

# Education for sustainability

## Fostering a more conscious society and transformation towards sustainability

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Received 18 April 2019  
Revised 24 June 2019  
13 September 2019  
30 September 2019  
Accepted 2 October 2019

### Abstract

**Purpose** – Current approaches to sustainability science and education focus on (assessing and addressing) the external world of ecosystems, wider socio-economic structures, technology and governance dynamics. A major shortcoming of such approaches is the neglect of inner dimensions and capacities (which constrains education for sustainability as an end), and a limited capacity to facilitate reflection on the cognitive and socio-emotional processes underpinning people's learning, everyday life choices and decision-taking (which constrains education for sustainability as a means). More integral approaches and pedagogies are urgently needed. The purpose of this paper is to advance related knowledge.

**Design/methodology/approach** – This paper provides a reflexive case study of the development of an innovative course on “Sustainability and Inner Transformation” and associated interventions in the form of a practice lab and weekly councils.

**Findings** – The paper elaborates on the connections between sustainability and inner transformation in education, offers insights into the process of adapting contemplative interventions to sustainability education and concludes with some reflections on challenges, lessons learnt and future work needed to support more integral approaches. The findings show that inner dimensions and transformation can be a vehicle for critical, improved education for sustainability and how this can be achieved in practice.

**Originality/value** – It is only recently that the concept of the inner or personal (sphere of) transformation has received growing attention in sustainability science and education. Despite this interest, such new conceptualizations and heuristics have, to date, not been systematically connected to education for sustainability (neither as an end nor means). The paper presents a critical, reflexive case, which advances related knowledge. It sets a precedent, which other universities/training institutions could follow or learn from.

**Keywords** Sustainability education, Contemplative education, Curriculum development, Inner transformation, Personal transformation, Inside-out sustainability, Interiority, Sustainability transformation, Values, Beliefs, Worldviews

**Paper type** Research paper

### 1. Introduction

Despite the prominence of sustainability as a concept, societies' trajectories remain deeply unsustainable (WEF, 2018; WWF, 2016). While sustainability scholarship and education have led to substantial analytical advancements and new knowledge over the past two



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decades, they do not seem to have catalysed the necessary change to address today's increasingly complex challenges (Wals and Corcoran, 2012; Wamsler *et al.*, 2018).

A critical review shows that the vast majority of sustainability scholarship and education has, so far, focused on the external world of ecosystems, wider socioeconomic structures, technology and governance dynamics. At the same time, a critical second aspect has been neglected: the inner dimensions of individuals (Ives *et al.*, 2019; Leichenko and Ó'Brien, 2019; Parodi and Tamm, 2018; Wamsler *et al.*, 2018).

More holistic pedagogies are urgently needed to address today's challenges, as education is one of the most powerful and proven vehicles for sustainable development. In this context, education is both an end and a means, as expressed in the United Nation's Sustainable Development Goals (SDGs) and, particularly, the new global education goal (SDG4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2015). Achieving the SDGs will require more than "business as usual" pedagogies and approaches to catalyse the necessary change.

To address current gaps, the concept of the inner or personal (sphere of) transformation has only recently received growing attention in both sustainability science and education (Wamsler *et al.*, 2018; Frank *et al.*, 2019; Leichenko and Ó'Brien, 2019). Inner transformation, as used here, describes changes related to people's mindsets, which are made up of their values, beliefs, worldviews and associated cognitive/emotional capacities (such as mindfulness, self-awareness, compassion and empathy), and thus involves changes in people's consciousness[1]. They lie at the root of many sustainability challenges; they can be important leverage points for change, and are thus fundamental to the solutions to the world's greatest challenges (Abson *et al.*, 2017; Meadows, 1999).

