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Addressing Inner Dimensions for Sustainability in Higher Education

A FACILITATOR GUIDE

Anna Lena Lewis, Isabelle Providoli, Anna Sundermann, Andrea Frank, Daniel Fischer, Pascal Frank, Melanie Studer, Roland Tormey, Lilian Julia Trechsel, Christine Wamsler

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Table of contents

List of figures

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Roland Tormey, Dr., is a sociologist and learning scientist at EPFL, researching and teaching on engineering education. His research focuses on diversity and equality issues in learning, the role of emotion in science and engineering learning, and engineering ethics education. His recent work includes co-authoring Facilitating Experiential Learning in Higher Education: Teaching and Supervising in Labs, Fieldwork, Studios, and Projects (2021), and co-editing The Routledge International Handbook of Engineering Ethics Education (2025). He also manages the EPFL Teaching Support Centre.

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ABOUT THIS FACILITATOR GUIDE

As we navigate the complexities of the 21st century, the importance of inner dimensions for sustainable development is becoming increasingly clear. Scholars suggest that these core aspects – which include mindsets, emotions, values, and self-awareness – are critical in shaping the ways individuals interact sustainably with themselves, with one another, and with earth.

Sustainability has become critical across disciplines, and faculties in higher education institutions (HEIs) are facing the challenge not only of imparting subject knowledge, but also of fostering a deeper understanding of interconnected global challenges. HEI faculty play a pivotal role in shaping future generations of socially conscious and environmentally responsible leaders and change agents – and they can enhance their ability to do so by expanding the scope of education to encompass not only intellectual development, but also inner development.

This Facilitator Guide is aimed at Higher Education faculty from diverse disciplines, and leads you through a course entitled "Addressing Inner Dimensions for Sustainability in Higher Education". By "faculty" we mean members of the teaching staff at an HEI, and we use this term throughout the guide. Specifically, the course is aimed at HEI faculty interested in expanding their sustainability knowledge and perspectives, integrating sustainability into their teaching practices, and enhancing their sustainability-related teaching approach by addressing inner dimensions.

The course can be facilitated either by one person or, ideally, by a small team. Facilitators can be HEI faculty, a professional course moderator, or someone in a similar role. By reading this Facilitator Guide and related materials, facilitators will learn more about running the course for a group of HEI faculty. The individual exercises in this Facilitator Guide can also serve as a source of inspiration for teaching activities with other target groups.

The course was developed within the project "Transforming Higher Education for Sustainability by Fostering Inner Dimensions of Learners", which ran from 2022 to 2024 and was funded by Movetia, the Swiss agency for exchange and mobility. The project aimed to develop innovative teaching approaches to promote sustainable development and brought together seven HEIs[5] from Switzerland, Germany, the Netherlands, Sweden, and the US with complementary experience and interests in the field of sustainability teaching. The members of the project team were specialized in sustainability and holistic teaching and learning. In addition, each member had specific experience in fostering inner dimensions of learners, supporting integrated inner–outer transformation, and applying related teaching-and-learning formats.

5 Centre for Development and Environment, University of Bern, Switzerland; Teaching Support Centre and Sustainability Department, École Polytechnique Fédérale de Lausanne, Switzerland; Graduate School of Leuphana University, Lüneburg, Germany; Lund University Centre for Sustainability Studies (LUCSUS), Lund University, Sweden; Wageningen University & Research, The Netherlands; College of Environmental Science and Forestry, Syracuse, U.S.; State University of New York, New Paltz, U.S.

GLOSSARY

Capacity/capacities	Everything within the limit of one's abilities and competencies. The term refers here to both individual and collective capacities. Capacity development refers here to extending educators' pedagogical content knowledge as well as increasing the perceived relevance of addressing inner dimensions through integrated measures for students' sustainability competency development in ESD.
Competency/competencies	"Competency" is frequently used in human resources and organizational contexts to outline the specific knowledge, attitudes, skills, qualities, capacities, and behaviours needed for complex problem-solving. In contrast, the term "competence" is used in a broader sense to describe that a person is able to perform a task (overall ability/skill level).
Disconnect	Disconnect refers to a lack of connection or coherence between ideas, individuals, or systems. In this document we refer to a disconnect from self, others, and earth, which can lead to alienation from personal, social, and environmental contexts.
Education for sustainable development (ESD)	Equips learners of all ages with the knowledge, skills, values, and agency to tackle global challenges like climate change, biodiversity loss, and inequality. ESD empowers individuals to make informed decisions and take actions to transform society and protect the planet. It supports a lifelong process and is integral to quality education, enhancing cognitive, socio-emotional, and behavioural dimensions of learning, and includes content, pedagogy, and the learning environment.
Facilitator	In this document, we refer to the individual(s) (either one person or a small team) teaching this course as "facilitator".
Faculty	The term "faculty" includes associate, assistant, and full professors as well as lecturers and adjuncts. In this document, we use the terms "faculty", "educators" and "instructors" to be synonymous and use them to refer to people teaching in HEIs.
Inner Development Goals (IDGs)	A non-profit, open-source initiative committed to fostering inner development towards more sustainable futures. The initiative conducts research, collects, and communicates science-based skills and qualities that help to live purposeful, sustainable, and productive lives.
Inner dimensions	Refers to our individual and collective consciousness, awareness, or mindsets. This includes our beliefs, values, worldviews, as well as associated inner – cognitive, emotional, and relational – qualities and capacities.
Inner–outer transformation	Refers to the interconnected process of internal personal changes and external societal changes for achieving sustainability. It highlights the need for integrating measures for inner and outer transformation to achieve sustainability. The approach involves activating inner capacities across individual, collective, and systemic levels to foster sustainable development.

Integrated measures	Measures that address and link inner and outer dimensions of sustainability across all sectors and levels to, ultimately, enhance individual, collective, and planetary well-being and regeneration. The term highlights the need to address inner and outer dimensions of sustainability in teaching and practice not separately. In fact, ways to nurture transformative inner qualities and capacities, behaviour, culture, technology, and system change must be considered and addressed in combination.
Participants	In this document we refer to the faculty attending the course as participants. For definition of faculty, please refer to the definition above.
Pedagogical content knowledge	The term pedagogical content knowledge used in this course describes not only knowledge of inner dimensions and integrated measures, but also professional knowledge of how to address them with suitable teaching approaches and an understanding of what difficulties students might face when their inner dimensions are addressed.
Polycrisis	Causal entanglement of crises in multiple global systems that significantly degrade humanity's prospects.
Students	In this document, students are the individuals the participants of this course (HEI faculty) are teaching.
Sustainable Development Goals (SDGs)	17 global goals (with 169 targets) are part of the UN Agenda 2030 established by the UN in 2015 to achieve a better and sustainable future by 2030. They are a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.
UN Agenda 2030	Global action plan adopted by 193 UN Member States in September 2015. It aims for peace and prosperity for people and the planet by 2030, focusing on 17 Sustainable Development Goals (SDGs) to tackle global challenges like poverty, inequality, and climate change.

ICONS TO LEAD YOU THROUGH THIS GUIDE

The following icons complement the main text of the guide, helping you to locate key pieces of information:

	This icon indicates learning activities related to self
	This icon indicates learning activities related to others
	This icon indicates learning activities related to earth
	This icon indicates the objective(s) of the learning activity
	This icon indicates the suggested time for the learning activity
	This icon indicates the material needed for the learning activity
	This icon indicates the suggested setting for the learning activity
	This icon indicates the sequence of the learning activity
	This icon indicates additional notes for the facilitator

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The course “Addressing Inner Dimensions for Sustainability in Higher Education” was developed within the 2022–2024 project “Transforming Higher Education for Sustainability by Fostering Inner Dimensions of Learners”, which was funded by Movetia, the Swiss agency for exchange and mobility. We are grateful to Movetia for funding such an innovative project. The concept of “inner dimensions” is not yet well anchored in higher education institutions in Switzerland. This project contributes to increasing related knowledge and developing new approaches. Recently, higher education institutions in Switzerland have become more active in the exploration and potential uptake of the ideas proposed by Inner Development Goals (IDGs), a non-profit, open-source initiative committed to fostering inner development towards more sustainable futures.

We also greatly appreciate the openness of the Centre for Development and Environment (CDE), University of Bern, Switzerland, in supporting and hosting this spearheading initiative through its Transformative Education and Science Impact Area, and for co-funding the project activities.

In addition, we thank all the authors who contributed to the project, to this course, and to the Facilitator Guide. The wealth of knowledge of this international team has been very enriching, and we believe that the team’s interdisciplinarity, which brought together diverse perspectives and expertise, was a major factor in the success of this project. The openness of the team to new, even unconventional ideas fostered a collaborative environment that ignited creativity and enabled the development of an innovative product. The co-authors also acknowledge additional funding from their respective countries, such as the Swedish Research Council Formas: i) Mind4Change (grant number 2019-00390; full title: Agents of Change: Mind, Cognitive Bias and Decision-Making in a Context of Social and Climate Change), and ii) TransVision (grant number 2019-01969; full title: Transition Visions: Coupling Society, Well-being and Energy Systems for Transitioning to a Fossil-free Society).

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1 INTRODUCTION

> *“ I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that thirty years of good science could address these problems. I was wrong. The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation.[...] ”* [6]
>
> James Gustave Speth (Emeritus Professor of Law and Environmental advisor and activist, former Chair of the United Nations Development Group)

Today’s polycrisis and the significance of inner dimensions

Humanity is faced with multiple and increasing global crises – including the recent COVID-19 pandemic, climate change, and war – that are significant in scope and devastating in effect, but still poorly understood and addressed (Lawrence et al., 2024). A growing number of scholars, international agencies, and policymakers describe the current situation as a “polycrisis”, which at a global level is defined by Lawrence et al. (2022) as a causal entanglement of crises in multiple global systems that significantly degrade humanity’s prospects. The global polycrisis spans environmental, social, economic, and political spheres, creating interlinked challenges. Climate change, biodiversity loss, and environmental degradation threaten ecological balance, while social issues such as inequality, poverty, and pandemics place an immeasurable strain on societies. These problems are exacerbated by economic instability, which in turn is driven by global trade disruptions and financial inequities. Political unrest, conflicts, and governance failures further undermine cohesive efforts to address these crises (United Nations Development Programme UNDP, 2024; World Economic Forum, 2024). Navigating these complexities in the 21st century remains challenging, and various initiatives related to sustainable development have emerged at the global level, as well as at national and local levels, in an attempt to address today’s polycrisis more effectively.

At the global level, the UN 2030 Agenda for Sustainable Development was put forward in 2015. A comprehensive roadmap containing 17 Sustainable Development Goals (SDGs), it sought to achieve a sustainable world by 2030. At the same time, other sustainability agendas were developed at regional and national levels, such as the African Union’s 2063 Agenda, or the Buen Vivir concept in Ecuador and Bolivia. However, progress towards achieving the SDGs has been underwhelming. The Sustainable Development Goals Report 2024 finds that only 17 per cent of the SDG targets are on track, nearly half are showing minimal or moderate progress, and progress on over one third has stalled or even regressed (Sachs et al., 2024). What can we do to turn things around, achieve progress, and effectively tackle the complexities of the 21st century?

Despite extensive efforts at all levels, our current focus on external, technical approaches is insufficient to meet the growing sustainability challenges we face. An increasing number of scholars argue that we are lacking the internal capacities to adequately address the root causes of the increasingly complex obstacles in our path. There is a growing understanding that these threats and crises are, in fact, a reflection of an inner, human crisis (Ives et al., 2023; Leichenko & O’Brien, 2024; Wamsler et al., 2020, 2021; Wamsler & Bristow, 2022).

Addressing today’s polycrisis thus requires transformative efforts that are based on a deeper understanding of our inner dimensions, i.e. how we relate to ourselves, to others, and to the world around us (Bristow et al., 2022; Janss et al., 2023). Such inner dimensions can be defined as “people’s consciousness, awareness or mindsets, which includes individual and collective beliefs, values, worldviews, as well as associated inner – cognitive, emotional and relational – qualities and capacities” (Wamsler, Bristow, et al., 2022, p. 8).

6 Source: https://medium.com/@thelandoft/good-science-isnt-enough-be307e594729

These inner dimensions are increasingly emerging as not only the causes of the multifaceted crises facing our planet, but encouragingly, also the pivotal vehicles for confronting these crises. In other words, they underlie today's polycrisis – but they also possess the potential to serve as crucial leverage points for meaningful change (Abson et al., 2017; Ives et al., 2023; Wamsler et al., 2021; Woiwode et al., 2021). This shift in the understanding of sustainability challenges recognizes that our perceptions, thoughts, and relationships with ourselves, others, and the world significantly shape our behaviours, decisions, cultures, and structures (Wamsler et al., 2021). The intricate relationship between internal and external states and problems reveals a crucial aspect of sustainability challenges: that they are fundamentally rooted in human dynamics and relationships (Wamsler & Bristow, 2022). While issues such as climate change and resource exploitation are generally perceived as external problems, they stem from deeper societal issues such as consumerism, racism, and an underlying profound disconnect from our inner selves, others, and nature. These internal dynamics consequently manifest in unsustainable behaviours, cultures, and systems that exacerbate environmental degradation and social injustice (Ives et al., 2020; Osberg et al., 2024; Wamsler & Bristow, 2022; Woiwode et al., 2021).

Emergent research suggests that the alienation or disconnection from self, others, and earth that lies at the root of today's polycrisis is an intrinsic aspect of modern life (Ives et al., 2023; Rosa, 2019; Wamsler, Bristow, et al., 2022). Rooted in ideologies of consumerism, individualism, and materialism, our modern way of life prioritizes productivity and efficiency over well-being. We exploit and consume resources without regard for the interconnectedness of all living beings. This exploitative mindset is reflected in our culture, our institutions, and our policy landscape – and it fuels widespread extinction, climate change, and environmental degradation, threatening the well-being of both humanity and the planet (Osberg et al., 2024; Scott et al., 2021; Wamsler & Bristow, 2022).

Addressing inner dimensions in sustainability education

Sustainability education, with an emphasis on inner dimensions, holds an important position in the UN's 2030 Agenda. SDG 4 ("Quality Education") emphasizes the importance of providing inclusive, equitable, and high-quality education while fostering opportunities for lifelong learning for everyone (Frank et al., 2019; Wamsler, 2020). Further, SDG 4 considers education essential for equipping individuals with the knowledge, skills, and values (inner dimensions) needed to foster sustainable development and address global challenges.

SDG Target 4.7 states, "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (United Nations, 2015).

Accordingly, Education for Sustainable Development (ESD) aims not only to provide knowledge about the SDGs, but also to equip individuals with the competencies and capacities to promote the transformation to a more sustainable society. ESD is intended as a holistic and transformative approach to education that addresses learning content, pedagogy, and the learning environment (Fischer et al., 2023). It includes content on sustainability challenges, such as climate change, poverty, and sustainable consumption in the curriculum – but additionally, and crucially, it also promotes interactive and learner-centred teaching and learning environments. ESD thus aims to empower individuals to consider the social, cultural, economic, and environmental impacts of their actions, and to encourage them to act sustainably by exploring new ideas and participating in socio-political processes. Through their actions, the learners can contribute to creating societies that are sustainable not only in the short term, but far into the future. Ensuring that learners worldwide develop these competencies and capacities is crucial for achieving the SDGs.

ESD involves a shift from teaching to learning, with an emphasis on self-directed learning, participation, collaboration, problem-solving, and interdisciplinary teaching and learning approaches (Fischer et al., 2023). These pedagogical approaches are essential for developing the competencies and capacities necessary for promoting sustainable development (Rieckmann, 2018). The need for ESD research to place greater emphasis on inner qualities and capacities and how to address them through experimental and innovative pedagogical models therefore aligns with the urgent need to better acknowledge and address the inner dimensions of sustainability in education (Wamsler, 2020).

The role of higher education institutions

Higher education institutions (HEIs) play a key role in the transformation of society towards sustainability and in achieving the SDGs – especially, of course, SDG 4 on Quality Education – and in fostering ESD that links inner and outer dimensions of transformation. HEIs provide formative experiences for their students, and the values and norms that universities promote are of central importance in fostering sustainable behaviour among change agents and decision-makers of the future. As scientific and research institutions and intellectual centres, they bear a great responsibility in creating innovations for a sustainable future and increasing social acceptance of the principle of sustainability through transdisciplinary knowledge transfer (Barth & Michelsen, 2013; Schneidewind & Singer-Brodowski, 2013; Wilhelm et al., 2015; Zimmermann & Risopoulos, 2016).

As part of this mission, HEIs should assume a leading role in fostering the cultivation of inner dimensions for sustainability. This involves promoting a more integrated approach that considers both internal personal changes and external cultural and systemic changes – i.e. an "inner–outer transformation" – in education, science, and practice across disciplines and fields (Wamsler et al., 2021). However, this is not yet happening on a wide scale. Despite growing recognition from global organizations such as UNESCO of the importance of integrating cognitive and socio-emotional dimensions into higher education teaching (Rieckmann, 2017), as well as initiatives such as "Inner Development Goals" (IDGs, 2024), the integration of emerging science and knowledge on inner dimensions for sustainability into educational curricula and learning environments remains insufficient. Nonetheless, we consider it important to highlight that country-specific hubs and networks[7] related to the Inner Development Goals initiative (including ones that focus on HEIs) are increasingly emerging.

While the need to address inner dimensions in the context of sustainability is increasingly acknowledged, traditional higher education systems predominantly prioritize the transmission of technical skills and disciplinary professional knowledge (Wamsler, 2019, 2020). This results in a lack of emphasis on cultivating students' inner dimensions, leaving them ill-equipped to navigate the complexities of contemporary global challenges such as climate change, social inequality, and environmental degradation.

Nonetheless, teaching approaches related to inner dimensions do exist in educational settings. Some institutions or programmes have tried to incorporate mindfulness-based approaches and values, albeit mostly in an isolated and sporadic way (Ayers et al., 2023; Frank et al., 2019; Murray, 2011; Wamsler, 2020). On the whole, however, there is no cohesive and systematic approach to integrating inner dimensions into higher education teaching across disciplines (Parodi et al., 2023; Parodi & Tamm, 2018; Wamsler et al., 2021). The need is urgent for more comprehensive and integrated pedagogies that recognize education as a pivotal driver for sustainable development.

From an ethical standpoint, it is crucial to emphasize that the cultivation of inner dimensions into sustainability education does not aim to impose certain beliefs, values, and world views on learners, nor does it seek to alter a learner's existing beliefs, values, and world views (Wamsler et al., 2021; Wamsler, Bristow, et al., 2022). Instead, it seeks to support conditions that foster self-reflection, exploration, and more relational approaches, while recognizing the diversity of perspectives and respecting individual autonomy in forming one's own ethical frameworks (Ives et al., 2023; Walsh et al., 2020; Wamsler et al., 2021; Wamsler, Bristow, et al., 2022). At the same time, it is important to highlight that sustainability education is not a "value-free" field. Instead, it embraces the values and responsibilities associated with sustainability (Horlings, 2015). By acknowledging and engaging with the values inherent to sustainability, students are encouraged to critically examine their own perspectives, gaining a deeper understanding of the complex interplay between, for instance, individual and collective values and environmental challenges (Trechsel et al., 2023).

7 https://www.innerdevelopmentgoals.ch/

Rationale for addressing Higher Education Faculty

HEI faculty members play a critical role in shaping the ability and commitment of the next generation to advancing sustainability. They influence curriculum design, teaching methods, and the overall academic environment. In general, faculty members are considered key factors of influence on student performance and learning outcomes, which makes them interesting as multipliers for addressing students' inner dimensions for sustainability in higher education (Hattie, 2023). Faculty have the potential to impact not only their students, but also the broader academic community and beyond. Equipping faculty with the tools to integrate inner development into their teaching can create ripple effects that extend to institutional culture and societal impact, an important aspect of systematically integrating or mainstreaming these considerations into existing institutions and structures (Wamsler & Osberg, 2022).

Effectively integrating inner dimensions for sustainability requires not only incorporating these concepts into ESD-related higher education curricula, but also building the capacity of faculty to facilitate the integration of inner dimensions into ESD teaching. Capacity development in this specific context means extending educators' pedagogical content knowledge and increasing the perceived relevance of addressing inner dimensions through integrated measures in sustainability-related teaching (Wamsler, Osberg, et al., 2024).

In this guide, we define "pedagogical content knowledge" as the understanding of inner dimensions and integrated measures, combined with the professional expertise to address them through suitable teaching methods and approaches. This includes anticipating and addressing the potential challenges students may encounter when their inner dimensions are addressed (Shulman, 1986). This understanding acknowledges that faculty possess unique learning biographies that influence their perspectives on teaching and learning (Wamsler, Osberg, et al., 2024). The values, knowledge, skills, and attitudes they hold shape their identity and self-concepts as faculty, which in turn impact their teaching practices and what is known in education as the "hidden curriculum" (Cotton et al., 2013). What faculty members impart is not only a function of what they know and think, but also linked to how they see themselves and their self-identify as educators.

Challenges faced by Higher Education Faculty in addressing inner dimensions in ESD teaching

Although inner dimensions (e.g. students' emotional capacities) are seen as deep leverage points for fostering societal change (Woiwode et al., 2021), they have so far been largely neglected when developing pedagogies or training programmes for educators (Dunlop & Rushton, 2022; Frank et al., 2024; Grund et al., 2023). An exploratory literature search on Scopus by the project team revealed that research on the challenges educators face in addressing inner dimensions is fragmented and limited to the educational setting of schools, and there is no systematic consideration of all aspects of inner dimensions. Therefore, empirical results on the challenges of addressing issues such as students' beliefs and emotions are seen here as examples of broader challenges educators might face when trying to address inner dimensions in their ESD teaching approaches.

Our exploratory research identified two main challenges educators encounter when addressing emotions in their teaching: first, a lack of training and specialized programmes focused on ESD teaching approaches, and second, traditional or subject-specific beliefs on the nature of teaching and learning within higher education. Researchers have repeatedly called for ESD-specific training programmes for educators, to enable them to effectively incorporate inner dimensions such as emotions into their sustainability teaching (Anderson & Krathwohl, 2001; T. R. Evans & Steptoe-Warren, 2015; Goller & Rieckmann, 2022; Holdsworth et al., 2008; Taylor et al., 2019).

Our literature review also offers some insights relevant to the design of such training programmes. First, educators require teaching approaches that allow them to handle the interdisciplinary nature of sustainability and to develop transdisciplinary competency (Corres et al., 2024). Second, students may experience a range of emotional reactions to sustainability issues, and it can be challenging for educators to address them all (Dunlop & Rushton, 2022). Third, the reactions evoked are often strong negative emotions such as anxiety, frustration, and sadness, and educators may struggle to deal with these emotions in ways that

avoid paralysis and instead nurture hope and positive visions, and motivate action (ibid; Grund et al., 2023). Finally, students may not be ready or willing to explore the affective dimensions of sustainability issues or other inner dimensions, and educators need effective techniques to empower their students to engage with these inner dimensions (Corres et al., 2024).

