as a basis for students' self-reflection and as a foundation for teachers in planning and designing educational units. Each principle is measured through the SMI at cognitive, affective, and behavioral levels. For instance, the principle of Ecoliteracy encompasses understanding, feeling, and behavior concerning ecological and social challenges, their interconnections, and one's contribution. Principle #4 Both-and Thinking includes the recognition and feeling of ambiguity and paradoxes, as well as behavior in response to them. Principle #7 of Reflection encompasses our recognition of our own pace, how we strike a balance between quick response and time to think and reflect before acting, and our feelings about this.

Collaborative Community for Sustainability Mindset Education: A Co-Creation Curriculum

The collaborative community for sustainability mindset education is a cross-country network of higher education partners, particularly the University of Neuchâtel (UniNe - Switzerland) in collaboration with Oxford Brookes University (OBU - England), and the Vienna University of Economics and Business (WU - Austria). This network seeks to develop innovative teaching formats based on the SMPs through a co-creation curriculum and to test these within elective and core courses in business studies programs in various countries. The goal of these teaching formats is to cultivate sustainability-related leadership skills, enhance decision-making in sustainability, and increase students' personal abilities to plan and design a successful

sustainability transformation. A basic assumption is that sustainability-related thinking skills can also influence leadership practices in managing sustainability issues. The co-creation curriculum is designed to sharpen paradoxical and systems thinking, which companies face when dealing with sustainability problems and economic growth, improve knowledge about sustainability, and promote a holistic approach to addressing sustainability issues in businesses. The teaching formats (see Table 1) focus on the following:

Paradoxical Thinking. A primary focus within Principle #4 (Both-and thinking) is paradoxical thinking as a unique cognitive ability to handle tensions between contradictory goals (see Heracleous & Robson, 2020; Miron-Spektor et al., 2011; Smith et al., 2017), for example, between environmental conservation and economic value creation or between social contribution and economic success in business management. The content focus is on recognizing and addressing such tensions through teaching units, exercises, and case studies that reflect realistic management scenarios. The content introduction focuses on the core concepts of multiple goals, tensions, dilemmas, and paradoxes in business management, and both either-or and both-and thinking to deal with these tensions. Through a polarity mapping exercise, recognition of the tension fields is promoted. By processing a case study, not only is the recognition of tension fields promoted, but strategies for dealing with these tensions are also tested.

Systems Thinking. A second focus is on Principle #6 (interconnectedness) and systems thinking as a unique ability to handle complex interconnections, to better understand complex dynamics, and to develop sustainable solutions (see Dentoni, 2023; Grewatsch et al., 2021; Meadows, 2008; Reuter & Ueberbacher, 2024; Schad & Bansal, 2018). This way of thinking aims to consider problems not in isolation but from a systems perspective in terms of diversity of perspectives. The content focus is on recognizing and processing system dynamics. Teaching units are complemented by exercises and case studies, which reflect realistic management scenarios. The content introduction focuses on the core concepts of systems, stocks, flows, delays, and feedback loops (Meadows, 2008). Through a system mapping exercise, the recognition of complex interconnections is promoted. By processing a case study, not only is recognition promoted, but strategies for dealing with these complex interconnections are also tested.

A Pilot Study at the University of Neuchâtel

A pilot study at the University of Neuchâtel in Switzerland (UniNe – CH) seeks to test the effectiveness of didactic interventions on changes in sustainability-related thinking. Building on the pilot study, the research design and project will be expanded in the future at both partner universities, namely Oxford Brookes University (OBU - UK) and Vienna University of Economics and Business (WU - AT).

Research Design. The effectiveness of intervention is measured using the Sustainability Mindset Indicator (SMI) in a pre-/post-design. Before data collection, we obtained ethical approval from the research ethics committees of the involved institutions. All students were informed about the principles of voluntary participation and anonymity (see Lindorff, 2010). They could opt out at any time. As compensation for the time they spent completing the survey, they received an

incentive (e.g., a ceramic mug with the university logo). We encouraged students to express their honest thoughts and assured them that there were no right or wrong answers and that participation would not affect their academic performance. To account for potential bias due to social desirability in the survey (Joinson, 1999), we did not ask students about their identity (anonymous survey), nor did we inform them about the exact goals of the research project. Instead, we explained that the study was about how people make business decisions, and that there were no right or wrong answers.

Data were collected in treatment and control groups with a survey at two time points in a pre-/post-design: at the beginning of the semester (T1 Pre-Intervention - after the course dropout deadline) and at the end of the semester (T2 Post-Intervention - before the final exams). Before the didactic intervention, we invited students to voluntarily participate in our research project. Students could continue to attend the courses as usual without participating in the research/survey. Those who chose to participate completed a 15-minute questionnaire of the Sustainability Mindset Indicator (SMI) before the didactic intervention.

During the didactic intervention, each participating institution adapted the lectures and teaching activities to meet their specific course objectives. However, we offer a co-creation curriculum that includes both paradoxical and systems thinking as a basis for comparison.

After the didactic intervention, we invited students to complete the 15-minute questionnaire of the Sustainability Mindset Indicator (SMI) again, as well as an additional free essay about the perceptions of the changes provoked by the course.

Insights. These are to be presented and discussed at the conference in September 2025.

Conclusion (so far...)

With the overarching goal of developing relevant action competencies for sustainability transformation, this project aims to promote the development of sustainability-related mindsets through innovative teaching formats. To this end, the collaborative community for sustainability mindset education has developed a co-creation curriculum with innovative teaching formats based on the SMPs and tested it within electives and core courses in business studies programs in various countries (Switzerland, the UK and Austria).

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