Accordingly, mindfulness-based, contemplative teaching approaches[2] are also increasingly promoted as a potential new way to address socio-ecological challenges and create a more reflective, compassionate, just and sustainable society (Frank *et al.*, 2019; ACMHE, 2016; Gugerli-Dolder and Frischknecht-Tobler, 2011; Gugerli-Dolder *et al.*, 2013; Schoeberlein, 2009). Mindfulness is here defined as the non-judgmental awareness that emerges through intentionally and continuously paying attention to subjective momentary experience with an open, accepting, benevolent and compassionate attitude (Boehme *et al.*, 2016; Kabat-Zinn, 1990). Mindfulness research has been growing in recent years (AMRA, 2018), originally mainly in the clinical context, before expanding into behavioural research and multiple societal areas, including education (van Dam *et al.*, 2018). The findings show clear benefits for both teachers' and students' health and well-being (Grossman *et al.*, 2004), emotional regulation (Hill and Updegraff, 2012), memory, attention and cognitive performance (Eberth and Sedlmeier, 2012; Zenner *et al.*, 2014), interpersonal qualities and prosocial behaviours (Luberto *et al.*, 2018) and, more recently, ethical values and virtues (Grossman, 2015). Consequently, mindfulness-based, contemplative teaching approaches are increasingly gaining mainstream acceptance in education, while their potential for education for sustainability has received little attention from researchers (Frank *et al.*, 2019; Wamsler *et al.*, 2018)[3].

While influential players in the field, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), have started to openly advocate for better recognition of the cognitive and socio-emotional dimension of learning in SDG-related education (UNESCO, 2017), related knowledge is scarce and fragmented. In fact, despite growing interest, the inner (or personal) (sphere of) transformation has, to date, not been systematically connected to sustainability education (Leichenko and Ó'Brien, 2019; Fischer *et al.*, 2017; Frank *et al.*, 2019; Wamsler *et al.*, 2018). Their potential for education for

sustainability, both as an end and means, remains a scarcely researched area in general, and even more so when it comes to educational approaches and interventions.

Against this background, this paper provides a reflexive case study of the development of a master's level course on "Sustainability and Inner Transformation", and associated contemplative interventions in the form of a practice lab and weekly councils, which were designed to critically investigate the role of inner dimensions and transformation for sustainability. The course is part of a master's program on "Environmental Studies and Sustainability Science". Section 2 provides the broader background and context that enabled the development of the course; it describes the research and educational activities in the first foundational, experimental phase and how it was evaluated. Section 3 expands on how the findings of this first phase were revised and integrated into the creation of the "Sustainability and Inner Transformation" course. The final course curriculum, the contemplative interventions, their implementation and evaluation that have resulted from this process are then presented. Section 4 concludes the paper by offering some critical reflections of the development process, related lessons learnt in this transdisciplinary endeavour and ways forward for future work in education for sustainable development (ESD).

## 2. Phase 1 – preparing the ground

This strategic first phase was set up to:

- experiment with new approaches to learning for sustainability and validate them empirically (Section 2.1);
- create a better scientific foundation (Section 2.2); and
- build an institutional "home" and inter-institutional cooperation for future inner transformation-related research and education activities (Section 2.3).

### *2.1 Experimenting and validating new teaching approaches*

To experiment and validate new teaching approaches, in 2015 we designed an experimental learning lab in close cooperation with five students who wanted to engage in this endeavour as part of their "Knowledge 2 Action" project. Working in coordination with the Students' Health Centre, the specific aim was to explore contemplative approaches in sustainability teaching and learning, and assess their value and potential with a view to making them an integral part of the curriculum. In 2016, the lab ran for three months and included 70 students from two sustainability-focused masters' programs.

Contemplative teaching and learning approaches were integrated into mandatory course activities. This included the encouragement of mindful interactions during listening (deep vs distracted listening), reflecting and working together (cf. [Trigwell et al., 1999](#); [Nhat Hanh, 2003](#)), and students preparing a written reflection on their learning in relation to five key aspects of mindfulness (observing, describing, acting with awareness, non-judgement and reactivity) ([Baer et al., 2006](#)). In addition, written assignments on sustainability and inner transformation were offered as graded tasks, and a total of 16 voluntary sessions for personally engaging in contemplative practices were conducted outside the usual course activities. They lasted between 15 and 30 min and included a variety of techniques (body-scan, breathing and attention exercises, gratitude and compassion meditations, mindful walking and deep listening).

The assessment of the new teaching approaches took the form of written and oral course evaluations (response rates: 50/100 per cent), two surveys and a group discussion (response

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rates: 71/23/29 per cent). The results showed that a majority of students were open to including contemplative approaches in sustainability learning and teaching. Around 80 per cent welcomed the integration of contemplative approaches into the course, and 20 per cent were neutral. Around 65 per cent stated that the lab added extra value to the course in general. Only 1 out of 70 students thought that its continuation would not be worthwhile. In addition, all students who had participated in the voluntary sessions agreed that they had a positive influence on their learning[4].