Introducing the concept of inner dimensions for sustainable development can challenge traditional expectations and discipline-specific beliefs about the role of teaching in higher education. For one, addressing inner dimensions such as emotions seems to challenge the traditional view that considers educators as mere knowledge brokers (Raccanello et al., 2022). The domain of addressing emotions in teaching has traditionally been considered to be the role of a facilitator or coach rather than that of a knowledge broker (Hollis-Walker, 2012). Educators may oppose the idea of addressing students' inner dimensions as an appropriate learning approach, possibly believing it to conflict with what our modern society considers robust science and education. This may require a shift from predominantly cognitive approaches in higher education teaching to more holistic approaches that include values-related, emotional, motivational, and other domains. To address inner dimensions in fields such as medicine, for example, it has been shown that educators would first need to overcome a culture of emotional detachment (Barman et al., 2023).

Some educators may struggle with the delicate balance between acknowledging students' emotions and their fear of potentially overwhelming or manipulating them (Raccanello et al., 2022). Others may still view sustainability more narrowly, primarily as an environmental issue, and consequently resist connecting it to their specific subject areas (Zainal Abidin et al., 2024). Addressing these challenges requires educators to a) understand the importance of inner dimensions in all their various aspects for ESD, and b) reflect on their role as educators and their understanding of how to relate their teaching and learning objectives to inner dimensions for sustainability. In addition to these personal challenges, institutional and systemic barriers – such as limited time and resources, competing demands, and overcrowded curricula – also hamper the ability of educators to incorporate inner dimensions into their teaching (N. (Snowy) Evans et al., 2012; Green & Somerville, 2015; Lasen et al., 2017). As mentioned, our literature review found that most of the available material focused on the context of schools and therefore may not fully apply to HEI lecturers. Nonetheless, the review revealed a pressing need for targeted training programmes, institutional support, and research aimed at developing evidence-based pedagogies that foster the integration of inner dimensions for sustainability (Molitor et al., 2024; Wamsler, Simon, et al., 2024).

In addition to the individual challenges discussed, prioritizing self-care and well-being is essential for educators, especially in the context of sustainability education. Addressing sustainability challenges in teaching requires navigating complex issues and engaging in multifaceted teaching approaches. Neglecting one's own well-being can undermine the effectiveness of these efforts. In general, the current workload culture in higher education has been found to adversely affect faculty well-being (Brewster et al., 2022). Research suggests that self-care fosters a transformative approach to teaching sustainability by helping educators manage the stress and demands of academia, ultimately leading to more effective curriculum design and delivery (Burns, 2016).

Why this course?

Educators can play a pivotal role in shaping a generation of socially conscious and environmentally responsible leaders by expanding the scope of education to include both intellectual and inner development. "Addressing Inner Dimensions for Sustainability in Higher Education" aims to be a safe learning and reflection space to address the gaps in current teaching and learning approaches in higher education for sustainable development. Through this course, we invite HEI faculty to explore the relevance of inner dimensions for sustainability. By exposing them to a set of learning activities related to self, others, and earth, we provide approaches and opportunities for reflection on the cultivation of inner dimensions in your teaching.

2 Course overview

Main course features in a nutshell

Aim: The course, "Addressing Inner Dimensions for Sustainability in Higher Education", explores the significance of inner dimensions in higher education teaching, with a specific focus on sustainability. The course employs a multifaceted approach to exploring one's inner dimensions and their significance in promoting sustainability. This course aims to stimulate reflections among educators on the relevance of inner dimensions in relation to sustainability and provides selected activities for their own exploration.

Target group: The course is designed for faculty interested in expanding their sustainability knowledge and perspectives and in innovative ways of integrating sustainability into their teaching practices.

Format: The course is designed to accommodate a group of up to 30 people meeting in person. It offers a blend of interactive discussions, experiential activities, and reflective moments. Participants can engage with the course content prior to the first session by completing a preparatory task and exploring resources. The course can be adapted for larger groups or an online setting, but specific guidance is not provided.

Facilitator: The course is facilitated either by an HEI faculty member, a professional course moderator, or someone with a similar role and expertise. It can be one person or a small team (depending on the resources available). We recommend it should be at least two people. Reading this Facilitator Guide and related course materials (e.g. presentations, recorded sessions, reference material) will equip the facilitator(s) with the knowledge and resources needed to run the course for a group of HEI faculty.

Duration: 8.5 hours in total (without breaks). The learning activities can be shortened or expanded to suit the given context.

Structure: The course consists of a preparatory session and three subsequent course sessions: Session 1 – Introduction, Session 2 – Experiential session, and Session 3 – Integration of inner dimensions into educators' professional practice. Ideally, the three course sessions are held on three separate days to allow for between-task activities and individual work and reflection. However, it is also conceivable that the experiential session (Session 2) could start directly after the Introduction (Session 1). Please refer to the annex for all available course material.

Preparatory package (before the course)		
Session 0	**Learning activity**	**Time (minutes)**
Preparatory activity	Text, Resources, Creative journaling exercise	Individual (ca. 40–90 minutes)

Introduction (approx. 1.5 hours)		
Session 1	**Learning activity**	**Time (minutes)**
Activity 1.1	Getting to know each other and setting the stage	35
Activity 1.2	Sharing reflections and material from the creative journaling exercise (Session 0)	35
	Break	5
Activity 1.3	Sociographic positioning	20

Experiential space (approx. 4.5 hours)		
Session 2	**Learning activity**	**Time (minutes)**
Activity 2.1 – Relation to self	Self-care reflection	45
	Break	5
Activity 2.2 – Relation to others	A care ethics approach to a complex challenge	75
Activity 2.3 – Relation to earth	Seventh generation and earth connection	60
	Break	15
Activity 2.4 – Relation to earth	Slow walk	60

Integration of inner dimensions into educators' professional practice (approx. 2.5 hours)		
Session 3	**Learning activity**	**Time (minutes)**
Activity 3.1	Balancing act: Exploring ESD teaching objectives to address inner dimensions for sustainability	30
	Break	10
Activity 3.2	Transformative teaching in action: Navigating inner and outer challenges for sustainability	85
	Break	10
Activity 3.3	Envision the future: Satisfied participant letter	15

Even though we indicate durations for each activity, they should be considered as suggestions. Certain aspects can be shortened or expanded, depending on the context and the participant group. Furthermore, facilitators should feel free to adapt formats, for example by replacing discussions in small groups with a plenary discussion. However, based on our experience, discussions in small groups have worked better than plenary sessions, especially when sharing personal experiences.

Course design methodology

The course was developed by the "Transforming Higher Education for Sustainability by Fostering Inner Dimensions of Learners" project team, using a multi-methods and participatory approach. Based on a preliminary review of existing teaching and learning approaches and toolkits focused on inner dimensions and analysis, the course content was developed through co-creative online meetings, in-person workshops, and subgroup work. Our analysis revealed that while many resources (toolkits, exercises, methods, etc.) exist, they are not specifically tailored to higher education faculty. The aim of the project, therefore, was to design a course appropriate for HEI faculty, building on existing material and developing own material. All learning activities proposed in this course have been tested by the project team. The course was designed for a Western context, by the project team from HEIs from the global North. It invites readers and facilitators to adapt the content to their respective cultural context. Regardless of the context, however, it is important to include diverse perspectives and approaches to address today's polycrisis, including local and indigenous knowledge systems (Ives et al., 2023).

Learning to teach inner transformation: Theoretical foundation of the course

The course concept adopts a particular stance within the broader, often conflicting objectives of ESD. It aims to sensitize educators to the challenges of addressing students' inner dimensions for sustainability, while enabling them to critically reflect and actively contribute to shaping these educational approaches to sustainable development (Barth & Michelsen, 2013). While these dual goals – empowering critical reflection and fostering active participation – are not universally agreed upon in educational settings, they form the foundation of this course design. The course concept is also grounded in constructivist theories of learning, such as transformative learning theory and socio-cognitive learning, which emphasize that learners construct their understanding of the world through experience, reflection, and engagement (Chaiklin, 2003).

In addition to these general objectives for ESD-related learning, Wamsler, Osberg, et al. (2024) suggest that effectively engaging professionals with inner dimensions requires a comprehensive and holistic approach. Against this background, the course integrates key ideas from multiple socio-constructivist learning theories.

Transformative learning has emerged as a crucial theory in the pursuit of sustainability (Rodríguez Aboytes & Barth, 2020). This theory is based on the idea that learning involves a deep, structural shift in the basic premises of thought, leading to new ways of understanding and approaching the world (Mezirow, 2000). This idea about learning has been used in two ways: First, by including activities, such as discussions in the course that challenge faculty to reconsider their personal and teaching paradigms and promote self-awareness and critical reflection to support transformative shifts in their students to reconnect with themselves, others, and earth. Additionally, these reflective practices and experiential learning activities have been designed to help educators connect their inner development with their personal experiences and teaching methodologies (e.g. Activities 2.1, 2.2, 2.3). These activities will encourage faculty to explore and confront their individual and collective values, beliefs, and teaching practices, and facilitate peer discussions to share insights and strategies. Second, by employing role play and case studies to illustrate successful integration of inner development in various educational contexts, the transformative approach incorporates learning activities that challenge existing paradigms and introduce new ways of thinking about sustainability and inner development (e.g. Activities 3.1 and 3.3). Sessions with thought-provoking questions and scenarios will prompt faculty to critically evaluate and transform their teaching practices, supported by case studies that illustrate the successful integration of inner development in various educational contexts.

In addition, the course makes use of a core principle from *social learning theory*, which means that participants learn from observation, imitation, and modelling (Bandura, 1977). This idea has been implemented, for example, by creating opportunities for faculty to observe and engage with peers who have faced similar challenges in addressing inner development in their teaching (e.g. Activity 3.2). Activities include peer observation sessions and networking activities, allowing faculty to learn from one another's experiences and approaches.

Finally, the multifaceted approach of the training is grounded in the principle of transforming experiences into knowledge, which is a core idea of *experiential learning theory* (Jarvis, 2018). Hands-on compassion activities where faculty explore connections to themselves, others, and earth are examples of learning activities in the course that follow this idea (e.g. Activity 2.4).

The further design of this course concept follows four key design principles for holistic learning and understanding to accelerate sustainability transformation, as identified by Wamsler, Osberg, et al. (2024). They involve: 1) how we see the world, 2) how we get to know, 3) how we engage, and 4) how we ensure quality and equity considerations across all aspects. The second aspect highlights the importance of integrative methods for exploring inner dimensions. Activities that foster compassion for oneself, others, and earth are emphasized for their transformative impact on participants' identity, views, and well-being across individual, collective, and planetary levels.

In addition, the following design principles have been considered in our course design:

1. Creating a safe learning environment where participants feel comfortable sharing. This is achieved by establishing basic rules for the course and employing a variety of repeated learning activities designed to familiarize participants with the topics of inner dimensions and sustainability.
2. Making use of collaborative learning communities that provide peer-to-peer support. This helps to overcome perceived barriers such as a lack of connection to the subject area of teaching (Cebrián et al., 2022).
3. Catering the course to individual preferences and creating diverse entry points to accommodate unique learning styles, cultural backgrounds, and diverse institutional contexts.

Course objectives

The objectives of the course have been derived from the theoretical framework described above.

In short, the course aims:

1. to conceptually introduce the relevance of inner dimensions for sustainability and allow participants to explore and experience these.
2. to enable participants to experience the role of the connection to self, others, and earth as a fundamental source of supporting sustainability.
3. to equip participants with practical methods, exercises, and resources for incorporating inner dimensions into their courses and teaching practices.
4. to encourage collaboration and peer learning among participants, creating a supportive network of educators committed to sustainability and associated inner development.

We have decided to structure the learning activities in Session 2 according to the narrative of disconnect from self, others, and earth, but we acknowledge that there are other concepts, for example that of Inner Development Goals.

Course overview and course structure

The course is based on four design principles for holistic learning and understanding to accelerate sustainability transformation, illustrated in Figure 1. The individual course sessions specifically address the first three key principles (how we see the world, how we get to know, how we engage), while the fourth aspect (that of ensuring quality and equity considerations) underpins the whole course. The course is designed for a total of approx. 8.5 hours (excluding breaks).

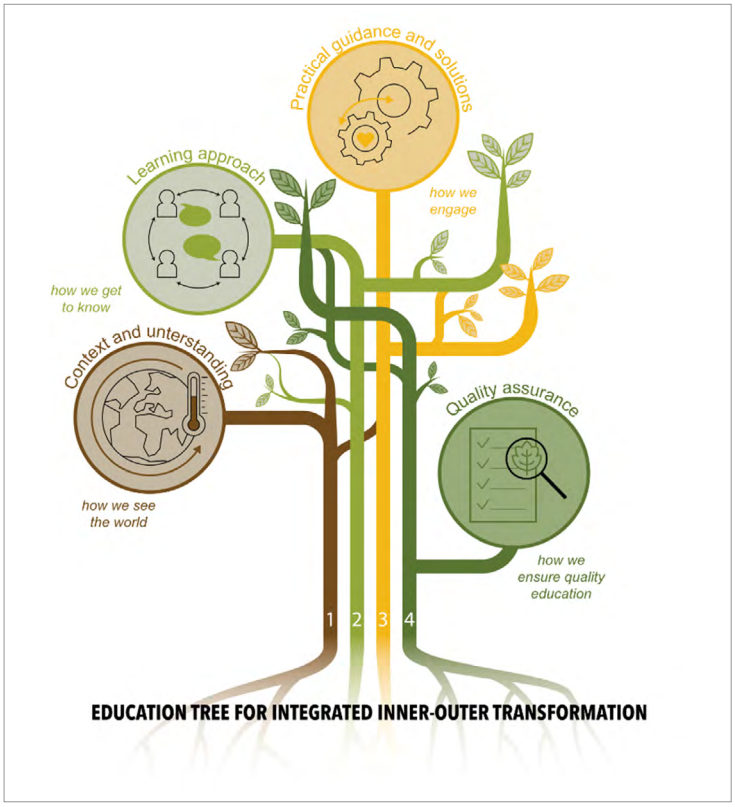


Figure 1: Key principles for designing holistic sustainability leadership and education programs (Source: Adapted by C. Wamsler from Wamsler, Osberg, et al., 2024). Reprinted with permission.

The overview of the course sessions is described in the table below:

Session	Description	Links to course objectives
0: Preparatory Package	The preparatory package aims to pique interest and encourage engagement with the course material ahead of the start of the course. It consists of a) introductory providing an overview of relevant theories and frameworks, b) an exercise to stimulate personal reflection and deepen connection with the course topics, and c) additional resources for further engagement.	1
1: Introduction	**How we see the world/*context and understanding.*** Session 1 focuses on establishing a foundational connection among participants. Through a mix of interactive activities (partner exchange, sharing reflections, and sociographic positioning), participants gain insight into diverse perspectives, and reflect on their own values and beliefs related to inner dimensions and sustainability. This session aims to foster a supportive learning environment and deepen engagement with the course content.	1
2: Experiential space	**How we get to know/*learning approach.*** In Session 2, participants engage in a series of experiential activities designed to explore and enhance their connections with themselves, others, and earth. Through immersive exercises, participants will gain insights into their well-being, their roles within larger systems, and their relationship with our environment(s). This session aims to foster personal and collective reflection, encouraging participants to integrate these insights into their teaching and professional practices to address sustainability challenges.	2, 3, 4
3: Integration of inner dimensions into educators' professional practice	**How we engage/*practical guidance and solutions:*** In Session 3, participants are invited to first reflect on the normative foundations of addressing students' inner dimensions in ESD teaching. In the second part of this session, participants engage in role play that is designed to further explore the approaches introduced in Sessions 1 and 2. The experiences are reflected on and discussed in peer groups.	3, 4
Resource platform and potentially a community of practice	Ideally, the course is complemented by a resource platform where all course materials as well as additional resources can be stored and accessed even after the end of the course. This platform will be provided by the facilitator(s) or the HEI organization organizing the course. If the platform offers a forum function, participants could continue exchanging ideas, insights, and support beyond the duration of the course and thus contribute to establishing a community of practice committed to integrating inner dimensions into higher education teaching.	1

3 Learning environment and facilitation

Safe spaces for reflection, learning, co-creation, and the building of trust are considered important enabling factors for supporting transformative skills and associated changes (Singer-Brodowski et al., 2022). Effective facilitation is essential for a successful learning experience. Creating a safe and inclusive learning environment is a continuous process that benefits participants throughout the course.

Requirements of course facilitators

The course facilitator(s) can be HEI faculty, a professional course moderator, or someone in a similar role. People interested in working with this Facilitator Guide should be open towards the experiences of participants, which may be very different. They should also bear in mind that such work can be emotional for some participants, and therefore carefully consider whether they feel able to moderate such a course. We highly recommend that two or more co-facilitators moderate the course together. Co-facilitation is useful for several reasons. Some activities can be relatively intense, so being able to take turns facilitating is practical. Also, the second person can provide logistical support to the main facilitator of a given activity. Finally, co-facilitation gives participants the opportunity to experience different styles of facilitation, as everyone has their own sensibilities.

Experience in the following areas is beneficial for teaching this course:

- Possess some personal experience in exploring inner dimensions for sustainability.
- Be capable of creating a safe space.
- Have strong communication and teaching skills.
- Be sensitive to the faculty group's diverse backgrounds.
- Ahead of the course, familiarize yourself with the group and their knowledge and expectations.

Recommendations for facilitation

Preparation is key for successful facilitation of the course. In addition to organizational preparations, facilitator(s) should thoroughly familiarize themselves with the course guidelines and individual sessions. For each learning activity, this guide provides facilitator instructions that can be adapted as needed. The following are general recommendations for effective facilitation:

- Begin the workshop by establishing a set of basic rules or agreement for engagements on a visible flipchart, to foster a safe space. For example: confidentiality, respect, sovereignty, equal speaking time, no interruptions, active listening, and no judgment (see Activity, 1.1). Encourage participants to add any additional rules that will help create a comfortable and inclusive learning environment.

- As a facilitator, model the respectful, fair, and kind behaviour you expect from participants. Value the diversity of their backgrounds, strengths, and contributions. Address any instances of harassment or discrimination promptly and decisively, ensuring that no one is shamed.

- Given that the target group are HEI faculty, recognize and consider them as professionals and acknowledge their knowledge and expertise in an appropriate manner. Allow enough time for discussion among the participants to exchange their best practices, experiences, and expertise.

- Before beginning any learning activity, explain its rationale and purpose. You may want to show a slide for each activity with its title and learning objective.

- Provide clear guidance regarding which level (connection to self, others, and earth) the activity relates to. You may also use the icons (self, other, earth) in the course material to provide visual guidance.

- Allow enough time to reflect on activities and have discussions at the meta-level.

- Frame learning activities as opportunities for experience and exploration. Remind participants that they can opt out of any activity at any time without negative consequences and explain to them concretely how they can opt out each time (e.g. by leaving the room and rejoining the group at a specified later time).

- Tailor the learning activities to the unique characteristics and needs of your group.

- Consider the diversity of your group, and the fact that some activities may be difficult for some people to participate in depending on their background. Some activities might be perfect for some participants, and others might have to step out of their comfort zone.

- Inquire regularly about the group's well-being. Offer additional discussion or support as needed and consult with a professional if necessary.

4 Course content

Background: theory & concepts

This chapter introduces key terms and concepts from recent literature on inner dimensions and sustainability that informed the development of this course. While there are several concepts and theories relating to inner dimensions and sustainability, the following explanations provide a sufficient overview for the purposes of this guide.

Terminology

Scholars have proposed various ways of describing and conceptualizing inner dimensions in the context of sustainability (Ayers et al., 2023; Brundiers & Wiek, 2017; Frank et al., 2024; Frank & Stanszus, 2019; Ives et al., 2023; Libertson, 2023; Murray et al., 2014; Ojala, 2013, 2016; Verlie et al., 2021).[8] While "inner dimensions" is a term commonly used in research (Ives et al., 2023; Pöllänen et al., 2023; Wamsler et al., 2020; Woiwode et al., 2021) and associated policy documents (Bristow et al., 2024; Janss et al., 2023; Wamsler, Bristow, et al., 2022; Wamsler & Bristow, 2022), alternative expressions such as "internal dimensions" (Wamsler et al., 2021), "interior-individual domain" (Ives et al., 2020), "inner lives" (Osberg et al., 2024), "inner worlds" (Frank et al., 2024; Ives et al., 2020) and "inner sphere of transformation" (Leichenko & O'Brien, 2024; Pöllänen et al., 2023) have also been employed in academic discourse. However, there is conceptual ambiguity surrounding these terms and no consensus exists on their precise definitions.

In the following document, we use the term inner dimensions to refer to "people's consciousness, awareness or mindsets, which includes individual and collective beliefs, values, worldviews, as well as associated inner – cognitive, emotional and relational – qualities and capacities" (Wamsler, Bristow, et al., 2022, p. 8).

Disconnect from self, others, and earth

The growing focus on inner dimensions reflects the recognition that today's sustainability challenges and the global polycrisis are rooted in an inner human crisis: an alienation or disconnection from self, others, and the world around us (Ives et al., 2023; Rosa, 2019). Alienation, separation, or disconnection are important concepts in this respect (Janss et al., 2023; Wamsler et al., 2021; Wamsler, Bristow, et al., 2022; Wamsler, Simon, et al., 2024; Wamsler & Bristow, 2022). By prioritizing and increasing conscious attention to our connectedness to self and with all beings and nature, we are individually and collectively more likely to foster intrinsic values and caring attitudes and action-taking toward others and the environment (Bristow et al., 2024; Wamsler & Bristow, 2022; Wamsler et al., 2021).

Scholars describe the "three disconnects" as follows:

Disconnect from self within the context of sustainability encapsulates a detachment from one's own inner being, a disconnect between one's intellectual and emotional aspects, and the failure to recognize the interconnectedness between personal well-being and the health of the planet. This disconnection manifests in various forms, including feelings of loneliness, stress, anger, and depression, which are often exacerbated by contemporary societal norms that prioritize productivity and material gain over holistic well-being. Addressing the disconnection from self is crucial for fostering a deeper understanding of sustainability that encompasses both personal and planetary well-being (Janss et al., 2023; Appendix Tables 1–2).

8 Please note that the terms "mindsets" and "inner dimensions" are often used as synonyms (Wamsler et al., 2022).

Disconnect from others within the realm of sustainability embodies an alienation from the broader human community. This disconnection is characterized by a lack of empathy, understanding, and collaboration among individuals and different communities or social groups, which hampers collective efforts to address sustainability challenges effectively. It manifests in various forms, including racism, xenophobia, and all other societal divisions that hinder solidarity and cooperation. Addressing the disconnection from others is essential for cultivating a sense of care, shared responsibility, and collective action towards building a more sustainable and just society, where all individuals are valued, respected, and empowered to contribute positively to the well-being of both humanity and the planet (Janss et al., 2023; Appendix Tables 1–2).

Disconnect from earth entails a profound alienation marked by a lack of reverence, stewardship, and reciprocity in our relationship with the environment as well as the living and non-living world. This disconnect is evident in the exploitation and degradation of natural resources, driven by a mindset of extraction and domination rather than harmony, balance, and respect. It is also linked to societal issues such as consumerism and materialism, which prioritize short-term gains over the long-term health of ecosystems. This disconnection threatens natural systems and undermines biodiversity, human health, livelihoods, and cultural heritage. Reconnecting with nature and seeing oneself as part of nature is essential for fostering responsibility, kinship with the earth, and sustainable practices that honour the intrinsic value of all living beings (Janss et al., 2023; Appendix Tables 1–2).

The project team deliberately chose to use the term "earth" rather than "nature" to encompass the entirety of the human and non-human world. We understand "earth" to include the living elements of the natural world (plants, animals), the physical and geological aspects (soil, water, the atmosphere), and the human aspects. By using "earth", the team aims to highlight the interconnectedness and totality of the human and non-human components that make up our planet and ourselves, acknowledging that all these elements are integral to the environment and should be considered. It reflects a holistic approach, recognizing earth as a complex, dynamic system where every part, living or non-living, plays a crucial role.

Key concepts, models and frameworks

In the following section, we present four key models and theories that inspired this course: the Iceberg Model, Leverage Points, Integral Theory, and the Inner–Outer Transformation Model. They are all interconnected in their emphasis on understanding and addressing both the visible (external) and underlying (internal) aspects of sustainability challenges.

The Iceberg Model highlights the importance of going beyond surface-level events to explore deeper mental models, cultural values, and systemic structures that influence behaviour and outcomes. The Iceberg Model is based on systems thinking and introduces different leverage points that can be addressed to transform systems. Leverage Points provide a framework for identifying intervention points within a system, emphasizing that deeper, less tangible points (such as paradigms and mental models) offer more transformative potential than shallow, more apparent interventions (such as regulations or incentives). Integral Theory broadens this perspective by integrating the interior (thoughts, emotions) and exterior (behaviour, systems) dimensions at both individual and collective levels. The Inner–Outer Transformation Model is a model that describes how changes in inner dimensions support outer change towards sustainability and how this can be achieved, providing a roadmap for systematic research, policy, and practice (Wamsler, Bristow, et al., 2022).

When it comes to addressing inner dimensions in teaching for sustainability, these models collectively underscore the need for a holistic approach. They suggest that fostering sustainability is not just about changing external behaviours or systems, but also about cultivating inner qualities and capacities such as awareness, values, and consciousness. For educators, this means engaging students not only intellectually but also emotionally and ethically, helping them develop a deeper understanding of the interconnections between their inner worlds and the broader social and ecological systems they inhabit.

The Iceberg Model

The Iceberg Model (Maani & Cavana, 2007) is a widely used framework in systems thinking, serving as a metaphor to illustrate the connection between the visible and hidden aspects of a sustainability challenge. It emphasizes that what we observe or experience is just the tip of the iceberg, with deeper, underlying factors contributing to these phenomena. The top level ("events") represents the visible part of a problem, while the lower levels ("patterns of behaviour", "systems structure", and "mental models") present the deeper elements that are at the root of the problem but also represent leverage points for change (Figure 2). Events and crises are visible, while patterns of behaviour and systems structures are hidden beneath the surface. Mental models, or mindsets, lie even deeper and often remain unconscious. The Iceberg Model suggests that to achieve meaningful change toward sustainability, it is essential to work at all levels of the system – and that the deeper we go, the more effective it is. Crucially, it emphasizes that these levels are interconnected, meaning that focusing solely on one area while neglecting others may not lead to the desired outcomes. Effective change requires a holistic approach, addressing both the visible and hidden aspects of the system.

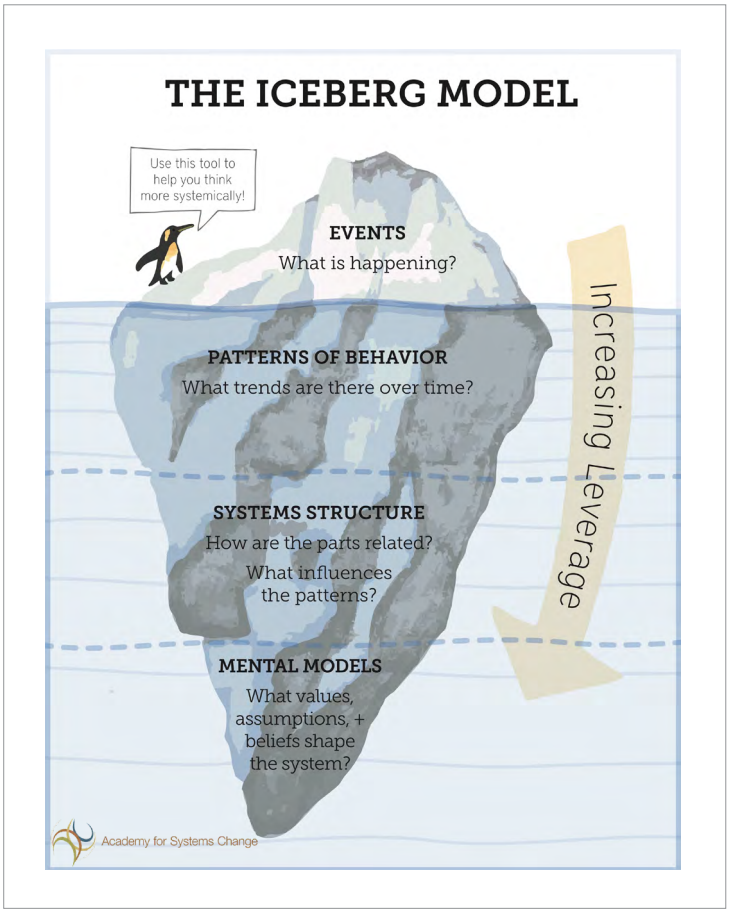


Figure 2: The Iceberg Model (Source: Reprinted courtesy of and with permission from the Academy for Systems Change)

Leverage points

The emerging field of inner dimensions and transformations overlaps significantly with the concept of leverage points as developed by Meadows (1999). In considering how to influence the behaviour of a system, Meadows identified twelve leverage points. These range from "shallow", where interventions are relatively easy to implement, yet bring about little change to the overall functioning of the system – to "deep" leverage points that might be more difficult to alter, but potentially result in transformational change (Figure 3) (Abson et al., 2017).

Shallow leverage points are the material aspects of systems, such as incentives and resource flows, as well as the feedback loops between them (described in Figure 3 as parameters and feedback). Deeper leverage points are described as design (i.e. the social structures and institutions that manage feedbacks and parameters). Even deeper leverage points, described as intent, comprise the underpinning values, goals, and world views of actors that shape the emergent direction to which a system is oriented. Inner transformation strongly relates to these deep(er) leverage points, as illustrated by Woiwode et al. (2021). Abson et al. (2017) argue that, to date, sustainability research and policy have primarily addressed relatively shallow leverage points. Various scholars propose that a research agenda centred on the concept of deep leverage points could provide a coherent framework for engagement with the root causes of unsustainability (Abson et al., 2017; Woiwode et al., 2021).

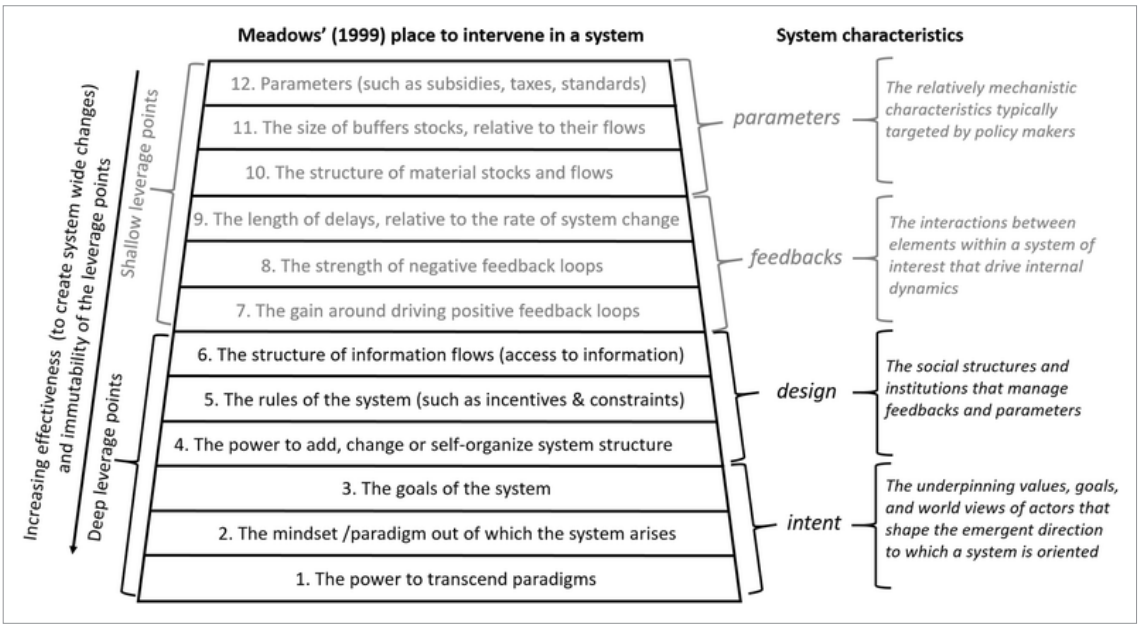


Figure 3: From twelve leverage points to four systems characteristics (Source: Abson et al., 2017; license for republication acquired from Springer Nature)

Integral Theory for sustainability and transformation

Integral Theory, developed by Ken Wilber, emphasizes the need to address both individual and collective inner dimensions and design integrated measures that link inner and outer dimensions of sustainability. It is a holistic framework that integrates various aspects of human knowledge and experience (Wilber, 1999). The theory's central AQAL model (All Quadrants, All Levels, All Lines, All States, All Types) organizes reality into four interconnected dimensions: individual interior (thoughts, emotions), individual exterior (behaviour, actions), collective interior (cultural values), and collective exterior (social systems) (Figure 4). In sustainability science, Integral Theory is used to address the complex interplay between environmental, social, economic, and other factors. It promotes a comprehensive approach that considers not only external systems, such as ecosystems and economies, but also the inner dimensions of human experience, such as values, beliefs, and consciousness. By incorporating these inner dimensions, sustainability efforts can foster deeper, more lasting change, addressing both the outer systems and the internal drivers of human behaviour (Ives et al., 2020, 2023; Wamsler, Bristow, et al., 2022).

Accordingly, Wamsler, Bristow, et al. (2022), highlight four domains of transformation that should be addressed in combination:

1) individual behaviour,
2) systems and associated structures,
3) collective and cultural paradigms and norms, and
4) individual inner dimensions linked to shifts in human consciousness (Figure 4).

Crucially, like the Iceberg Model, Integral Theory suggests that all these domains are interconnected, implying that focusing solely on one area may not lead to the desired outcomes of change. The Integral Theory model has been used for empirical work on inner dimensions for sustainability by, for instance, Hochachka (2021) and Wamsler, Osberg, et al. (2024).

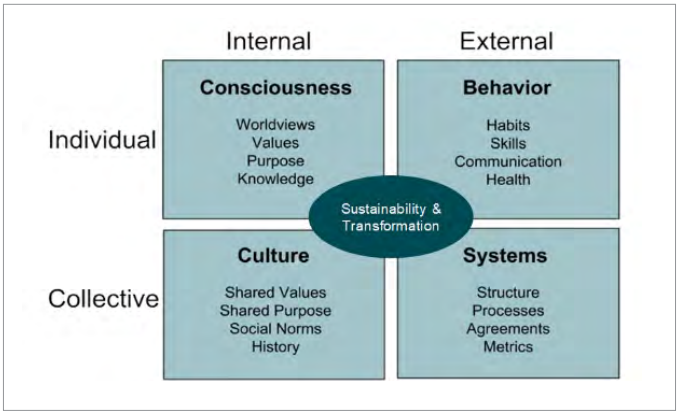


Figure 4: Integral Theory for sustainability and transformation (Source: Wamsler, Bristow, et al., 2022 adapted by C. Wamsler from Wilber, 1999). Reprinted with permission.

Inner–Outer Transformation Model

The Inner–Outer Transformation Model (Figure 5) is a model that describes inner-outer transformation processes (Wamsler et al., 2021). It shows how changes in inner dimensions can support outer change towards sustainability and how this can be achieved, providing a roadmap for systematic research, policy, and practice. The model shows that transformative qualities/capacities and associated intermediary factors (such as well-being) influence sustainability across individual, collective, and systemic levels, because they relate to certain beliefs, values, and world views that delineate our connections or relationships with ourselves, others, and earth. These, in turn, influence the three dimensions of agency at individual and collective levels: interbeing, interthinking, and interacting (ibid).

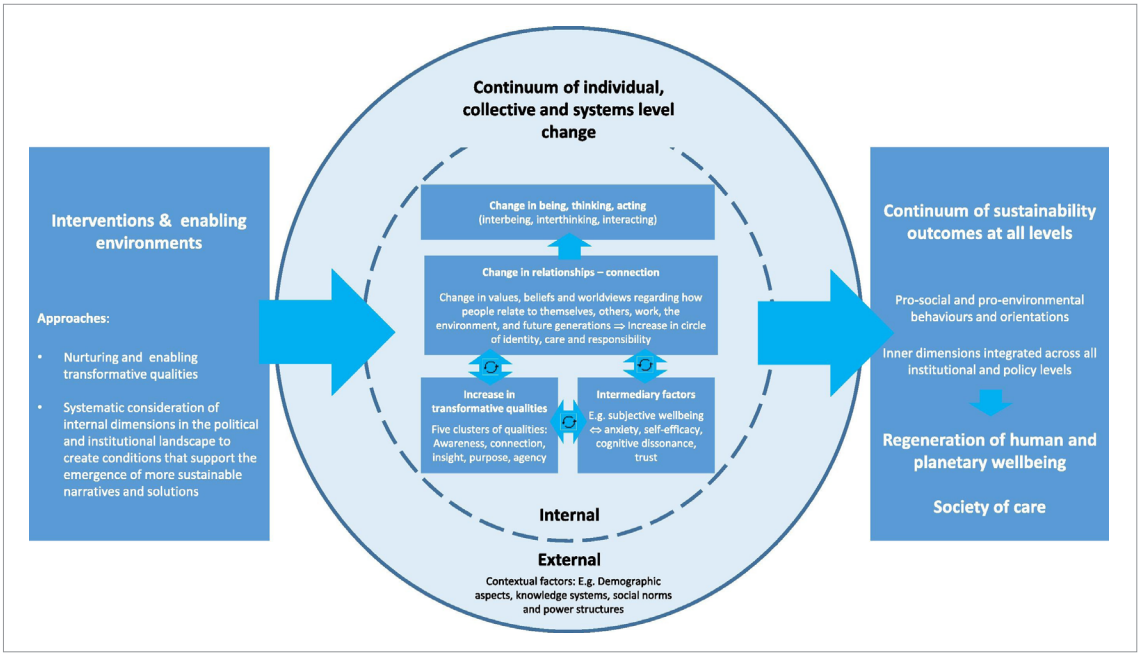


Figure 5: Inner–outer transformation model (Source: Wamsler et al., 2021; available under the terms of the Creative Commons Attribution License).

The Inner–Outer Transformation Model also indicates that there are three complementary ways to support such change. The aim of these approaches is to integrate/mainstream and institutionalize the consideration of inner dimensions of sustainability across individual, collective, and systemic levels (Wamsler et al., 2021). Accordingly, the three approaches include:

1) **Individual level:** Initiatives which support inner capacities and practices that can help people to tap their potential to support change. This helps to uncover individual thinking and internalized cultural messages of separation, superiority, and instrumentalization (e.g. through education, training, coaching);

2) **Collective/group level:** Initiatives which support related learning environments, e.g. in the form of transformative multi-stakeholder spaces, exhibitions, festivals, dialogues, and networks to create a culture of growth and nourish fields of change;

3) **Institutional/systemic level:** Initiatives to systematically integrate/mainstream/institutionalize the consideration of inner dimensions into existing institutional and political frameworks. This will create the structural foundations for sustained action across sectors and fields, ultimately supporting the emergence of a more sustainable narrative in companies, governments, and society at large. It requires, for instance, the systematic revision of organizations' vision statements, communication and project management tools, working structures, policies, regulations, human and financial resource allocation, learning infrastructures, and collaboration (Wamsler et al., 2021).

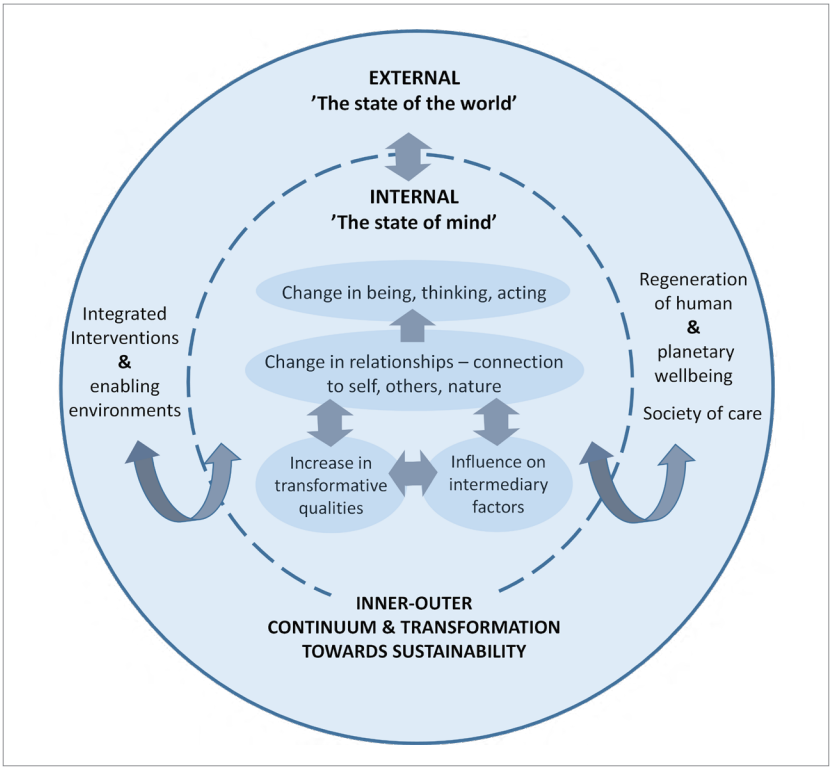


Figure 6: Inner–outer transformation model (simplified version). (Source: Wamsler et al., 2021; available under the terms of the Creative Commons Attribution License).

An important part of the model is also the identification and definition of the inner capacities essential for supporting transformation. They are presented in four clusters of transformative qualities/capacities that can be seen as a kind of the scientific counterpart of the IDGs. These capacities, which the faculty aims to support through their teaching, are integral to the concept of inner dimensions. Put together, the model is a figurative illustration of the definition of inner dimensions and the processes that underlie their relevance for sustainability across the individual, collective, and systemic levels.

Session 0 – Preparatory package

Description

Ahead of the course, participants will receive a preparatory package to familiarize themselves with the course content. This package includes introductory reading material and a creative journaling exercise. By engaging with this course material beforehand, participants can start reflecting on their own perspectives and experiences, preparing them for active and meaningful participation in the sessions. The preparatory package also includes a list of recommended literature and links to additional resources to support the participants' learning journey.

The primary objective of Session 0 is to introduce participants to the foundational concepts of the course. The session is designed to lay the groundwork for participants' understanding of the interconnected nature of global crises and the underlying drivers that influence their disciplines and teaching practices.

Session 0 begins with an introductory text that provides an overview of the course topics and key concepts. The text starts with an introduction to the polycrisis, highlighting the complex, interconnected challenges we face globally, and presents various initiatives at global, national, and local levels to foster sustainable development. It then delves into the inner dimensions for sustainability, defining them and emphasizing their significance in addressing sustainability issues. The introductory text introduces the Iceberg Model and leverage points, illustrating how visible issues are often underpinned by deeper, less visible factors such as values and world views. It discusses the disconnection from self, others, and earth, exploring the detrimental impact of this disconnection on sustainable practices. It also emphasizes the role of Education for Sustainable Development (ESD), with a particular focus on the importance of HEI and educators and their values in promoting sustainability.

Following the reading, participants engage in a creative journaling exercise designed to spark personal reflection on their understanding of the polycrisis and its underlying drivers. Participants are invited to reflect, noting their feelings and identifying areas where they see the greatest need for transformation. This exercise is designed to encourage intuitive and creative exploration, allowing participants to reach into less-explored areas of their lives and consider how these insights relate to their professional context.

The facilitator shares the following with the course participants:

- Introductory text (see Annex 1)
- Creative journaling exercise (see Annex 2)
- Resources for participants (see Annex 3)
- Notebook (provide or ask participants to purchase)

Activity 0: Creative Journaling Exercise

Objectives

At the end of this activity, participants will have experienced

- a cognitive and emotional exploration of their own understanding of the polycrisis and underlying drivers.
- a personal exploration of behaviours, structures, and mental models underlying sustainability and specific aspects of sustainability related to their own discipline.

Instructions:

Send participants the creative journaling exercise (Annex 2) together with the introductory text (Annex 1) and the resources for participants at (Annex 3) least one week before the course starts. Make them aware that they should read the text and complete the exercise beforehand and bring it with them on the first day.

Session 1 – Introduction

Description of Session 1

The main learning objective of Session 1 is to establish a collaborative and reflective learning environment that supports participants in exploring their personal and professional connections to inner dimensions and sustainability education. This session focuses on building trust, aligning expectations, and initiating self-reflection, setting the groundwork for engagement with inner dimensions of sustainability in subsequent sessions.

To achieve these goals, Session 1 begins with a welcome and an overview of the course objectives, ensuring that participants understand the scope and aims of the course. Collectively creating agreements for engagement lays the basis for a respectful and productive learning environment. The session proceeds with an interactive icebreaker activity, where participants engage in partner walks and talks, sharing personal motivations, experiences, and inspirations related to sustainability. This activity aims to foster initial connections and establish a supportive learning community.

Following this, participants share their own perspectives and reflections from the creative journaling exercise that was done ahead of the course, using the Iceberg Model to visualize and discuss their inner dimensions and views on sustainability. This activity is designed to enhance awareness of individual and collective perspectives, introducing key concepts such as the disconnect from self, others, and earth.

The session concludes with a sociographic positioning activity, where participants physically position themselves along a continuum or scale in response to various prompts. This exercise helps participants gain insights into their own values and beliefs, as well as to understand the diversity of perspectives within the group.

The overarching aim of Session 1 is to create a foundation for collaboration and reflection, ensuring that participants are well-prepared for deeper exploration of pedagogical approaches in sustainability education.

Objectives of Session 1: At the end of this session, participants will have...

- developed a sense of connection and trust within the group and clarity on the course objectives.
- engaged in reflective dialogue about their personal and professional connections to sustainability.
- gained familiarity with key concepts related to inner dimensions and their importance for sustainability, through sharing and creative reflection.
- reflected on their own values and beliefs in relation to sustainability and identified commonalities and differences within the group.

Overview of Session 1

The table below provides an overview of Session 1: what challenges HEI faculty might face when addressing inner dimensions in teaching, their objectives, their main theoretical approach to learning, the activity itself, and the estimated time for the activity.

Part	Challenge	Objective (Participants will...)	Main theoretical approach to learning	Activity	Time in minutes
Before the session (**Session 0**)	Traditional role, expectations, and subject-specific beliefs	Explore their understanding of the polycrisis and the underlying behaviours, structures, and mental models within their discipline	Transformative learning theory	Creative Journaling Exercise (Activity 0)	individual
Session 1	Lack of training and specific programmes on inner dimensions for sustainability	Gain clarity on the course objectives and expectations, and build a sense of connection and trust within the group	Social learning theory	Getting to know each other and setting the stage (Activity 1.1)	35
	Traditional role expectations and subject-specific beliefs (reflecting own discipline and underlying values)	Develop an awareness of their peers' perspectives on inner dimensions and sustainability in relation to their disciplines, and gain familiarity with key concepts	Social learning theory	Sharing reflections and material from creative journaling exercise (Activity 1.2)	35
	Lack of training and specific programmes on inner dimensions for sustainability (exploring own inner dimensions)	Develop a sense of connection and community with the participant group and reflect on own values, beliefs, behaviours, and the extent of their connection/disconnection	Transformative learning theory	Sociographic positioning (Activity 1.3)	20

Learning activities of Session 1

Activity 1.1: Getting to know each other and setting the stage

Objectives
At the end of this activity, participants will have experienced
- alignment with course objectives and expectations.
- a sense of connection and trust in relation to the course format and the group.

Time
35 minutes

Material
Slides, flipchart

Setting
Workshop space/room. A chair circle set-up is encouraged for conversations.

Sequence of learning activity

1) **Welcome (5 minutes):**
   Welcome the participants, present the slides you have prepared for this purpose.

2) **Workshop setting and organizational matters (10 minutes):**
   a) Inform participants on organizational matters (e.g. schedule, location of toilets, programme, information on coffee breaks, etc.)
   b) Ask participants what they need to feel comfortable and productive during the course. This will help ensure a respectful and inclusive learning environment (Collectively create agreements for engagement chart on flipchart).
   c) Explain that there is a diversity of activities to address the diversity of participants. Each participant may find that some activities resonate with them more than others.

3) **Icebreaker – Partner walk and talk (20 minutes):**
   a) Participants pair and begin walking around the room.
   b) Read out the first question. Possible questions:
      i) What motivated you to join this course?
      ii) What aspect of sustainability are you most passionate about?
      iii) Can you share a memorable teaching or learning experience related to sustainability?
      iv) What inspired you to become involved in sustainability teaching?
      v) Can you share a personal experience that influenced your perspective on sustainability?
   c) Participants take turns answering the questions (90 seconds each) and reflecting back what they heard from their partner (1 minute each) while continuing to walk slowly.
   d) Participants find a new partner in the room and repeat the process with the next question (recommended: 3 rotations).
   e) After the activity, reconvene as a group for a short debrief to share any insights or interesting discoveries from the exercise (4 minutes).

Notes for the facilitator

- Please take into consideration that we have not outlined an introductory round as part of this activity. Depending on whether the participants know each other or not, we recommend starting with an introductory round where they could offer some information about themselves (e.g. their name, their discipline, the institution they are working at, and a fun fact about themselves).
- For the organizational matters, you can create a slide or flipchart or just provide the information verbally.
- When creating the agreement for engagement, ensure that it includes key aspects for a safe learning environment, such as confidentiality within the group, activities being seen as invitations, and participants having the option to step out of activities, etc. See also the recommendations for facilitation in this document. We furthermore recommend keeping the rules for engagement visible in the course room throughout all sessions.
- Potential ways of varying the activity:
  – Do walk and talk outdoors or outside the workshop room (e.g. in the hallway).
  – Choose other questions.
  – Participants form groups of two and go on a timed walk. Partner 1 speaks; Partner 2 only listens. They switch on the way back, each addressing these three prompts (adapted from Theory U): Share one pivotal event or time from your childhood and youth that shaped who you are. What are your two biggest challenges at this point in your life? What do you aspire to be as a person?

Activity 1.2: Sharing reflections and material from creative journaling exercise

Objectives

At the end of this activity, participants will have gained

- an awareness of their peers' perspectives on inner dimension and sustainability, as related to their respective disciplines, through dialogue.
- Familiarity of key concepts: the three disconnects (from self, others, earth), inner dimensions, the iceberg metaphor.

Time

35 minutes

Material

Material from participants, slides, flipchart (e.g. large abstract iceberg drawing)

Setting

Workshop space/room

Sequence of learning activity

1) **Introduction to exercise:**
   Remind participants that they were invited to do the creative journaling exercise.
2) **Sharing in pairs (10 minutes, announce switch after 5 minutes):**
   a) Participants pair up with a partner and take turns sharing their preparatory task, thoughts, and materials with each other.
3) **Plenary discussion (10 minutes):**
   a) Invite pairs to present key elements (main insights, perspectives, themes) from their exchange to the entire group (voluntary).
   b) Track contributions (e.g. with sticky notes) on the large iceberg drawing on your flipchart.
4) **Short recap of core concepts (5 minutes):**
   a) Recap inner dimensions and their relevance to sustainability (refer to introductory text): Definition of inner dimensions, Iceberg Model, Integral Theory, and Inner–Outer Transformation Model, and how they relate to inner dimensions (key features); ways to address inner dimensions in education and practice: three disconnects and how they could be addressed.
5) **Facilitated discussion (10 minutes):**
   a) Ask participants to identify areas of disconnect from self, others, earth in the shared large Iceberg Model drawing.

Notes for the facilitator

- Sharing can happen in groups of 3 or 4 instead of pairs.
- Facilitator can pin up homework materials of participants as reference.
- Refer to participant materials or contributions as you present on key concepts.

Activity 1.3: Sociographic positioning

Objectives

At the end of this activity, participants will have experienced

- a sense of connection and community with the participant group and insights into differing perspectives.
- a reflection on their own values, beliefs, behaviours, and the extent of their connection/disconnection.

Time

20 minutes

Material

None

Setting

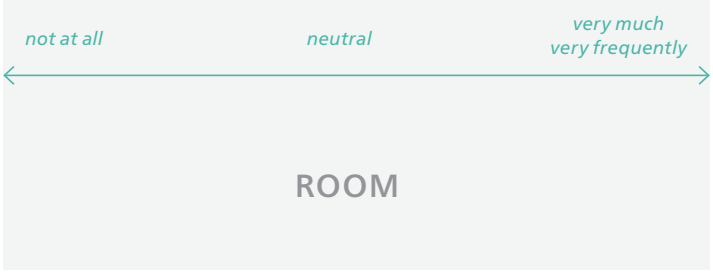
Room with a cleared area from one end of the room to the other.

Sequence of learning activity

1) **Introduce activity:**
   Participants physically position themselves on a line in the room, estimating their level of agreement with a series of questions on a scale from "not at all" (left side of the room) to "very frequently/much" (right side of the room).
2) **Ask first question:**
   How frequently do you intentionally spend time in nature? After positions have been found in the space, invite some participants to briefly share their reasons for choosing their position.
3) **Continue with other positioning prompts** such as (and sharing as needed)**:**
   a) How much do you feel your daily actions affect sustainability?
   b) How often do you engage in heartfelt personal conversation with individuals outside your family?
   c) To what extent do you think that others share your personal values and beliefs or world view regarding sustainability issues?
   d) How comfortable do you feel discussing inner dimensions in educational settings?
   e) How comfortable do you feel opening up about inner dimensions in this course?
4) **Plenary discussion:**
   a) Invite the group to summarize takeaways from the exercise (main insights, e.g. commonalities/differences)

Notes for the facilitator

- When asking questions about the three disconnects, feel free to choose other questions that you feel more comfortable with.
- Room layout for social positioning exercise



Session 2 – Experiential space

Description of Session 2

The primary objective of Session 2 is to deepen participants' engagement with the relational dimensions of sustainability, through the exploration of self-care, care ethics, and an experiential connection with others and earth. This session is designed to enhance participants' understanding of how their personal well-being, interpersonal relationships, and connection with earth intersect with their roles as educators and their teaching practices.

Session 2 begins with an activity to explore the relationship educators have with their own well-being. Participants will reflect on sources of stress and self-care strategies, recognizing the importance of maintaining personal health to effectively address sustainability challenges in higher education, also in their position as role models for students. This activity involves individual reflection, group sharing, and a plenary discussion on integrating self-care into professional and teaching practices. By the end of the activity, participants will have identified their main sources of stress, developed strategies for self-care, and explored the connections between self-care and sustainability.

The next activity, A care ethics approach to a complex challenge, engages participants in analysing a case study through a care ethics lens. Participants will work in groups to identify the stakeholders affected by a particular decision, explore their needs, and develop care-based actions. This activity highlights the social, political, economic, and emotional dimensions of complex challenges, helping participants understand the importance of empathy and collective care in decision-making processes. The exercise concludes with a moderated discussion on applying care ethics to real-world scenarios, reflecting on its strengths and limitations in addressing sustainability challenges.

The third activity of this session provides participants with an experiential opportunity to connect with future generations and earth. Through a guided dialogue between present-day individuals and representatives of seven generations into the future, participants will explore the long-term implications of their actions and deepen their understanding of their interconnectedness with earth. This activity aims to expand participants' time horizons and foster a sense of responsibility towards future generations and the environment.

The session concludes with a Slow walk, where participants engage in a mindful exploration of their surroundings to enhance their awareness and connection with their surroundings. This activity encourages participants to slow down, observe their environment, and reflect on the intuitive and sensory aspects of their experience. Following the walk, participants will discuss their observations and consider how to integrate expanded awareness into their lives and teaching practices.

Objectives of Session 2: At the end of this session, participants will have

- gained insights into their personal sources of stress and developed strategies for self-care that support their well-being and sustainability teaching.
- explored a care ethics approach to understand the social and emotional dimensions of complex challenges and identified practical strategies for care-based interventions.
- experienced an expanded perspective on time and interconnectedness through dialogue with future generations, and a deepened connection with earth.
- reflected on their sensory and intuitive experiences during a slow walk and considered how to integrate these insights into their teaching practices and personal lives.

Overview of Session 2

Part	Challenge	Objective (Participants will…)	Main theoretical approach to learning	Activity	Time in minutes
Session 2	Lack of training and specific programmes on inner dimensions for sustainability (dealing with negative emotions)	Gain an insight into the main sources of stress, and identify strategies to overcome it	Transformative learning theory	Self-care reflection (Activity 2.1)	45
	Traditional or subject-specific beliefs about teaching and learning (shift from cognitive approaches in HE teaching to value-related, emotional approaches)	Understand the roles within a complex network of actors, and create a methodology for collective care-based action	Transformative learning theory	A care ethics approach to a complex challenge (Activity 2.2)	75
	Traditional or subject-specific beliefs about teaching and learning (explore own inner dimension)	Deepen their understanding of their interconnectedness with the web of life, expand their time horizon to consider the long-term implications of their actions, and develop compassion across different generations	Transformative learning theory	Seventh generation and earth connection (Activity 2.3)	60
	Lack of training and specific programmes on inner dimensions for sustainability (enabling students to explore inner dimensions)	Expand their awareness of, and connection with, the world around them and explore strategies to integrate intuitive capacities and a whole systems view into their lives and teaching	Experiential learning theory	Slow walk (Activity 2.4)	70

Learning activities of Session 2

Learning activities of Session 2 – Relation to self, others, and earth

Activity 2.1:
Self-care reflection (relation to self)

Objectives
At the end of this activity, participants will have
- obtained an insight into the main sources of stress in their lives and identified effective coping strategies.

Time
45 minutes

Material
Instructions for body check-in (Annex 4), paper, pens for each participant, whiteboard or flipchart

Setting

Workshop room, circle setting, option for working in groups

Sequence of learning activity

1) **Introduce activity:**
   Welcome the participants and explain the rationale of the activity, which is to reflect on the importance of self-care for addressing sustainability challenges as faculty in Higher Education. The different dimensions of our polycrisis are approaching tipping points, significantly impacting people's well-being (i.e. health issues as a result of this unsustainable social model, coupled with outdated institutions and inadequate education).
2) **Body check-in (3 minutes):**
   Read the instructions for the body check-in (Annex 4) out loud.
3) **Guided reflection (12 minutes):**
   Read the following questions and ask participants to reflect silently and write their thoughts in their notebooks:
   a) What are the main sources of stress or overload in your life, and how do they impact your well-being?
   b) How do you currently enact self-care in your life, especially considering your role as an educator?
      i) What nourishes you?
      ii) What balances you?
      iii) What prevents you from enacting self-care?
   c) What changes do you notice in yourself, both at work and at home, when you are able to care for yourself?
   d) What connections do you see between self-care and sustainability?
4) **Sharing and discussion (10 minutes):**
   Invite participants to form groups of 3–4. Participants take turns sharing their reflections on self-care (2 minutes each).
5) **Group reflection (10 minutes):**
   Reconvene as a large group.
   Invite participants to reflect on the following questions as a whole group and keep track of key takeaways from the discussion on a flipchart or whiteboard for future reference.

a) What common themes or patterns did you notice?
b) What strategies or practices can you implement as a faculty member to demonstrate self-care and inspire your students and colleagues to do the same?
c) How can we integrate an emphasis on well-being into our teaching and institutional structures?
d) What connections do you see between self-care and sustainability?

6) **Individual reflection (5 minutes):**
   Participants journal action points to integrate selected self-care practices into their daily lives and teaching routines.

Notes for the facilitator

- For this activity it is important to create a safe and supportive environment where all participants feel comfortable sharing their personal reflections and insights. Encourage active listening, empathy, and constructive feedback, and remind participants that their contributions are valued and appreciated.
- As an alternative to group work (steps 4 and 5), participants could pair up and engage in active listening. Each partner could take turns listening attentively to the other and then reflect back what they heard with empathy.
- Make participants aware that there are various online offers to practice mindfulness such as self-compassion meditations, body check-in, movement and breathing exercises, gratitude exercises, etc.
- If you don't feel comfortable reading the instructions for the body check-in, you can also use the recording we provide as course material.
- You can project the questions for the guided reflection so that participants can go through them at their own pace.

Activity 2.2:
A care ethics approach to a complex challenge (relation to others)

Objectives
At the end of this activity, participants will have
- experienced themselves as actors within a wider network or system of actors. This network/system has social, political, economic, and emotional dimensions, in which a range of needs become apparent.
- identified stakeholders/actors in a change process and who/what needs collective care.
- developed a methodology for care-based action.

Time
75 minutes

Material
Slides on "care" (Annex 5), case study (Annex 6) for participants, paper, sticky notes (in 3 colours), pens

Setting
Room with tables and chairs arranged for group work.

Sequence of learning activity
1) **Introduction (5 minutes):**
   Explain the concept of "care" (see Annex 5). Explain that we will try out a care ethics approach to a complex challenge. Organize participants into groups of 3 or 4, and distribute handouts, paper, pens, and sticky notes in three colours to each group. Invite one of the participants to read the case study out loud.
2) **Initial impression discussion (5 minutes):**
   Ask participants about their initial impressions and emotional responses. You may use prompts such as
   a) "What could be possible consequences for people from different social backgrounds?"
   b) "Would it affect rich people more than poor people?"
   c) "Are there intersectional aspects to this case?"

   Participants answer the questions within their groups.
3) **Individual and small group work (14 minutes):**
   a) Ask: "Who/What needs care in the case study?" Participants reflect individually and write their answers on yellow sticky notes. (1.5 minutes)
   b) Ask: "Who/What provides (or could provide) care in the case study?" Participants reflect individually and write their answers on yellow sticky notes (1.5 minutes).
   c) Participants share their answers in their small group, clustering related stakeholders on a flipchart or table, separating those needing (left) and giving (right) care. (6 minutes)
   d) The small groups brainstorm whether there are other stakeholders involved in the case and write their answers on a different-colour sticky note, which they place on the table/flipchart. Encourage participants to think of stakeholders in this scenario across time (future, present), space (present, absent, distant), and species (humans, animals, plants). (5 minutes)
4) **Stakeholders – small group work (10 minutes):**
   Participants each pick a different important stakeholder in the scenario. Ask:
   a) How would that stakeholder feel about this scenario? (emotional empathy)
   b) What might that stakeholder think and say about the scenario? (cognitive empathy)

   Invite participants to reflect and share the perspective of "their" stakeholder with each other. Encourage participants to engage with different dimensions of each emotion (the bodily experience, the way it makes them want to act, the thoughts that would follow from it, what they would name it…)

5) **Individual Reflection (6 minutes):**
   Explain that the focus here shifts from the stakeholders in the case to themselves. Read questions (2 minutes each) and invite participants to journal:
   a) What emotions did you feel when you represented (and spoke and felt on behalf of) your stakeholder?
   b) Did you have an experience during the exercise that shifted how you see the case study?
   c) How is the care perspective in this case study linked to your professional role, your discipline, and your discipline's ethics and methodology?
6) **Sharing - small groups (5 minutes):**
   Invite participants to share their answers with each other in their group.
7) **Brainstorming on actions – small groups (5 minutes):**
   Introduce the brainstorming sequence. "What are potential actions in this case study? Actions can be the responsibility of any stakeholder in the system, not only the stakeholder you represented in the exercise. The purpose of this brainstorming is to generate lots of ideas without criticism (e.g. without spending time arguing over who is responsible for what)." Invite the participants to write actions on sticky notes in a third colour.
8) **Small group discussion (10 minutes):**
   Participants discuss the brainstormed actions and organize them in relation to those who need care and those who give care on the table/flipchart.
9) **Moderated discussion – whole group (15 minutes):**
   Recap the stages of this exercise. "We have identified those who need care, those who give care, and other stakeholders. You represented the different stakeholders, reflected on your own inner changes, and brainstormed possible actions for this case study according to a care ethics approach."

   Invite discussion in the large group around these questions:
   a) Could you apply a care ethics approach to a scenario that is meaningful to you?
   b) What are the advantages and weaknesses of applying a care ethics approach to complex situations?
   c) What would be required to apply this methodology to a different setting in the future? (i.e. What would you need, what would need to change?)

Notes for the facilitator

- Definition of "care": The provision of what is necessary for the health, welfare, maintenance, and protection of someone or something (Oxford Dictionary), see Annex 5.
- A "care ethics" approach involves identifying who in a social network requires care and who provides care, and then examining how the system can support these individuals. A care ethics approach uses empathy as a way of providing insight that can enable people to make more ethical decisions.
- Other stakeholders involved in the case and pending decision may need or give care. These could be decision-makers, but also employers whose workers end up being late, hospitals having to cope with longer ambulance-arrival times but also with fewer accidents. Writing them in a different colour of sticky note is because they are not obvious and therefore signal the development of enhanced ethical sensitivity (i.e. ability to recognize ethical issues).
- Step 4: The activity relates to 4D-Mapping in ULab: Stakeholders position themselves in relation to each other in space and share their perspectives from there.
- Background information: Sustainability challenges can often feel so big that they are overwhelming, which means that they can trigger hopelessness and give rise to withdrawal and depression, if people feel they have to carry a burden of action as individuals. Working collectively with others can reduce these feelings of being overwhelmed. Effectively taking account of emotions (both in relation to us and in our relationships with others) can help to inform good decision-making.
- Intersectionality: "The concept of intersectionality describes the ways in which systems of inequality intersect, or interlock, to create unique dynamics and effects […]. Even though the historical focus of intersectionality was on gender, race and class, the concept is not limited to these axes of social difference, but can and should include many more items such as, for example, disability or sexuality" (E. Frank et al., 2024, p. 1473)

Source: Roland Tormey, EPFL, Switzerland

Activity 2.3:
Seventh generation and earth connection (relation to earth)

Objectives
At the end of this activity, participants will have explored.
- experiential interconnectedness with the web of life.
- an expansion of their time horizon and the long-term implications of their actions and decisions.
- perspective-taking, and extending their compassion to different generations.

Time
60 minutes

Material
None

Sequence of learning activity
1) **Introduction (5 minutes):**
   Introduce the following points.
   a) We will enter an experiential space which may stretch your habitual way of experiencing. This may be deeply emotional to some.
   b) This exercise works with the notion of seven generations, which is a common time horizon in Indigenous world views.
   c) Indigenous peoples feel a strong connection with, and responsibility for, seven generations into the past and future, and they live accordingly. The exercise was adapted from Joanna Macy's "Work That Reconnects" (Macy & Brown, 2014).
   d) If you don't feel comfortable, please feel free to step out of the exercise. There's no judgement in knowing and acting upon your boundaries of today.

2) **Setting (10 minutes):**
   Read the following instructions to the participants.
   a) Sit in pairs facing each other, silently and without touching. Those facing right are present-day selves. Those facing left are humans seven generations in the future.
   b) Please grant two assumptions for the purpose of this ritual:
      i) The first assumption is that there will be humans living on earth two hundred years from now.
      ii) The second assumption is that the seventh-generation humans have a cultural memory of what is currently happening in our time, the early 21st century — as preserved and transmitted by educational institutions or storytellers – and are living in life-sustaining communities.
   c) The activity will work as follows:
      i) The 7th generation people will be interviewing the present-day people through my voice [*the voice of the person facilitating the exercise*] (or through the recorded voice). After each question, the present-day people will have 3 minutes to answer the question. Then we will have a moment of silence and the 7th generation row will then move one seat to the right to be facing another person. After 3 questions, the future generation people will be able to respond to one question. The present-day people will be speaking more and the future generation people will be listening more. Both roles are interesting.
      ii) When answering to the questions, we invite you to slow down and speak from the heart and not from the head. There is no wrong answer. You can talk about what is present right now. It doesn't need to be scientifically backed or something that you have read. You can talk about what you feel right now, what is emerging right now. This means that perhaps if you were to do this exercise tomorrow, something else may come out. Perhaps you have already done this exercise in the past, and you can let yourself explore what is emerging today. Perhaps you have already done this exercise in the past, and you can let yourself explore what is emerging today.

iii) The dialogue can be emotional and it may be unusual to show ourselves vulnerable or emotional in front of colleagues, we hope however that we can consider to be in a safe space with no judgment and with respect to confidentiality. We remind you that you can always step out of the exercise.

d) Address both, the people of the present and those of the future:
"You present-day people choose to see the person before you as a human of seven generations in the future. And you people of the future know that the person before you lives back in the year (Insert the present year). You people of the future have something to say to them, the people of the present, and things to ask. This will be spoken in my voice [the voice of the person facilitating the exercise] and taken as coming directly through your own heart-mind. You present-day people will then answer out loud, while the future people listen quietly. Please note that the word "ancestor" encompasses all people of previous generations, not just those directly related through one's genetic lineage."

3) **Guided dialogue (25 minutes):**
During this section, the facilitator stands behind the row of chairs facing left (representing the people of the future).

a) **Question 1, read on behalf of the future people:**
"Ancestor, I greet you. It's so amazing to see you in person, because all my life I've heard stories from my teachers and my grandparents about the time in which you're living. Some of the things I've heard I find hard to believe, so I'd like to check them with you.

They say that in your time there are some people richer than the richest ancient kings, while billions are without food or shelter or clean water. They say that in your time bombs are being made that can blow up whole cities. We know about that, but they say you knew about it too, and yet you still kept making the bombs.

They tell us that you feel disconnected from earth, seeing her merely as a resource to be extracted and used, despite the harm and pollution this causes. They tell us that you're pulling fossil fuels out of the earth and burning them for energy, shifting our climate to extremes. They tell us that entire species of animals and plants are going extinct. We know about that, too, because gone is gone, and we're feeling the effects.

They tell us you know about all that while it's happening. Is that true? And if so, what's it like for you?"

b) Invite present-day humans to reflect on the 1st question, and then to respond to the future person in front of them (3–5 minutes).

c) Invite the future people to process and then silently sit with what they heard and acknowledge it with a gesture such as a nod (1 minute).

d) Ask the future people to rotate, moving one seat to their left, to face another present-day person. (So that everyone is facing a new person.)

e) **Question 2, read on behalf of the future people:**
"Ancestor, I greet you. When we in our generation find water we can drink and soil that's safe to grow food, we give gratitude to earth and all the plants and animals that have stayed with us and helped us thrive. It is thanks to the work you and your contemporaries are doing on our behalf that this is possible.

What kept you connected with earth at a time when it fowned upon to even speak with a tree? How did you hold on to your inner knowledge of the interconnectedness of everything that exists?"

f) Invite present-day humans to reflect on this 2nd question, and then to respond to the future person sitting in front of them (3–5 minutes).

g) Invite the future people to silently sit with what they heard and acknowledge it with a gesture such as a nod (1 minute).

h) Ask the future people to move one seat to the left, to face another present-day person. (So that everyone is facing a new person.)

i) **Question 3, read on behalf of the future people:**
"Ancestor, I greet you. There are stories and songs about what you and your contemporaries are doing to leave us a liveable world. What they don't tell us, and what I would really like to know, is: how were you able to pull yourself out of the force field of the dominant paradigm of control, separation, and competition? And how did you find the courage to shift towards a path of collaboration, regeneration, and care beyond your small circle, to include all living beings, beyond your species and beyond your time, all the way to me and my world? Can you please tell me?"

j) Invite present-day humans to reflect on this 3rd question, and then to respond to the person of the future sitting in front of them (3–5 minutes).

k) Invite the future people to silently sit with what they heard and acknowledge it with a gesture such as a nod (1 minute)

l) Ask the future people to move one seat to the left, to face another present-day person. (So that everyone is facing a new person.)

m) **Invite future people to talk, saying:**
"Now, esteemed people of the seventh generation, it is your turn to talk. You have been listening to three ancestors speak of their experience of living in their time. As you listened, thoughts and feelings arose in you. This is your chance to express them. What is in your heart to say to the person of the present in front of you? Very soon, this person will be returning to their life and the challenges they face every day. What words do you have for them? Present-day people, please just listen, without speaking."

n) Invite the present-day to silently sit with what they heard and acknowledge it with a gesture such as a nod (1 minute)

o) Bring the process to a close by inviting the people in their groups of two to thank each other silently and then consciously step out of their roles. Invite all to rearrange the seats to a circle.

p) Invite participants to stretch and move to come back into their bodies (5 minutes).

4) **Reflection in plenary (20 minutes):**
Ask for reflections participants would like to share with the whole group. Use prompts such as:
   a) What emotions came up during this exercise?
   b) How did it feel to tell your story to your descendants, or to hear the story from your ancestors?
   c) What surprised you?
   d) How did the "seven generations" time frame help you to gain new insights?
   e) How might this time frame shift your perspective on your discipline

Notes for the facilitator:

- Instruct participants to be ready to go outside before the start of the next activity (wearing weather-appropriate clothing).
- If you don't feel comfortable reading the questions, you can also use the recording we provide as course material.
- Make sure you allocate enough time for the debriefing (reflection in plenary). This is an activity that can evoke strong feelings, so we suggest not to shorten the reflection on it.

Source: Adapted from Macy, J., & Brown, M. Y. (2014). Coming back to life: The guide to the work that reconnects. New Society Publishers (Chapter 9) [slightly adapted].

Activity 2.4:
Slow walk (relation to earth)

Objectives

At the end of this activity, participants will have …

- expanded their awareness of, and connection with, the world around us.
- reflected on and explored strategies to integrate intuitive capacities and a whole systems view into their lives and teaching.

Time

90 minutes

Material

Written instructions short grounding warm up (Annex 7), instructions for slow walk (Annex 8), slides on small group reflection (Annex 9), outdoor clothes

Setting

Workshop room with circle setting, access to outdoors as possible

Sequence of learning activity:

1) **Short grounding warm up (10 minutes):**
   This exercise should be done outdoors, near an area where participants can explore their environment without too much foot traffic. If you are indoors, have participants get ready to go outside (with weather-appropriate clothing at hand) before starting. Read the instructions (Annex 7).
2) **Slow walk (20 minutes):**
   Read the instructions for the slow walk (Annex 8) right after the grounding warm up exercise, while everyone is standing silently. Participants will start the exercise after you have finished reading the instructions. Set the timer on your phone to go off in 20 minutes.
3) **Debrief in small groups (15 minutes):**
   Invite participants to share reflections from the slow walk. Use prompts such as:
   a) How did it go?
   b) What elements of your environment spoke to you?
   c) How did that feel?
   d) Do you think this kind of awareness and connection is important, and if so, why?

Go back to the meeting venue (or stay outside).

4) **Exchange in small groups (15 minutes):**
   Form small groups of 3. Exchange your thoughts about the following questions (2–3 minutes each), while one person takes notes to report back. Project the questions on a slide if you are indoors (Annex 9).
5) **Sharing in plenary (10 minutes):**
   Invite participants to share key insights and reflections from their small group discussions. Use prompts such as:
   a) What did you discover in your small group discussions?
   b) How can we overcome barriers?
6) **Closing circle (20 minutes):**
   Participants sit in a circle. Invite participants to share one short key insight or reflection from the experiential session (self-care reflection, care ethics approach, seven generations exercise, slow walk). Invite participants to write down personal reflections in their journal if they wish.

Notes for the facilitator:

If you don't feel comfortable reading the instructions for the short grounding warm up and the slow walk, you can also use the recordings we provide as course material.

Session 3 – Integration of inner dimensions into educators' professional practice

Description of Session 3

The main learning objective of Session 3 is to facilitate participants' practical engagement with the inner dimensions of their students, based on Wamsler, Osberg, et al. (2024). Activities of this session invite the participants to explore their ESD-related teaching approach and educator-self-concept while reflecting on how to apply integrated practices such as those from Sessions 1 and 2 into their ESD-related teaching practice. This session is thus designed to stimulate reflections on the individual prerequisites for implementing the knowledge gained on inner dimensions, experiences, and practices into the professional and subject-related individual teaching approaches (→ how we engage). The focus of this session is not on encouraging participants to teach specific aspects in specific ways, but rather on enabling them to develop teaching practices that align with their beliefs and values.

Session 3 therefore starts by exposing participants to competing ESD-learning objectives that confront educators with a normative dilemma: how to avoid teaching practices that might come across as indoctrinating or manipulating students to behave sustainably – while still enabling students to become change agents in transforming society towards sustainability (Activity 3.1)? The activity concludes with an invitation to the participants to position themselves in relation to the learning objectives that they consider most conducive to addressing inner dimensions for sustainability.

The key activity explores integrative pedagogies from Sessions 1 and 2 in two typical ESD-related teaching scenarios, inviting participants to come up with activities that address the inner dimensions of students – e.g. personal, collective, and planetary (Activity 3.2) – that are relevant for sustainability. The aim of the activity is to provide a safe space for exploring the facilitation of such practices, allowing participants to gain self-awareness and self-confidence in their roles as educators.

The final activity is designed to help participants envision how implementing integrative pedagogies into their teaching would affect their students' learning (Activity 3.3). The activity aims to enable participants to come up with concrete action steps to transform their teaching approaches and develop a positive attitude towards implementation.

Objectives of Session 3: At the end of this session, participants

- have increased their awareness of some general and ESD-specific pedagogical assumptions.
- can identify assumptions that prevent them from carrying out the teaching practices they aspire to.
- have explored ways to enhance their problem-solving skills and built confidence in integrating integrated approaches into their teaching, with the aim of addressing both inner and outer dimensions of sustainability in their subject areas.
- have formed positive affirmations towards addressing inner dimensions for sustainability.

Overview of Session 3

Part	Challenge	Objective (Participants will…)	Main theoretical approach to learning	Activity	Time in minutes
Session 3	Beliefs about objectives of ESD teaching	Develop a greater awareness of their deeply ingrained general and ESD-specific pedagogical assumptions	Transformative learning theory	Balancing act: Exploring ESD teaching objectives to address inner dimensions for sustainability (Activity 3.1)	30
	Training in dealing with students' inner dimensions	Feel stimulated to employ creative thinking and problem-solving approaches in addressing challenges related to addressing inner dimensions in ESD teaching. Reflect on how the experiential and contemplative approaches explored in the role play can be integrated into their own subject areas. Practice and discuss different teaching approaches in a supportive environment to gain confidence in the ability to implement the experiences.	Experiential learning theory	Transformative teaching in action: Navigating inner and outer challenges for sustainability (Activity 3.2)	85
	Lack of confidence to address inner dimensions	Form positive affirmation on what addressing inner dimensions in their teaching would look like in future	Transformative learning theory	Envision the future: Satisfied student letter (Activity 3.3)	15

Learning activities of Session 3

Activity 3.1: Balancing act – Exploring ESD teaching objectives to address inner dimensions for sustainability

Objectives
At the end of this activity, participants are
(more) aware of their deeply ingrained ESD-specific pedagogical assumptions.

Time
30 minutes

Material
Flipchart

Setting
Classroom conducive to group discussions and brainstorming.

Material
Case descriptions (Annex 10), table comparison between cases (Annex 11)

Sequence of learning activity:

1) **Introduction (3 minutes):**
   Explain the rationale of the activity: To confront their own value propositions by prioritizing competing (and potentially incommensurable) objectives in ESD teaching. Use the following instructions: As part of this course, we will explore how to incorporate the inner dimensions of sustainability into your teaching. To do this, we will explore three cases where educators have used activities such as calculating one's Ecological Footprint (EF), to design impactful learning experiences with different objectives. These three cases can serve as a foundation for reflecting on your own teaching objectives and how they align with addressing your students' inner dimensions for sustainability.
2) **Group work (12 minutes):**
   Divide the group into subgroups. Assign a case study to each group. Provide the following instructions for each group:
   a) Read your example of how other educators used the concept of the Ecological Footprint to design learning settings for students. Identify the primary objectives and focus (emancipatory or instrumental) associated with your case.
   b) Discuss how you experienced reading this example: What did you feel and think about it as you read it? To what extent do these learning objectives address the students' inner dimensions for sustainability? Could they be changed to address these inner dimensions more strongly?
3) **Plenary discussion (15 minutes):**
   Engage in a collaborative dialogue in class to explore the diverse perspectives and values within the group.
   a) Use the following prompt to help you initiate a discussion (see more questions in the section "notes for facilitator"): *Your colleagues might disagree on whether students in your degree programme should primarily be empowered and encouraged to act more sustainably (e.g. by being taught about practical skills and tools), or if the focus should be on empowering and encouraging them to be more critical of current sustainability discourses, including what and how higher education teaches in relation to sustainability (e.g., by analysing power structures and debunking "sustainability" initiatives). What are your inner voices and stances here regarding what educators*

should prioritize? Guide a discussion on how the different cases balance these learning objectives. Encourage participants to share their thoughts on how they might adjust their own teaching strategies to better address the inner dimensions of sustainability.

b) Collect the group's answers in a plenary session (you can use the table "Comparison of case studies" in Annex 11). Use the table to illustrate how different approaches can align with different educational goals and to explore how these goals can be reconciled in practice).

c) Encourage the group to reflect together in plenary on the analysis of the cases. You can use the following questions to facilitate the discussion:
   i) How do the participants feel about the competing objectives in the three cases?
   ii) What are your initial feelings and thoughts when asked to position yourself here?
   iii) What similarities and what differences do you observe? How do your learning objectives fit in here?
   iv) Should education aim to change the attitudes or behaviour of learners? What makes one learning objective more important than another?
   v) What "sustainability" ideas do the different objectives support?

Notes for the facilitator:

- Depending on the participant group and their level of knowledge on ESD, introduce the activity by explaining ESD and emancipatory or instrumental objectives.
- As a facilitator, it is important to help participants understand the tension between different ESD objectives, which can broadly be divided into:

  Instrumental learning: Focuses on practical outcomes, such as acquiring specific skills, knowledge, and behaviours that contribute directly to sustainability (e.g. reducing one's ecological footprint).

  Emancipatory learning: Aims to foster critical thinking, self-awareness, and the ability to question and challenge existing power structures and societal norms related to sustainability.

For a more nuanced understanding of the various learning objectives of ESD, please consult the background literature on ESD-1 and ESD-2 learning objectives:

Vare, P., & Scott, W. R. (2007). Learning for a Change: Exploring the Relationship Between Education and Sustainable Development. *Journal of Education for Sustainable Development*, 1(2), 191–198. http://jsd.sagepub.com/cgi/content/abstract/1/2/191 (also available for free at: https://eprints.glos.ac.uk/939/)

Leicht, A., Heiss, J., & Byun, W. J. (Eds.) (2018). Issues and trends in education for sustainable development. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000261445

Rieckmann, M., Mindt, L., & Gardiner, S. (2017). Education for Sustainable Development Goals: Learning Objectives. United Nations Educational, Scientific and Cultural Organization (UNESCO). https://unesdoc.unesco.org/ark:/48223/pf0000247444

- **Discuss the challenges:**

  Balancing practicality and criticality: On one hand, emphasize that while instrumental learning equips students with the tools to act sustainably, it may not encourage them to question the deeper societal issues that contribute to environmental degradation. This can even demotivate them to act. On the other hand, a purely emancipatory approach may foster critical awareness but leave students without clear, actionable steps to take, if this aspect is not explicitly addressed (e.g. how to design measures that link inner and outer dimensions of sustainability).

  – Student engagement: Instrumental approaches can be more immediately engaging for students motivated by tangible outcomes, while emancipatory approaches may resonate more with students interested in social justice and systemic change. It's important to note that the issue of separation from self, others, and earth, which underlies today's polycrisis, manifests in our culture and institutions as a tendency to favour instrumental approaches.

  - Integration of inner dimensions for sustainability into ESD approaches: Encourage faculty to focus on the procedural aspects of integrating inner dimensions into ESD teaching approaches. Remind them to actively engage their students by asking about their personal experiences, especially emotional responses and value-based viewpoints regarding sustainability challenges. You could also prompt participants to reflect on how these inner dimensions could influence their teaching practices, particularly in guiding students through similar reflections on sustainability issues (meta-reflection). This approach emphasizes practical engagement over abstract theorizing, making the discussion more relatable and grounded in real experiences.

- **Encourage reflection:**

  Invite participants to consider where their current teaching practices fall on the scale between instrumental and emancipatory objectives. Ask questions such as:

  - How can inner dimensions for sustainability be effectively addressed in teaching?
  - How can inner dimensions be addressed while at the same time encouraging critical thinking about the broader societal context?
  - Why might some students be more inclined to critique dominant narratives, while others may be more focused on taking action?
- This structured reflection and discussion will help participants better understand the importance of both instrumental and emancipatory objectives in sustainability education, their own positionality in the tension between the two approaches.

Activity 3.2: Transformative teaching in action – Navigating inner and outer challenges for sustainability

Objectives

At the end of this activity, participants are able to

- stimulate creative thinking and problem-solving in addressing challenges of integrating inner dimensions into ESD teaching.
- reflect on how the experiential and contemplative approaches explored in the role play can be integrated into faculties' own subject areas.
- practice and discuss different teaching approaches in a supportive environment to gain confidence in the ability to implement the experiences.

Time

85 minutes

Material

Scenario cards (Annex 12) describing challenging situations related to inner and outer transformations for sustainability, role cards representing ESD stakeholders (e.g. students, educators, observers) (Annex 13), flipchart or whiteboard for note-taking, writing materials for participants

Setting

Classroom conducive to group discussions and brainstorming.

Sequence of learning activity:

1) **Introduction and group formation (10 minutes):**
   a) Welcome participants and briefly introduce the objectives of this active learning activity.
   b) Explain that participants will work in small groups and that each group will choose one of the two scenarios: 1) Inner Transformation Challenge or 2) Outer Transformation Challenge.
   c) Emphasize that the focus is on practising and comparing different experiential learning activities that they have learned in prior sessions.
   d) Divide participants into small groups of 3–4, ensuring a mix of perspectives and teaching backgrounds.
2) **Scenario Selection and role assignment (5 minutes):**
   a) Once groups have chosen their scenario (Annex 12), instruct them to assign roles within their group: Educator, student, and observer. If there are four participants in a group, two can act as additional students or co-observers.
   b) Distribute the corresponding role cards (Annex 13) for the selected scenario.
   c) Give groups a moment to discuss their understanding of the scenario and the roles they will play.
   d) Give the educator time to choose one activity for example from Session 1 or 2 that they want to explore in the role play.
3) **Role play with first experiential activity (25 minutes):**
   a) Allow 2–3 minutes for the educator role to prepare how they will implement the chosen activity. They will probably need to adjust the allocated time of the activity to the available time for the role play.
   b) Begin the role play, allowing 15 minutes for the interaction. Observers should focus on how effectively the chosen activity engages the student and addresses the scenario challenge. The main aim is to explore feelings and reactions of the educator and participants. It is not the goal to completely or accurately execute an activity for example from Session 1 or 2. Assure the participants that it is not a problem if they cannot finish the applied activity.

c) After the role play, spend some time debriefing the group:
   i) **Educator:** Share how you felt in your role. How did you experience the activity and its effectiveness?
   ii) **Student:** Reflect on how you felt in your role. How did you experience the activity and its influence on your engagement and learning?
   iii) **Observer:** How did you feel in your role as observer? Provide feedback on the dynamics, focusing on the effectiveness of the activity and any noticeable outcomes.

4) **Role play with second experiential activity (20 minutes):**
   a) Instruct each group to select a different experiential learning activity for example from those used in the previous sessions.
   b) Allow the educator role to prepare for implementing this new activity (2–3 minutes).
   c) Begin the second round of role play, allowing 15 minutes for the interaction. Observers should again focus on the effectiveness of the new activity.
   d) After the role play, conduct another 5-minute debrief within the group:
      i) **Educator:** How did you feel in your role? Compare this activity with the first one. Was your experience different? Which was more effective, and why?
      ii) **Student:** How did you feel in your role? How did your experience differ between the two activities? Which one helped you engage more deeply with the material?
      iii) **Observer:** How did you feel in your role? Share your observations, highlighting the strengths and weaknesses of each approach.

5) **Group comparison and reflection (15 minutes):**
   a) Bring the entire group back together for a group discussion.
   b) Ask each small group to briefly summarize their experiences, focusing on:
      i) The scenario they have chosen and the two experiential activities they practiced.
      ii) The differences in their feelings, experiences, and perceived outcomes between the two rounds of role play.
      iii) Which activity was more effective in fostering inner or outer transformation, and why?
   c) Encourage participants to discuss how they feel about integrating these experiential learning approaches into their own teaching practices, and what insights they have gained from the activity. It can be helpful to collect these feelings on sticky notes in a separate place and let the facilitator summarize them to the group if time is limited in the course.
   d) Capture key insights and strategies on a whiteboard or flipchart for everyone to see.

6) **Closing and Next Steps (10 minutes):**
   a) Summarize the main insights and takeaways from the group discussion.
   b) Encourage participants to reflect on how they can adapt the activities practiced in the role play to their specific subject areas.

Notes for the facilitator:

This role play activity aims to immerse educators in a scenario where they are confronted with common challenges of addressing inner dimensions for sustainability in their teaching. The role play is designed to help educators experience and apply experiential and contemplative teaching approaches in addressing inner and outer dimensions of sustainability within their teaching. The activity will also facilitate the integration of these approaches into the participants' specific subject areas.

This activity provides a dynamic and immersive approach to exploring assumptions and challenges in ESD teaching, fostering empathy and critical reflection among participants. Through role play and reflective discussions, participants explore their experiences and gain practical insights into overcoming obstacles and enhancing their teaching practices.

- Keep a close watch on the time to ensure each segment of the session is completed within the allocated time. Use a timer if necessary.

- Remind participants that this is a learning experience and encourage them to actively participate and experiment with different approaches.
- Ensure that debriefs are thorough and that participants have time to reflect on their experiences. Encourage honest and constructive feedback.
- Be flexible with the structure if a particular activity or discussion yields rich insights. Adjust the schedule as necessary to accommodate valuable learning moments.
- Be available to answer questions or provide guidance during the role play, especially if groups need help selecting or implementing experiential activities.
- There are two alternative modes of facilitation for this activity:
  - Groups can also decide to stick to one scenario and repeat it in round 2, incorporating the feedback and insights from round 1 (instead of moving on the next scenario).
  - Participants can also be encouraged to contribute their own scenarios, possibly based on real challenges they have experienced, and use the role play to re-live a problematic scenario and reflect on it. This last alternative may however need more time, as the educators should come prepared with scenario descriptions and role cards for the students and observers.

Activity 3.3: Envision the future – Satisfied student letter

Objectives
At the end of this activity, participants will have
developed a clear vision of how addressing inner dimensions can be integrated into their future teaching practices.

Time
15 minutes

Material
Paper and pencils, computer with a word processing program

Setting
Workshop room with tables (conducive to individual work)

Sequence of learning activity:

1) **Introduction (5 minutes):**
   Introduce the activity by explaining its purpose, which is for participants to visualize the positive impact of integrating approaches that address the inner dimensions of sustainability into their teaching. Provide a brief overview of the task, asking participants to write a letter from the perspective of a future student expressing gratitude for the course experiences. Instruct the participants to do the activity using the following prompts:
   a) Imagine in a first step that you have implemented the changes in your teaching to address students' inner dimensions of sustainability, and that implementing these changes has been successful.
   b) Next, imagine you are a student writing a letter to your educator self in the future. Express your gratitude for the course experiences and highlight the specific ways in which the teaching contributed to your personal well-being and success in managing inner dimensions.
   c) Reflect on specific aspects and details of your teaching that have changed, such as incorporating mindfulness practices or fostering real-world learning experiences.
   d) Consider the impact of these changes on the student's learning journey, personal growth, and overall satisfaction with the course. Consider how the transformative experience has enabled the students to take actions that they might otherwise not have done.
   e) Try to convey the student's genuine appreciation and enthusiasm for the transformative experiences in the course.
   f) Share your reflections about the course. Discuss and reflect on the potential implications of the changes in your teaching approach on your students' disconnections with self, others, and earth.
2) **Individual reflection (10 minutes):**
   Inform participants about the time limit for the activity.

Notes for the facilitator:

- Encourage participants to reflect on the changes in their teaching practices and the resulting impact on students as they write their letters.
- Monitor the time and provide any necessary support or guidance during the writing process.

Source: Modification of the 1-minute paper combined with the miracle questions from systemic counselling and visioning method (e.g. Anderson & Burns, 2013).

5 Course evaluation

We highly recommend carrying out an evaluation of the course after its completion. You are free to choose the evaluation format – we don't prescribe a specific format, as the scope and objectives of an evaluation can differ significantly from one facilitator to another. We therefore encourage you to design and implement an evaluation that best meets your unique objectives and context. Examples of questions you could ask include: What is your takeaway from the course? What did you particularly like about the course? What would you change about the course facilitation? Did you feel that something was missing from the course, and if so, what?

If you conduct an evaluation, the editors of this Facilitator Guide would be very interested in learning about its outcome. Additionally, insights or reflections on the facilitation process and the overall experience of the course would be highly valuable. Sharing these experiences could contribute to the continuous improvement of the course and offer useful perspectives to others involved in similar educational endeavours. Please reach out to us at the following address: sustainability.cde@unibe.ch and keep updated about our work at www.esd.unibe.ch. We would be very happy to hear from you!

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7 Annex: Course material

Annex 1: Introductory text (preparatory package)

Introductory text

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Introduction

> *“ I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that thirty years of good science could address these problems. I was wrong. The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation.[...] ”* [5]
>
> James Gustave Speth (Emeritus Professor of Law and Environmental advisor and activist, former Chair of the United Nations Development Group)

Today’s polycrisis and the significance of inner dimensions

Humanity is faced with multiple and increasing global crises – including the recent COVID-19 pandemic, climate change, and war – that are significant in scope and devastating in effect, but still poorly understood and addressed (Lawrence et al., 2024). A growing number of scholars, international agencies, and policymakers describe the current situation as a “polycrisis”, which at a global level is defined by Lawrence et al. (2022) as a causal entanglement of crises in multiple global systems that significantly degrade humanity’s prospects. The global polycrisis spans environmental, social, economic, and political spheres, creating interlinked challenges. Climate change, biodiversity loss, and environmental degradation threaten ecological balance, while social issues such as inequality, poverty, and pandemics place an immeasurable strain on societies. These problems are exacerbated by economic instability, which in turn is driven by global trade disruptions and financial inequities. Political unrest, conflicts, and governance failures further undermine cohesive efforts to address these crises (United Nations Development Programme UNDP, 2024; World Economic Forum, 2024). Navigating these complexities in the 21st century remains challenging, and various initiatives related to sustainable development have emerged at the global level, as well as at national and local levels, in an attempt to address today’s polycrisis more effectively.

At the global level, the UN 2030 Agenda for Sustainable Development was put forward in 2015. A comprehensive roadmap containing 17 Sustainable Development Goals (SDGs), it sought to achieve a sustainable world by 2030. At the same time, other sustainability agendas were developed at regional and national levels, such as the African Union’s 2063 Agenda, or the Buen Vivir concept in Ecuador and Bolivia. However, progress towards achieving the SDGs has been underwhelming. The Sustainable Development Goals Report 2024 finds that only 17 per cent of the SDG targets are on track, nearly half are showing minimal or moderate progress, and progress on over one third has stalled or even regressed (Sachs et al., 2024). What can we do to turn things around, achieve progress, and effectively tackle the complexities of the 21st century?

Despite extensive efforts at all levels, our current focus on external, technical approaches is insufficient to meet the growing sustainability challenges we face. An increasing number of scholars argue that we are lacking the internal capacities to adequately address the root causes of the increasingly complex obstacles in our path. There is a growing understanding that these threats and crises are, in fact, a reflection of an inner, human crisis (Ives et al., 2023; Leichenko & O’Brien, 2024; Wamsler et al., 2020, 2021; Wamsler & Bristow, 2022).

Addressing today’s polycrisis thus requires transformative efforts that are based on a deeper understanding of our inner dimensions, i.e. how we relate to ourselves, to others, and to the world around us (Bristow et al., 2022; Janss et al., 2023). Such inner dimensions can be defined as “people’s consciousness, awareness or mindsets, which includes individual and collective beliefs, values, worldviews, as well as associated inner – cognitive, emotional and relational – qualities and capacities” (Wamsler, Bristow, et al., 2022, p. 8).

5 Source: https://medium.com/@thelandoft/good-science-isnt-enough-be307e594729

These inner dimensions are increasingly emerging as not only the causes of the multifaceted crises facing our planet, but encouragingly, also the pivotal vehicles for confronting these crises. In other words, they underlie today's polycrisis – but they also possess the potential to serve as crucial leverage points for meaningful change (Abson et al., 2017; Ives et al., 2023; Wamsler et al., 2021; Woiwode et al., 2021). This shift in the understanding of sustainability challenges recognizes that our perceptions, thoughts, and relationships with ourselves, others, and the world significantly shape our behaviours, decisions, cultures, and structures (Wamsler et al., 2021). The intricate relationship between internal and external states and problems reveals a crucial aspect of sustainability challenges: that they are fundamentally rooted in human dynamics and relationships (Wamsler & Bristow, 2022). While issues such as climate change and resource exploitation are generally perceived as external problems, they stem from deeper societal issues such as consumerism, racism, and an underlying profound disconnect from our inner selves, others, and earth. These internal dynamics consequently manifest in unsustainable behaviours, cultures, and systems that exacerbate environmental degradation and social injustice (Ives et al., 2020; Osberg et al., 2024; Wamsler & Bristow, 2022; Woiwode et al., 2021).

Emergent research suggests that the alienation or disconnection from self, others, and earth that lies at the root of today's polycrisis is an intrinsic aspect of modern life (Ives et al., 2023; Rosa, 2019; Wamsler, Bristow, et al., 2022). Rooted in ideologies of consumerism, individualism, and materialism, our modern way of life prioritizes productivity and efficiency over well-being. We exploit and consume resources without regard for the interconnectedness of all living beings. This exploitative mindset is reflected in our culture, our institutions, and our policy landscape – and it fuels widespread extinction, climate change, and environmental degradation, threatening the well-being of both humanity and the planet (Osberg et al., 2024; Scott et al., 2021; Wamsler & Bristow, 2022).

Addressing inner dimensions in sustainability education

Sustainability education, with an emphasis on inner dimensions, holds an important position in the UN's 2030 Agenda. SDG 4 ("Quality Education") emphasizes the importance of providing inclusive, equitable, and high-quality education while fostering opportunities for lifelong learning for everyone (Frank et al., 2019; Wamsler, 2020). Further, SDG 4 considers education essential for equipping individuals with the knowledge, skills, and values (inner dimensions) needed to foster sustainable development and address global challenges.

SDG Target 4.7 states, "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (United Nations, 2015).

Accordingly, Education for Sustainable Development (ESD) aims not only to provide knowledge about the SDGs, but also to equip individuals with the competencies and capacities to promote the transformation to a more sustainable society. ESD is intended as a holistic and transformative approach to education that addresses learning content, pedagogy, and the learning environment (Fischer et al., 2023). It includes content on sustainability challenges, such as climate change, poverty, and sustainable consumption in the curriculum – but additionally, and crucially, it also promotes interactive and learner-centred teaching and learning environments. ESD thus aims to empower individuals to consider the social, cultural, economic, and environmental impacts of their actions, and to encourage them to act sustainably by exploring new ideas and participating in socio-political processes. Through their actions, the learners can contribute to creating societies that are sustainable not only in the short term, but far into the future. Ensuring that learners worldwide develop these competencies and capacities is crucial for achieving the SDGs.

ESD involves a shift from teaching to learning, with an emphasis on self-directed learning, participation, collaboration, problem-solving, and interdisciplinary teaching and learning approaches (Fischer et al., 2023). These pedagogical approaches are essential for developing the competencies and capacities necessary for promoting sustainable development (Rieckmann, 2018). The need for ESD research to place greater emphasis on inner qualities and capacities and how to address them through experimental and innovative pedagogical models therefore aligns with the urgent need to better acknowledge and address the inner dimensions of sustainability in education (Wamsler, 2020).

The role of higher education institutions

Higher education institutions (HEIs) play a key role in the transformation of society towards sustainability and in achieving the SDGs – especially, of course, SDG 4 on Quality Education – and in fostering ESD that links inner and outer dimensions of transformation. HEIs provide formative experiences for their students, and the values and norms that universities promote are of central importance in fostering sustainable behaviour among change agents and decision-makers of the future. As scientific and research institutions and intellectual centres, they bear a great responsibility in creating innovations for a sustainable future and increasing social acceptance of the principle of sustainability through transdisciplinary knowledge transfer (Barth & Michelsen, 2013; Schneidewind & Singer-Brodowski, 2013; Wilhelm et al., 2015; Zimmermann & Risopoulos, 2016).

As part of this mission, HEIs should assume a leading role in fostering the cultivation of inner dimensions for sustainability. This involves promoting a more integrated approach that considers both internal personal changes and external cultural and systemic changes – i.e. an "inner–outer transformation" – in education, science, and practice across disciplines and fields (Wamsler et al., 2021). However, this is not yet happening on a wide scale. Despite growing recognition from global organizations such as UNESCO of the importance of integrating cognitive and socio-emotional dimensions into higher education teaching (Rieckmann, 2017), as well as initiatives such as "Inner Development Goals" (IDGs, 2024), the integration of emerging science and knowledge on inner dimensions for sustainability into educational curricula and learning environments remains insufficient. Nonetheless, we consider it important to highlight that country-specific hubs and networks[6] related to the Inner Development Goals initiative (including ones that focus on HEIs) are increasingly emerging.

While the need to address inner dimensions in the context of sustainability is increasingly acknowledged, traditional higher education systems predominantly prioritize the transmission of technical skills and disciplinary professional knowledge (Wamsler, 2019, 2020). This results in a lack of emphasis on cultivating students' inner dimensions, leaving them ill-equipped to navigate the complexities of contemporary global challenges such as climate change, social inequality, and environmental degradation.

Nonetheless, teaching approaches related to inner dimensions do exist in educational settings. Some institutions or programmes have tried to incorporate mindfulness-based approaches and values, albeit mostly in an isolated and sporadic way (Ayers et al., 2023; Frank et al., 2019; Murray, 2011; Wamsler, 2020). On the whole, however, there is no cohesive and systematic approach to integrating inner dimensions into higher education teaching across disciplines (Parodi et al., 2023; Parodi & Tamm, 2018; Wamsler et al., 2021). The need is urgent for more comprehensive and integrated pedagogies that recognize education as a pivotal driver for sustainable development.

From an ethical standpoint, it is crucial to emphasize that the cultivation of inner dimensions into sustainability education does not aim to impose certain beliefs, values, and world views on learners, nor does it seek to alter a learner's existing beliefs, values, and world views (Wamsler et al., 2021; Wamsler, Bristow, et al., 2022). Instead, it seeks to support conditions that foster self-reflection, exploration, and more relational approaches, while recognizing the diversity of perspectives and respecting individual autonomy in forming one's own ethical frameworks (Ives et al., 2023; Walsh et al., 2020; Wamsler et al., 2021; Wamsler, Bristow, et al., 2022). At the same time, it is important to highlight that sustainability education is not a "value-free" field. Instead, it embraces the values and responsibilities associated with sustainability (Horlings, 2015). By acknowledging and engaging with the values inherent to sustainability, students are encouraged to critically examine their own perspectives, gaining a deeper understanding of the complex interplay between, for instance, individual and collective values and environmental challenges (Trechsel et al., 2023).

6 https://www.innerdevelopmentgoals.ch/

Rationale for addressing Higher Education Faculty

HEI faculty members play a critical role in shaping the ability and commitment of the next generation to advancing sustainability. They influence curriculum design, teaching methods, and the overall academic environment. In general, faculty members are considered key factors of influence on student performance and learning outcomes, which makes them interesting as multipliers for addressing students' inner dimensions for sustainability in higher education (Hattie, 2023). Faculty have the potential to impact not only their students, but also the broader academic community and beyond. Equipping faculty with the tools to integrate inner development into their teaching can create ripple effects that extend to institutional culture and societal impact, an important aspect of systematically integrating or mainstreaming these considerations into existing institutions and structures (Wamsler & Osberg, 2022).

Effectively integrating inner dimensions for sustainability requires not only incorporating these concepts into ESD-related higher education curricula, but also building the capacity of faculty to facilitate the integration of inner dimensions into ESD teaching. Capacity building in this specific context means extending educators' pedagogical content knowledge and increasing the perceived relevance of addressing inner dimensions through integrated measures in sustainability-related teaching (Wamsler, Osberg, et al., 2024).

In this guide, we define "pedagogical content knowledge" as the understanding of inner dimensions and integrated measures, combined with the professional expertise to address them through suitable teaching methods and approaches. This includes anticipating and addressing the potential challenges students may encounter when their inner dimensions are addressed (Shulman, 1986). This understanding acknowledges that faculty possess unique learning biographies that influence their perspectives on teaching and learning (Wamsler, Osberg, et al., 2024). The values, knowledge, skills, and attitudes they hold shape their identity and self-concepts as faculty, which in turn impact their teaching practices and what is known in education as the "hidden curriculum" (Cotton et al., 2013). What faculty members impart is not only a function of what they know and think, but also linked to how they see themselves and their self-identify as educators.

Challenges Faced by Higher Education Faculty in addressing inner dimensions in ESD teaching

Although inner dimensions (e.g. students' emotional capacities) are seen as deep leverage points for fostering societal change (Woiwode et al., 2021), they have so far been largely neglected when developing pedagogies or training programmes for educators (Dunlop & Rushton, 2022; Frank et al., 2024; Grund et al., 2023). An exploratory literature search on Scopus by the project team revealed that research on the challenges educators face in addressing inner dimensions is fragmented and limited to the educational setting of schools, and there is no systematic consideration of all aspects of inner dimensions. Therefore, empirical results on the challenges of addressing issues such as students' beliefs and emotions are seen here as examples of broader challenges educators might face when trying to address inner dimensions in their ESD teaching approaches.

Our exploratory research identified two main challenges educators encounter when addressing emotions in their teaching: first, a lack of training and specialized programmes focused on ESD teaching approaches, and second, traditional or subject-specific beliefs on the nature of teaching and learning within higher education. Researchers have repeatedly called for ESD-specific training programmes for educators, to enable them to effectively incorporate inner dimensions such as emotions into their sustainability teaching (Anderson & Krathwohl, 2001; T. R. Evans & Steptoe-Warren, 2015; Goller & Rieckmann, 2022; Holdsworth et al., 2008; Taylor et al., 2019).

Our literature review also offers some insights relevant to the design of such training programmes. First, educators require teaching approaches that allow them to handle the interdisciplinary nature of sustainability and to develop transdisciplinary competency (Corres et al., 2024). Second, students may experience a range of emotional reactions to sustainability issues, and it can be challenging for educators to address them all (Dunlop & Rushton, 2022). Third, the reactions evoked are often strong negative emotions such as anxiety, frustration, and sadness, and educators may struggle to deal with these emotions in ways that

avoid paralysis and instead nurture hope and positive visions, and motivate action (ibid; Grund et al., 2023). Finally, students may not be ready or willing to explore the affective dimensions of sustainability issues or other inner dimensions, and educators need effective techniques to empower their students to engage with these inner dimensions (Corres et al., 2024).

Introducing the concept of inner dimensions for sustainable development can challenge traditional expectations and discipline-specific beliefs about the role of teaching in higher education. For one, addressing inner dimensions such as emotions seems to challenge the traditional view that considers educators as mere knowledge brokers (Raccanello et al., 2022). The domain of addressing emotions in teaching has traditionally been considered to be the role of a facilitator or coach rather than that of a knowledge broker (Hollis-Walker, 2012). Educators may oppose the idea of addressing students' inner dimensions as an appropriate learning approach, possibly believing it to conflict with what our modern society considers robust science and education. This may require a shift from predominantly cognitive approaches in higher education teaching to more holistic approaches that include values-related, emotional, motivational, and other domains. To address inner dimensions in fields such as medicine, for example, it has been shown that educators would first need to overcome a culture of emotional detachment (Barman et al., 2023).

Some educators may struggle with the delicate balance between acknowledging students' emotions and their fear of potentially overwhelming or manipulating them (Raccanello et al., 2022). Others may still view sustainability more narrowly, primarily as an environmental issue, and consequently resist connecting it to their specific subject areas (Zainal Abidin et al., 2024). Addressing these challenges requires educators to a) understand the importance of inner dimensions in all their various aspects for ESD, and b) reflect on their role as educators and their understanding of how to relate their teaching and learning objectives to inner dimensions for sustainability. In addition to these personal challenges, institutional and systemic barriers – such as limited time and resources, competing demands, and overcrowded curricula – also hamper the ability of educators to incorporate inner dimensions into their teaching (N. (Snowy) Evans et al., 2012; Green & Somerville, 2015; Lasen et al., 2017). As mentioned, our literature review found that most of the available material focused on the context of schools and therefore may not fully apply to HEI lecturers. Nonetheless, the review revealed a pressing need for targeted training programmes, institutional support, and research aimed at developing evidence-based pedagogies that foster the integration of inner dimensions for sustainability (Molitor et al., 2024; Wamsler, Simon, et al., 2024).

In addition to the individual challenges discussed, prioritizing self-care and well-being is essential for educators, especially in the context of sustainability education. Addressing sustainability challenges in teaching requires navigating complex issues and engaging in multifaceted teaching approaches. Neglecting one's own well-being can undermine the effectiveness of these efforts. In general, the current workload culture in higher education has been found to adversely affect faculty well-being (Brewster et al., 2022). Research suggests that self-care fosters a transformative approach to teaching sustainability by helping educators manage the stress and demands of academia, ultimately leading to more effective curriculum design and delivery (Burns, 2016).

Why this course?

Educators can play a pivotal role in shaping a generation of socially conscious and environmentally responsible leaders by expanding the scope of education to include both intellectual and inner development. "Addressing Inner Dimensions for Sustainability in Higher Education" aims to be a safe learning and reflection space to address the gaps in current teaching and learning approaches in higher education for sustainable development. Through this course, we invite HEI faculty to explore the relevance of inner dimensions for sustainability. By exposing you to a set of learning activities related to self, others, and earth, we provide approaches and opportunities for reflection on the cultivation of inner dimensions in your teaching.

Background: theory & concepts

This chapter provides an overview of key terms, concepts and theories relating to inner dimensions and sustainability.

Terminology

Scholars have proposed various ways of describing and conceptualizing inner dimensions in the context of sustainability (Ayers et al., 2023; Brundiers & Wiek, 2017; Frank et al., 2024; Frank & Stanszus, 2019; Ives et al., 2023; Libertson, 2023; Murray et al., 2014; Ojala, 2013, 2016; Verlie et al., 2021).[7] While "inner dimensions" is a term commonly used in research (Ives et al., 2023; Pöllänen et al., 2023; Wamsler et al., 2020; Woiwode et al., 2021, 2021) and associated policy documents (Bristow et al., 2024; Janss et al., 2023; Wamsler, Bristow, et al., 2022; Wamsler & Bristow, 2022), alternative expressions such as "internal dimensions" (Wamsler et al., 2021), "interior-individual domain" (Ives et al., 2020), "inner lives" (Osberg et al., 2024), "inner worlds" (Frank et al., 2024; Ives et al., 2020) and "inner sphere of transformation" (Leichenko & O'Brien, 2024; Pöllänen et al., 2023) have also been employed in academic discourse. However, there is conceptual ambiguity surrounding these terms and no consensus exists on their precise definitions.

In the following document, we use the term inner dimensions to refer to "people's consciousness, awareness or mindsets, which includes individual and collective beliefs, values, worldviews, as well as associated inner – cognitive, emotional and relational – qualities and capacities" (Wamsler, Bristow, et al., 2022, p. 8).

Disconnect from self, others, and earth

The growing focus on inner dimensions reflects the recognition that today's sustainability challenges and the global polycrisis are rooted in an inner human crisis: an alienation or disconnection from self, others, and the world around us (Ives et al., 2023; Rosa, 2019). Alienation, separation, or disconnection are important concepts in this respect (Janss et al., 2023; Wamsler et al., 2021; Wamsler, Bristow, et al., 2022; Wamsler, Simon, et al., 2024; Wamsler & Bristow, 2022). By prioritizing and increasing conscious attention to our connectedness to self and with all beings and earth, we are individually and collectively more likely to foster intrinsic values and caring attitudes and action-taking toward others and the environment (Bristow et al., 2024; Wamsler & Bristow, 2022; Wamsler et al., 2021).

Scholars describe the "three disconnects" as follows:

Disconnect from self within the context of sustainability encapsulates a detachment from one's own inner being, a disconnect between one's intellectual and emotional aspects, and the failure to recognize the interconnectedness between personal well-being and the health of the planet. This disconnection manifests in various forms, including feelings of loneliness, stress, anger, and depression, which are often exacerbated by contemporary societal norms that prioritize productivity and material gain over holistic well-being. Addressing the disconnection from self is crucial for fostering a deeper understanding of sustainability that encompasses both personal and planetary well-being (Janss et al., 2023; Appendix Tables 1–2).

Disconnect from others within the realm of sustainability embodies an alienation from the broader human community. This disconnection is characterized by a lack of empathy, understanding, and collaboration among individuals and different communities or social groups, which hampers collective efforts to address sustainability challenges effectively. It manifests in various forms, including racism, xenophobia, and all other societal divisions that hinder solidarity and cooperation. Addressing the disconnection from others is essential for cultivating a sense of care, shared responsibility, and collective action towards building a more sustainable and just society, where all individuals are valued, respected, and empowered to contribute positively to the well-being of both humanity and the planet (Janss et al., 2023; Appendix Tables 1–2).

7 Please note that the terms "mindsets" and "inner dimensions" are often used as synonyms (Wamsler et al., 2022).

Disconnect from earth entails a profound alienation marked by a lack of reverence, stewardship, and reciprocity in our relationship with the environment as well as the living and non-living world. This disconnect is evident in the exploitation and degradation of natural resources, driven by a mindset of extraction and domination rather than harmony, balance, and respect. It is also linked to societal issues such as consumerism and materialism, which prioritize short-term gains over the long-term health of ecosystems. This disconnection threatens natural systems and undermines biodiversity, human health, livelihoods, and cultural heritage. Reconnecting with nature and seeing oneself as part of nature is essential for fostering responsibility, kinship with the earth, and sustainable practices that honour the intrinsic value of all living beings (Janss et al., 2023; Appendix Tables 1–2).

The project team deliberately chose to use the term "earth" rather than "nature" to encompass the entirety of the human and non-human world. We understand "earth" to include the living elements of the natural world (plants, animals), the physical and geological aspects (soil, water, the atmosphere), and the human aspects. By using "earth", the team aims to highlight the interconnectedness and totality of the human and non-human components that make up our planet and ourselves, acknowledging that all these elements are integral to the environment and should be considered. It reflects a holistic approach, recognizing earth as a complex, dynamic system where every part, living or non-living, plays a crucial role.

Key concepts, models and frameworks

In the following section, we present four key models and theories that inspired this course: the *Iceberg Model, Leverage Points, Integral Theory, and the Inner–Outer Transformation Model.* They are all interconnected in their emphasis on understanding and addressing both the visible (external) and underlying (internal) aspects of sustainability challenges.

The Iceberg Model highlights the importance of going beyond surface-level events to explore deeper mental models, cultural values, and systemic structures that influence behaviour and outcomes. The Iceberg Model is based on systems thinking and introduces different leverage points that can be addressed to transform systems. Leverage Points provide a framework for identifying intervention points within a system, emphasizing that deeper, less tangible points (such as paradigms and mental models) offer more transformative potential than shallow, more apparent interventions (such as regulations or incentives). Integral Theory broadens this perspective by integrating the interior (thoughts, emotions) and exterior (behaviour, systems) dimensions at both individual and collective levels. The Inner–Outer Transformation Model is a model that describes how changes in inner dimensions support outer change towards sustainability and how this can be achieved, providing a roadmap for systematic research, policy, and practice (Wamsler, Bristow, et al., 2022).

When it comes to addressing inner dimensions in teaching for sustainability, these models collectively underscore the need for a holistic approach. They suggest that fostering sustainability is not just about changing external behaviours or systems, but also about cultivating inner qualities and capacities such as awareness, values, and consciousness. For educators, this means engaging students not only intellectually but also emotionally and ethically, helping them develop a deeper understanding of the interconnections between their inner worlds and the broader social and ecological systems they inhabit.

The Iceberg Model

The Iceberg Model (Maani & Cavana, 2007) is a widely used framework in systems thinking, serving as a metaphor to illustrate the connection between the visible and hidden aspects of a sustainability challenge. It emphasizes that what we observe or experience is just the tip of the iceberg, with deeper, underlying factors contributing to these phenomena. The top level ("events") represents the visible part of a problem, while the lower levels ("patterns of behaviour", "systems structure", and "mental models") present the deeper elements that are at the root of the problem but also represent leverage points for change (Figure 1). Events and crises are visible, while patterns of behaviour and systems structures are hidden beneath the surface. Mental models, or mindsets, lie even deeper and often remain unconscious. The Iceberg Model suggests that to achieve meaningful change toward sustainability, it is essential to work at all levels of the system – and that the deeper we go, the more effective it is. Crucially, it emphasizes that these levels are interconnected, meaning that focusing solely on one area while neglecting others may not lead to the desired outcomes. Effective change requires a holistic approach, addressing both the visible and hidden aspects of the system.

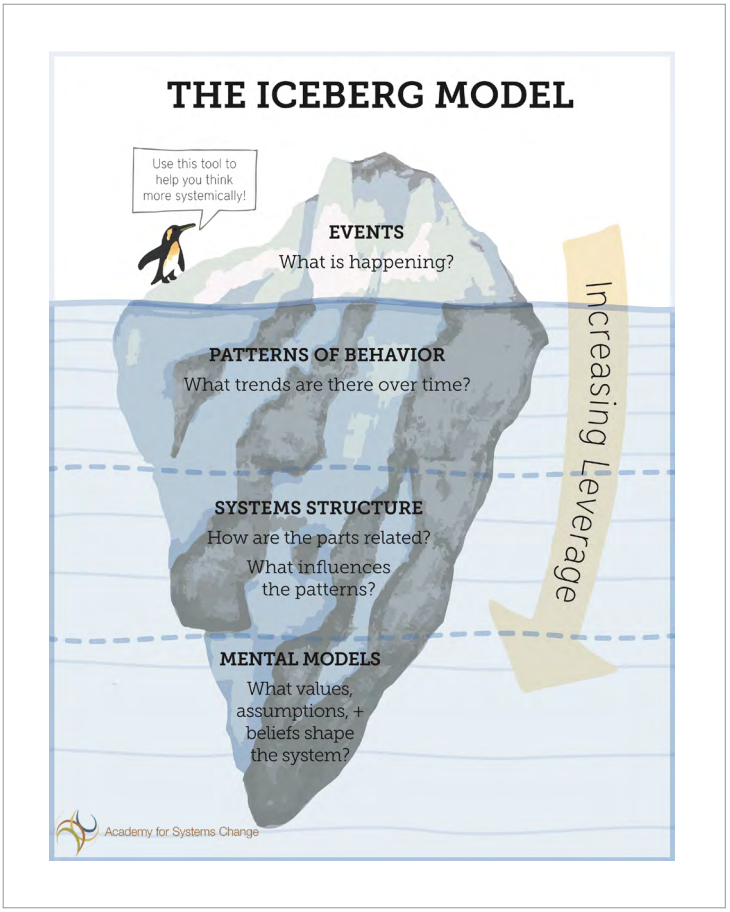

Figure 1: The Iceberg Model (Source: Reprinted courtesy of and with permission from the Academy for Systems Change)

Leverage points

The emerging field of inner dimensions and transformations overlaps significantly with the concept of leverage points as developed by Meadows (1999). In considering how to influence the behaviour of a system, Meadows identified twelve leverage points. These range from "shallow", where interventions are relatively easy to implement, yet bring about little change to the overall functioning of the system – to "deep" leverage points that might be more difficult to alter, but potentially result in transformational change (Figure 2) (Abson et al., 2017).

Shallow leverage points are the material aspects of systems, such as incentives and resource flows, as well as the feedback loops between them (described in Figure 3 as parameters and feedback). Deeper leverage points are described as design (i.e. the social structures and institutions that manage feedbacks and parameters). Even deeper leverage points, described as intent, comprise the underpinning values, goals, and world views of actors that shape the emergent direction to which a system is oriented. Inner transformation strongly relates to these deep(er) leverage points, as illustrated by Woiwode et al. (2021). Abson et al. (2017) argue that, to date, sustainability research and policy have primarily addressed relatively shallow leverage points. Various scholars propose that a research agenda centred on the concept of deep leverage points could provide a coherent framework for engagement with the root causes of unsustainability (Abson et al., 2017; Woiwode et al., 2021).

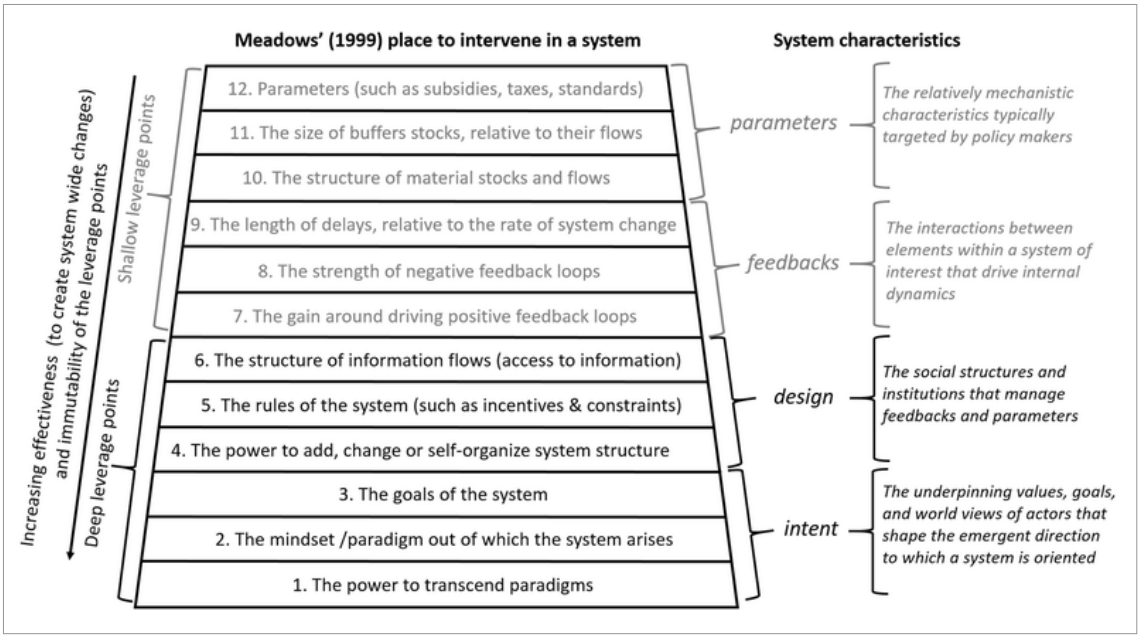

Figure 2: From twelve leverage points to four systems characteristics (Source: Abson et al., 2017; license for republication acquired from Springer Nature)

Integral Theory for sustainability and transformation

Integral Theory, developed by Ken Wilber, emphasizes the need to address both individual and collective inner dimensions and design integrated measures that link inner and outer dimensions of sustainability. It is a holistic framework that integrates various aspects of human knowledge and experience (Wilber, 1999). The theory's central AQAL model (All Quadrants, All Levels, All Lines, All States, All Types) organizes reality into four interconnected dimensions: individual interior (thoughts, emotions), individual exterior (behaviour, actions), collective interior (cultural values), and collective exterior (social systems) (Figure 3). In sustainability science, Integral Theory is used to address the complex interplay between environmental, social, economic, and other factors. It promotes a comprehensive approach that considers not only external systems, such as ecosystems and economies, but also the inner dimensions of human experience, such as values, beliefs, and consciousness. By incorporating these inner dimensions, sustainability efforts can foster deeper, more lasting change, addressing both the outer systems and the internal drivers of human behaviour (Ives et al., 2020, 2023; Wamsler, Bristow, et al., 2022).

Accordingly, Wamsler, Bristow, et al. (2022), highlight four domains of transformation that should be addressed in combination:

1) individual behaviour,
2) systems and associated structures,
3) collective and cultural paradigms and norms, and
4) individual inner dimensions linked to shifts in human consciousness (Figure 4).

Crucially, like the Iceberg Model, Integral Theory suggests that all these domains are interconnected, implying that focusing solely on one area may not lead to the desired outcomes of change. The Integral Theory model has been used for empirical work on inner dimensions for sustainability by, for instance, Hochachka (2021) and Wamsler, Osberg, et al. (2024).

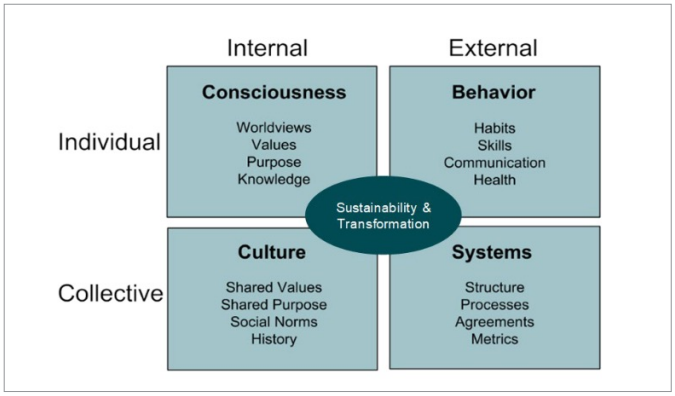

Figure 3: Integral Theory for sustainability and transformation (Source: Wamsler, Bristow, et al., 2022 adapted by C. Wamsler from Wilber, 1999). Reprinted with permission.

Inner–Outer Transformation Model

The Inner–Outer Transformation Model (Figure 4) is a model that describes inner-outer transformation processes (Wamsler et al., 2021). It shows how changes in inner dimensions can support outer change towards sustainability and how this can be achieved, providing a roadmap for systematic research, policy, and practice. The model shows that transformative qualities/capacities and associated intermediary factors (such as well-being) influence sustainability across individual, collective, and systemic levels, because they relate to certain beliefs, values, and world views that delineate our connections or relationships with ourselves, others, and earth. These, in turn, influence the three dimensions of agency at individual and collective levels: interbeing, interthinking, and interacting (ibid).

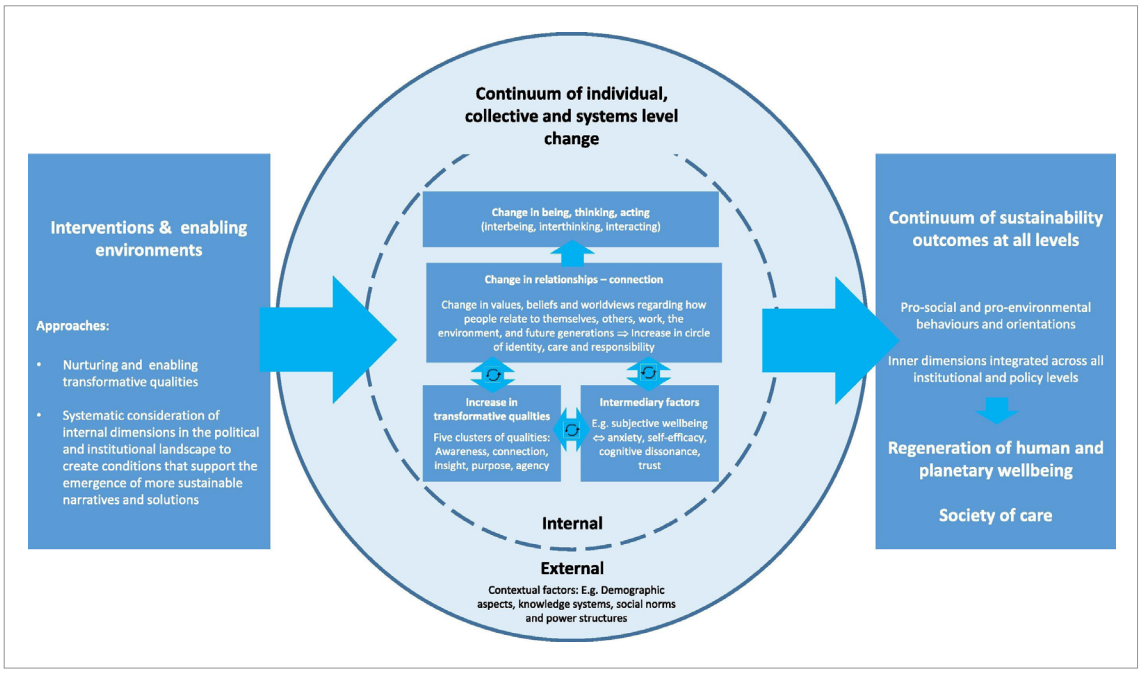

Figure 4: Inner–outer transformation model (Source: Wamsler et al., 2021; available under the terms of the Creative Commons Attribution License).

The Inner–Outer Transformation Model also indicates that there are three complementary ways to support such change. The aim of these approaches is to integrate/mainstream and institutionalize the consideration of inner dimensions of sustainability across individual, collective, and systemic levels (Wamsler et al., 2021). Accordingly, the three approaches include:

4) Individual level: Initiatives which support inner capacities and practices that can help people to tap their potential to support change. This helps to uncover individual thinking and internalized cultural messages of separation, superiority, and instrumentalization (e.g. through education, training, coaching);
5) Collective/group level: Initiatives which support related learning environments, e.g. in the form of transformative multi-stakeholder spaces, exhibitions, festivals, dialogues, and networks to create a culture of growth and nourish fields of change;
6) Institutional/systemic level: Initiatives to systematically integrate/mainstream/institutionalize the consideration of inner dimensions into existing institutional and political frameworks. This will create the structural foundations for sustained action across sectors and fields, ultimately supporting the emergence of a more sustainable narrative in companies, governments, and society at large. It requires, for instance, the systematic revision of organizations' vision statements, communication and project management tools, working structures, policies, regulations, human and financial resource allocation, learning infrastructures, and collaboration.

Figure 5 shows a simplified version of the model.

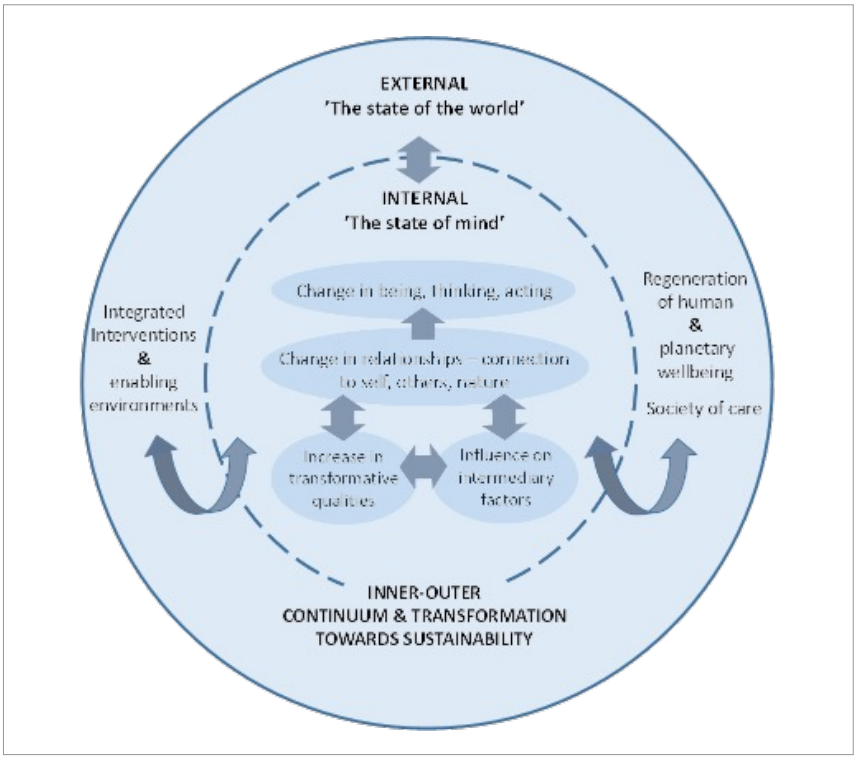

Figure 5: Inner–outer transformation model (simplified version). (Source: Wamsler et al., 2021; available under the terms of the Creative Commons Attribution License).

An important part of the model is also the identification and definition of the inner capacities essential for supporting transformation. They are presented in four clusters of transformative qualities/capacities that can be seen as a kind of the scientific counterpart of the IDGs. These capacities, which the faculty aims to support through their teaching, are integral to the concept of inner dimensions. Put together, the model is a figurative illustration of the definition of inner dimensions and the processes that underlie their relevance for sustainability across the individual, collective, and systemic levels.

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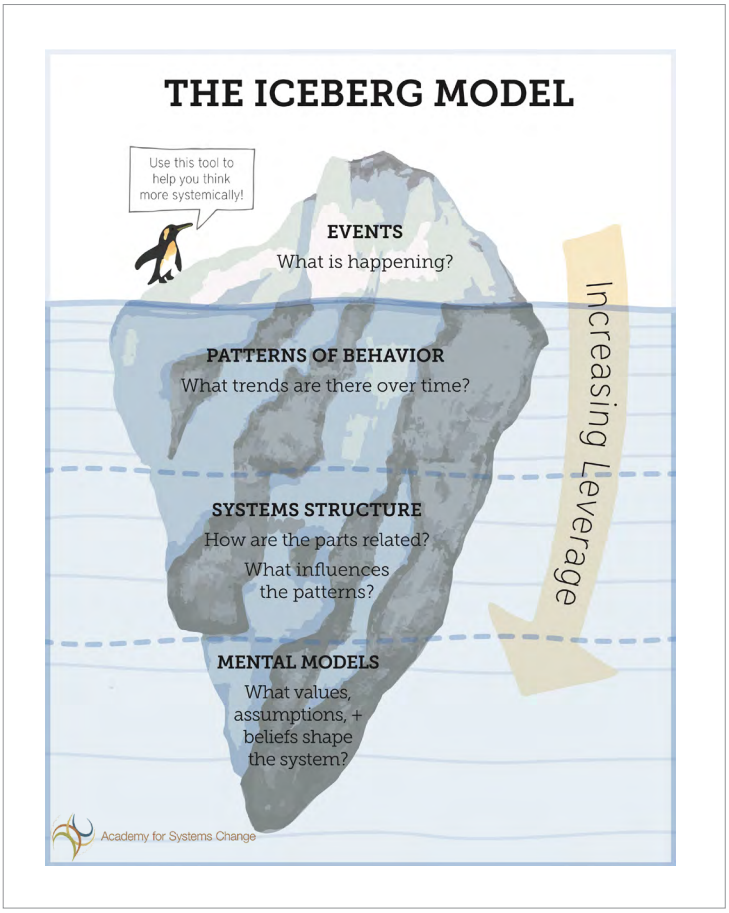
Annex 2: Creative journaling exercise (preparatory package)

Set aside 30 minutes and settle into a comfortable space to reflect on the following prompts. You can choose to write, draw, mind-map, etc. You are invited to reach into areas of your life you may not yet have explored much, so you may need to rely on your intuition and creativity. During our first session, you will be invited to share these thoughts, notes, and drawings if you wish.

- The global polycrisis spans environmental, social, economic, and political spheres, creating interlinked challenges. Which aspect/topic of the global polycrisis are you most concerned about?
- Draw an iceberg (see picture) with the tip above water showing the aspect/topic of the polycrisis you selected.
- Then, reflect on the big mass of ice under the water:
  - Fill in the patterns of behaviour, systems structures, and mental models (i.e. the values, assumptions, and beliefs that you, your students, your faculty colleagues, and society in general hold) that support the present state of that aspect/topic. You can also refer to figure "Twelve leverage points" from the introductory text.
- Take time to reflect on your iceberg and explore and note down how you feel.
- Which of these aspects do you cover in your teaching?



The Iceberg Model (Reprinted courtesy of and with permission from the Academy for Systems Change)

Annex 3: Resources for participants (preparatory package)

Reading list

We present some key references here. Please see the reference list for further reading.

Summary of key theories

- Wamsler C., Bristow J., Cooper K., Steidle G., Taggart S., Søvold L., Bockler J., Oliver T.H., Legrand T. (2022). Theoretical foundations report: Research and evidence for the potential of consciousness approaches and practices to unlock sustainability and systems transformation. Report of the UNDP Conscious Food Systems Alliance (CoFSA), United Nations Development Programme UNDP. Online https://consciousfoodsystems.org/rationale-for-action/.

Human dimension of sustainability (overview of facets of disconnection/reconnection, pp. 52–55)

- Janss, J., Wamsler, C., Smith, A., & Stephan, L. (2023). The Human Dimension of the Green Deal: How to Overcome Polarisation and Facilitate Culture & System Change. The Inner Green Deal gGmbH, Cologne, Germany, and Lund University Centre for Sustainability Studies (LUCSUS), Lund, Sweden. https://www.contemplative-sustainable-futures.com/_files/ugd/4cc31e_32a45e74d07a4b179d159f0deb9f5af5.pdf

Inner dimensions in research

- Böhme, J., Spreitzer, E.-M., & Wamsler, C. (2024). Conducting sustainability research in the anthropocene: Toward a relational approach. Sustainability Science, 19(4), 1169–1185. https://doi.org/10.1007/s11625-024-01510-9
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Safe spaces for learning

- Fraude, C., Bruhn, T., Stasiak, D., Wamsler, C., Mar, K. A., Schäpke, N., Schroeder, H., Lawrence, M. G. (2021) Creating space for reflection and dialogue: Examples of new modes of communication for empowering climate action, GAIA - Ecological Perspectives for Science and Society, 30(3):174–180. Online.
- Singer-Brodowski M, Förster R, Eschenbacher S, Biberhofer P and Getzin S (2022) Facing Crises of Unsustainability: Creating and Holding Safe Enough Spaces for Transformative Learning in Higher Education for Sustainable Development. Front. Educ. 7:787490. doi: 10.3389/feduc.2022.787490

Selection of toolboxes

- Inner Development Goals: https://innerdevelopmentgoals.org/
- Rimanoczy, I. (2021). The sustainability mindset principles: A guide to develop a mindset for a better world. Routledge.
- Scharmer, C. O. (2018). The Essentials of Theory u. Core Principles and Applications. BK, Berrett-Koehler Publishers, Inc.: BK Business book.
- Transitionmakers - a teaching toolbox based on the Inner Development Goals: https://transitionmakers.nl/
- Transformation hosts international: https://hostingtransformation.org/methods-toolbox/
- U-School for transformation: https://www.u-school.org/

Links to further sources

https://www.contemplative-sustainable-futures.com/general-3-1

Annex 4: Instructions for body check-in (Session 2, Activity 2.1: Self-care reflection)

1) Find a comfortable seated position and close your eyes if you feel comfortable doing so. Let's do a short body scan to check in with our bodies and how we are feeling today, especially in relation to stress.
2) Start by taking a deep breath in through your nose, deep into your belly, your sides and your chest. Hold it for a moment and then slowly exhale through your mouth. Do this three times, focusing on the sensation of cool air entering and then leaving your body.
3) Now bring your attention down to your feet. Notice how the soles of your feet are touching the ground. Wiggle your toes if you like, and observe any sensations.
4) Slowly guide your focus up along your legs to your knees. Feel how your thighs are pressed against the chair. Notice any sensations you may have. Do you feel any tension; do areas feel warm or cold?
5) Now move your attention further up to your torso. Feel how your breath moves your belly, your ribcage, and your chest.
6) As you guide your focus up your spine towards your shoulders, explore if you feel any tightness or tension, or if this area feels loose and relaxed? No need to change anything, just notice.
7) Now, direct your attention along your arms and down to your hands. Are they resting comfortably, or are you holding tension?
8) Feel into your neck and jaw now. Is your jaw clenched? Or can you allow your neck muscles to relax and your jaw to soften?
9) Finally, bring your attention to your face and head. Notice the sensation in your forehead, around your eyes, cheeks, the whole surface of your head. See if you can let go of any tension you might be holding.
10) And now, take another deep full breath, hold it for a moment, and very slowly exhale. When you're ready, gently open your eyes and bring your attention back to the room.
11) Take a moment to explore on how your body feels now, compared to when we started.

Annex 5: Slides on "care" (Session 2, Activity 2.2: A care ethics approach to a complex challenge)

What is "care"?

Care is "everything that we do to maintain, continue and repair our 'world' so that we can live in it as well as possible. That would include our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web" (Tronto, 1993).

Care consists in "performed acts that promote the well-being and flourishing of others and ourselves based on knowledge and responsiveness to the one cared for" (Hamington, 2019).
Four phases/dimensions of care (Tronto, 1993).

1) Attentiveness: Caring about something or someone refers to the phase of (correctly) recognizing a need and realizing that care is necessary.
2) Responsibility: Taking care "involves assuming some responsibility for the identified need and determining how to respond to it."
3) Competence: Care giving refers to the phase where the need is met.
4) Responsiveness: Care receiving describes the phase where "the object of care will respond to the care it receives."

Reference

Hamington, M. (2019). Integrating Care Ethics and Design Thinking. Journal of Business Ethics, 155(1), 91–103. https://doi.org/10.1007/s10551-017-3522-6

Tronto, J. C. (1993). *Moral boundaries: A political argument for an ethic of care.* Routledge

Annex 6: Case study (Session 2, Activity 2.2: A care ethics approach to a complex challenge)

Case study

Wales is part of the United Kingdom and has a population of about 3 million people. The Welsh government has proposed a reduction in the speed limit in urban areas from 30 mph (50 kmph) to 20 mph (32 kmph). About 80% of people in Wales live in urban environments.

- It is estimated that this will result in a 40% reduction in collisions, with about 1,500 fewer injuries and 6–10 fewer deaths per year. This will reduce health care costs by an estimated £92 million.
- Introducing the change including signage, communication, etc. will cost £32 million.
- It is estimated that urban travel time will increase by 10% (57% of workers in Wales are estimated to drive to work, with an average daily commute of 48 minutes).
- Slower traffic may reduce public transport frequency.
- International evidence suggests that about two-thirds of public transport users are women. Pedestrians are more likely to be women or children, while car drivers are mostly male.
- Evidence of environmental impacts of the proposed change is limited: Some research suggests that reduced speed leads to lower emissions. Depending on the type of traffic calming measures used (roundabouts, road furniture, speed bumps etc.), the proposed change may lead to increased or reduced fuel consumption.

Annex 7: Instructions for short grounding warm up (Session 2, Activity 2.4: Slow walk)

1) Find a comfortable standing position with some space around you. See if there are any movements you would like to make so that your body can be relaxed and upright. Maybe it would feel good to stretch or shake out the hands, or massage your jaws.
2) Now feel the soles of your feet firmly grounded on the earth and start observing your breath as it flows into and out of your body effortlessly. Your eyes may be closed, or they can be softly open without focusing.
3) Deepen your breath now and slow it down.
4) With each long exhale, feel how all tension drains out through your body and into the ground.
5) And with each inhale, you can draw up energy and strength from the earth. Let it nourish and inspire you.
6) Now, on your inhale, you can pull that earth energy all the way up through your body, and out through the top of your head, and on your exhale you can invite sky energy to flow down through you. You are becoming a conduit between earth and sky, drawing into your body energy from below and from above. Take 4 expansive breaths in that way.
7) Now gently return your attention back to where you are. Slowly open your eyes if they were closed, and become aware of your surroundings. Make any movements your body may need.

Annex 8: Instructions for slow walk (Session 2, Activity 2.4: Slow walk)

1) You have just created openness and awareness in your body. By being fully present in your body and connected with your intuition, you can enter into a joyful dialogue with the world around you.
2) I will give you some prompts for a slow walk exploration, which I invite you to do at the slowest speed possible. This means that you may advance only a very short distance during the allocated time.
3) As you take your first slow step forward, become aware of that internal impulse to move, and how your body is now moving in relation to the objects, spaces, and individuals around you.
4) If you encounter an object, a wall or a tree, or come to a corner, become aware of how your visual field, your sense of body, even your sense of energy expands, shifts. You can replay such encounters by slowly moving back and forth, honing your capacity for perception.
5) Keep your vision soft, remembering that seeing is only one way of taking in information. Experiment with expanding your awareness to other senses – such as hearing, smell, or touch – make your whole body a sensory organ. Try to perceive the different objects, structures, humans, and living organisms (such as plants, animals, etc.) you encounter in this expansive way. This is challenging work and requires you to slow down considerably.
6) Now expand your curiosity and sensing to the spaces you can't see, such as the root systems, rocks, or mycelial networks under your feet, and sense into them as far as you can reach with your mind.
7) Allow your curiosity to guide you. If something grabs your attention, linger there and explore, until you lose interest and are drawn to something else.
8) If others are around you, you may feel insecure. It can be very daunting to act outside prevalent norms for fear of judgment. Maintain your openness and remember that your actions encourage others to slow down as well. That is a powerful influence.
9) Find joy in simple things, like a child discovering a tree for the first time, or feeling the difference between standing directly under something such as a doorway, a power line or a tree or a few metres away from it. Or try to perceive with your knees (imagining you had eyes on them) and explore this change of perspective.

Keep exploring slowly on your own, until the timer tells you it is time to come back.

Annex 9: Questions for small group reflection (Session 2, Activity 2.4: Slow walk)

1) How are earth and other-than-humans considered in the subject you teach?
   a. How could they be considered more actively?
   b. What views or values would need to change, and how?
2) How can we better integrate our inner capacities and expanded awareness into our teaching?
3) How can we better integrate our intuitive capacities and expanded awareness into our lives?

Annex 10: Case descriptions (Session 3, Activity 3.1: Balancing act – Exploring ESD teaching objectives to address inner dimensions for sustainability)

Case 1: Exploring Environmental Consequences through Personal Ecological Footprint Calculation

In Case 1, (Collins et al., 2018) describe an approach where students calculated their individual Ecological Footprint (EF) to explore the environmental consequences of their current consumption behaviours. This learning activity aimed to engage students in understanding the impact of their daily choices on the environment, and to encourage reflection on how changes in consumption patterns could reduce their footprint.

The activity began with an introduction to the concept of EF, its measurement, and its role as a sustainability indicator. After this foundational teaching, students voluntarily participated in a two-hour interactive session where they calculated their personal EF using a calculator. The results were then shared among the group to stimulate discussion on the environmental implications of their lifestyles.

Students were prompted to reflect on their EF results and consider ways to reduce their footprint by making hypothetical changes to their consumption behaviours, such as eating less meat or using public transport. This process not only highlighted the potential environmental benefits of these changes, but also sparked deeper discussions about sustainable consumption in their daily lives.

Through this activity, students personally experienced the multidimensional character of sustainability, seeing firsthand how different aspects of their lifestyle contribute to their overall environmental impact. The exercise also enabled them to quantitatively capture the relationship between knowledge, awareness, and the environmental consequences of certain behaviours. This, in turn, facilitated better decision-making and encouraged a greater commitment to sustainable resource use.

The objectives of this learning activity were to help students understand the environmental impact of their consumption choices, explore the effects of modifying these behaviours, and foster a greater awareness of the importance of sustainable resource use. By personally engaging with the data and seeing the tangible results of their actions, students were better equipped to make informed, more sustainable choices in their daily lives.

Source: Collins, A., Galli, A., Patrizi, N., & Pulselli, F. M. (2018). Learning and teaching sustainability: The contribution of Ecological Footprint calculators. *Journal of Cleaner Production*, 174, 1000–1010. https://doi.org/10.1016/j.jclepro.2017.11.024

Case 2: Personal Approaches to Sustainable Consumption through Ecological Footprint Analysis

In the second case, as described by Frank & Stanszus (2019), students engaged in a seminar titled "Personal Approaches to Sustainable Consumption," where they developed and implemented personal transformational projects aimed at making their consumer patterns more sustainable. This approach combined the concepts of Self-Inquiry-Based Learning (SIBL) and Self-Experiential-Based Learning (SEBL), encouraging students to systematically observe and analyze their inner states and processes as they worked on transforming their consumption behaviours. By integrating self-observation with scientific methods, the seminar facilitated an intersubjective understanding of the challenges and processes involved in changing consumer behaviour.

The seminar content was divided into four key elements: (i) theoretical knowledge on sustainable development and sustainable consumption, (ii) introspective and mindfulness training, (iii) methodological knowledge for analyzing introspective data, and (iv) awareness and strengthening of personal resources. Each seminar session followed a structured format, beginning with a review of the previous session, followed by reflection on the progress of the students' individual transformational projects. This reflection provided students with support for their projects and prepared them for the analysis of their personal data at the end of the semester. Mindfulness exercises and dialogic introspection were integral parts of the sessions, deepening the theoretical understanding and practical relevance of the activities.

A significant component of the seminar involved students calculating their Ecological Footprint (EF) as a practical tool to assess the environmental impact of their consumption patterns. This calculation served as a baseline for their transformational projects, allowing them to quantify the effects of their behavioural changes over time. The students were then guided through various introspective and mindfulness practices, such as meditation, breath observation, and mindful communication, which helped them observe the affective and motivational states influencing their progress.

Throughout the seminar, students were familiarized with methodological techniques such as introspective interviews and qualitative content analysis, which they used to systematically analyse their introspective data. The course also emphasized the importance of personal resources, introducing practices from deep ecology and motivational interviewing, as well as team-building exercises to support students in overcoming challenges during their transformational journey.

The primary objective of the seminar was to build personal competencies for sustainable consumption by enhancing students' self-awareness in relation to their consumption activities. It emphasized the importance of self-determined, responsible decision-making based on a deep understanding of one's needs and boundaries. Students were encouraged to push through challenges while maintaining a focus on self-care and pleasure. The seminar's structure and content were aligned with these objectives, culminating in an oral exam and a written report where students analysed their transformational projects, abstracted from their personal experiences, and identified broader societal patterns in consumption behaviour.

Overall, this case illustrates how the Ecological Footprint can be used in educational settings to foster personal transformation and enhance competencies in sustainable consumption. By integrating theoretical knowledge with introspective practices, students were able to explore the complexities of sustainable consumption and develop the skills necessary to drive both personal and societal change.

Source: Frank, P., & Stanszus, L. S. (2019). Transforming Consumer Behavior: Introducing Self-Inquiry-Based and Self-Experience-Based Learning for Building Personal Competencies for Sustainable Consumption. *Sustainability*, 11(9), 2550. https://doi.org/10.3390/su11092550

Case 3: Understanding the Social Construction of Environmental Responsibility through Ecological Footprint Analysis

In this third case, drawn from Huddart Kennedy (2023), the focus is on engaging students in reflecting on individual and collective agency in confronting environmental issues through the lens of the Ecological Footprint (EF). This short exercise is designed to prompt students to recognize the social construction of individualized responses to environmental challenges, and to consider their roles within broader societal efforts.

The exercise begins with a brainstorming session where students, as a whole class, are asked to identify ways they can reduce their personal EF. The instructor records their ideas on the board, creating a collective list of potential actions. This initial activity serves as a warm-up, encouraging students to think critically about their own consumption habits and environmental impact.

Following this, the exercise expands to consider the students' capacity to influence environmental change at different scales. The class brainstorms how they might advocate for their university to lower its environmental footprint, discussing specific strategies and actions that could be implemented on campus. Finally, the discussion broadens to the national level, with students reflecting on how they could engage in or influence policy and initiatives that address environmental issues on a larger scale.

The objectives of this exercise are to help students understand their positionality within society, recognize their potential for strategic action, and develop competencies in collaborative planning for change. By shifting the focus from individual actions to collective strategies, the exercise encourages students to think about environmental issues in a more holistic manner, considering both personal responsibility and the importance of working together to drive larger-scale change.

This exercise is particularly effective in helping students see the interconnectedness of personal and collective actions and in fostering a sense of agency that extends beyond their individual behaviours. It serves as a valuable tool for initiating discussions on social change, personal consumption, and the role of ecological footprints in addressing environmental challenges.

Source: Huddart Kennedy, E. (2023). The power of one? Engaging students to reflect on individual agency to confront environmental issues. In D. Fischer, M. Sahakian, J. King, J. Dyer, & G. Seyfang (Eds.), *Teaching and Learning Sustainable Consumption: A Guidebook* (pp. 194–197). Routledge.

Annex 11: Comparison of case studies (Session 3, Activity 3.1: Balancing act – Exploring ESD teaching objectives to address inner dimensions for sustainability)

Comparison of learning objectives across the case studies

The table below summarizes the different objectives of the three case studies. It also offers a framework to guide discussions on the challenges of balancing different ESD learning objectives – instrumental vs emancipatory – when addressing inner dimensions of sustainability.

Case example	Primary learning objective	Approach to addressing inner dimensions	Focus on instrumental vs. emancipatory learning
Case 1: Exploring environmental consequences through personal ecological footprint calculation	Students learn to recognize the environmental impact of their consumption behaviours and explore how knowledge of these impacts can lead to more sustainable choices.	Encourages self-awareness regarding personal consumption and its global effects.	**Instrumental:** Focuses on quantifying impact and developing practical skills for sustainable living.
Case 2: Personal approaches to sustainable consumption through ecological footprint analysis	Students engage in personal transformation projects to make their consumption patterns more sustainable, while reflecting on their inner states and processes.	Emphasizes deep self-reflection, mindfulness, and self-awareness as students navigate personal transformation.	**Balanced:** Combines instrumental actions with a strong focus on personal introspection and self-directed change.
Case 3: Understanding the social construction of environmental responsibility through ecological footprint analysis	Students reflect on their role in environmental action and the social construction of responsibility, exploring agency at individual and collective levels.	Promotes critical thinking about societal norms, power structures, and collective responsibility.	**Emancipatory:** Encourages critical engagement with sustainability discourses and challenges normative assumptions.

Annex 12: Scenario cards (Session 3, Activity 3.2: Transformative teaching in action – Navigating inner and outer challenges for sustainability)

Scenario 1: Inner Transformation Challenge

Title: Navigating Student Resistance to Self-Reflection in a Sustainability Course

Scenario Description:

You are teaching a course on sustainability that emphasizes not just the environmental sciences but also the inner dimensions of change, such as values, self-awareness, and emotional resilience. A key part of your course involves guiding students through self-reflection exercises aimed at helping them identify their own values and how these align (or conflict) with sustainable practices.

However, you notice that a significant portion of your students are resisting these exercises. They find them uncomfortable, irrelevant, or too soft or woolly compared to the traditional natural scientific or technical content of the course. Some students openly question the relevance of self-reflection in a course focused on sustainability, while others disengage quietly, failing to see the connection between inner change and outer action.

Objective: As the educator, your challenge is to find ways to effectively address this resistance, and to foster openness and understanding of the broader context. What strategies can you employ to create a safe and open environment where sceptical students are willing to explore the nature and sources of their inner resistance, e.g. their individual and collective values and beliefs? How can you engage students to openly explore the role of inner transformation in broader transformations towards sustainable futures?

Scenario 2: Outer Transformation Challenge

Title: Engaging Students in Community-Based Sustainability Projects

Scenario Description:

In your sustainability course, you've designed a project that requires students to engage with the local community to address a real-world sustainability challenge. The goal of this project is to move students from theoretical understanding to practical action, helping them develop the competencies needed for outer transformation—making tangible, positive changes in the world around them.

Despite your efforts to prepare them, several students struggle with this task. Some are reluctant to engage with the community, citing a lack of confidence or feeling that their actions won't make a difference. Others have difficulty applying their classroom learning to the complexities of real-world problems. As a result, their projects lack depth, impact, and the connection to sustainability you hoped to see.

Objective: As the educator in charge, your challenge is to support your students in overcoming these obstacles. How can you help them build the confidence and skills needed to engage meaningfully with the community? What approaches can you take to bridge the gap between classroom learning and real-world application, ensuring that students are empowered to contribute to sustainable transformation in their communities?

Annex 13: Role cards (Session 3, Activity 3.2: Transformative teaching in action – Navigating inner and outer challenges for sustainability)

Scenario 1

Start of Conversation:

Educator: "Good morning, everyone. Today, we're going to focus on something a bit different – self-reflection. Before we get into our usual sustainability topics, I want us to take a few minutes to think about our personal values and how they connect to the environmental issues we study. I know some of you might be wondering why we're doing this. As human beings, we all have different experiences and feelings that shape our thinking. With this exercise, we want to turn our attention inwards and explore our own views, values, and feelings. Let's start with a simple question: what drives you to care about sustainability?"

Student: *(hesitant)* "I'm not sure how my personal values are relevant here. I signed up to learn about practical solutions, not to focus on myself. Can we just stick to the course material?"

Educator: *[responds, drawing on for example activities from session 1 and 2]*

Educator
Goal: Address student resistance by emphasizing the link between personal values and sustainable practices. **Actions:** Introduce an activity for example from session 1 or 2, respond to student concerns, and use contemplative practices to address your students' resistance. **Challenges:** Navigate resistance, maintain student engagement, and openly explore the relevance of inner work for sustainability.

Student
Goal: Express skepticism about the relevance of self-reflection exercises. You are focused on the technical aspects of sustainability and find the introspective activities uncomfortable or unnecessary. **Actions:** Ask questions or challenge the educator's approach. Share your concerns openly but be willing to engage if convinced. **Challenges:** Balance your skepticism with openness to the educator's perspective. Consider the impact of your resistance on your learning and the classroom environment

Observer
Goal: Observe the interaction between the educator and the student, focusing on the educator's strategies for addressing resistance and facilitating inner transformation. **Actions:** Take notes on how effectively the educator connects inner transformation to sustainability and how they handle student resistance. Prepare to provide feedback on the educator's approach, including strengths and areas for improvement. **Challenges:** Remain neutral and objective. Focus on specific actions and language used by the educator and student.

Scenario 2

Start of Conversation:

Educator: "Alright, team, today we're starting something exciting – our community-based sustainability project. This is where we take everything we've learned in the classroom and apply it to a real-world challenge. I know it can feel overwhelming, especially when thinking about working with the community, but this is a great opportunity to make a tangible impact. Let's start by brainstorming some ideas for our project. How do you all feel about this?"

Student: *(nervously)* "Honestly, I'm feeling a bit unsure. I don't know where to start, and I'm worried about whether we can really make a difference. I understand the theory, but putting it into practice seems a lot harder."

Educator: [responds, drawing on activities from the session 1 and 2]

Educator
Goal: Guide students in developing and executing a community-based sustainability project. Help them connect classroom learning to real-world application. **Actions:** Provide guidance on project planning, encourage student interaction with the community (e.g. deep listening to those affected and involved, and help them navigate challenges). Use activities from session 1 or 2 to deepen your students' understanding and commitment. **Challenges:** Explore student reluctance, help them overcome real-world obstacles, and ensure the project aligns with sustainability goals.

Student
Goal: You are tasked with leading a community-based sustainability project but feel unsure about how to start. You are concerned about your ability to make a real impact and are hesitant to engage with the community. **Actions:** Express your concerns and seek guidance from the educator. Engage with the project but voice your doubts about its feasibility and relevance. Be open to learning and applying new skills. **Challenges:** Overcome your initial reluctance and build confidence in your ability to contribute meaningfully to the project.

Observer
Goal: Observe the interaction between the educator and the student, focusing on the strategies the educator uses to support and motivate the student. **Actions:** Take notes on the effectiveness of the educator's guidance, the student's response, and the overall dynamics of the role play. Be prepared to provide feedback on how the educator could better facilitate the student's engagement and project success. **Challenges:** Maintain objectivity and focus on the educational strategies used and the student's progress.

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