### *2.2 Creating improved scientific foundations*

In parallel to the empirical experimentation with, and validation of, the new teaching approaches, we assessed the potential of the inner (or personal) sphere of transformation for sustainability research and education through a range of scientific reviews and studies. The first three studies focused on mindfulness as a potential aspect of inner capacity and transformation towards sustainability, followed by broader studies on inner dimensions and transformation.

The first study explored whether there are any linkages between mindfulness, compassion and sustainability, and how this is reflected in current sustainability research, practice and teaching (Wamsler *et al.*, 2018). It was based on a qualitative literature review that was complemented by the outcomes from the experimental learning lab (cf. Section 2.1). The results showed that mindfulness and compassion have so far been vastly neglected in both sustainability science and teaching. At the same time, it provided scientific support for the positive effects of mindfulness and associated compassion-building on aspects that are relevant for sustainability transformation, such as:

- well-being;
- the activation of (intrinsic/non-materialistic) core values;
- consumption and environmental behaviour;
- human–nature connections;
- equity issues;
- social activism; and
- deliberate, flexible and adaptive responses to sustainability challenges, such as climate change.

The study concluded that mindfulness has the potential to contribute to understanding and facilitating sustainability, not only at the individual level, but at all scales and should, thus, become a core element in sustainability science, practice and teaching. To support related endeavours, the study also provided the first comprehensive framework for contemplative scientific inquiry, practice and education in sustainability.

The first study provided a springboard for further discussions on how we conduct research and education in sustainability, and how we construct knowledge, highlighting the importance of including multiple perspectives and entry points. While until now, reductionist research and materialism has been adopted as the dominant intellectual and social model, the study opened up a new discourse on the role of individual inner dimensions and transformation in sustainability.

The second study was built upon the first by looking deeper into specific sustainability challenges – i.e. climate change and disasters – and the associated sustainability fields of climate change adaptation and risk reduction. Based on a qualitative literature review, it explored the potential role of mindfulness in adapting to increasing risk and climate change

(Wamsler, 2018). The study concluded that mindfulness has the potential to facilitate adaptation through cognitive, managerial, structural, ontological and epistemological change processes. In addition, it sketched the conceptual trajectories of the mindfulness–adaptation nexus and presented a comprehensive framework for “mindful climate adaptation”.

The third study aimed to fill the gaps identified in the two previous investigations, and address their limitations (Wamsler and Brink, 2018). As new concepts and approaches emerged, they required critical construct validation and empirical testing. Accordingly, the third study was designed as an empirical investigation. It was the first empirical exploratory investigation of the potential correlation between individuals’ intrinsic mindfulness (as opposed to external interventions) and both pro- and reactive climate change adaptation. Based on a survey of citizens at risk from severe climate events, it showed that individual mindfulness can be correlated to climate change adaptation at different scales. This empirical work supported the two previous studies, as it indicated that mindfulness might not only relate to how we think about the social and environmental crises that affect our world, but might also help to take the actions needed to build a more sustainable society. While this study provided important new insights, it was limited in breadth (number of participants and context) and depth (four dimensions/items of mindfulness disposition).

Consequently, the three studies that followed this initial work explored the role of inner dimensions in climate change adaptation and risk reduction more broadly. Based on a survey of Swedish citizens at risk from severe climate events, the fourth study showed that citizens’ adaptation is mediated by personal values, worldviews and place attachment – aspects rarely considered in sustainability science and teaching. It highlighted that motivation to adapt goes beyond “rational” (economic) self-interest, and ended with a call for more value- and worldview-sensitive approaches to sustainability (Brink and Wamsler, 2019). The fifth and sixth studies present related contemplative approaches, measures and design principles (Wamsler and Raggars, 2018; Wamsler *et al.*, 2019).

The following studies assessed the potential of inner dimensions for transformation and associated paradigm shifts more broadly and/or explicitly in relation to the SDGs and/or ESD[5].

Together, the different studies showed that inner dimensions, inner transformation and sustainability were more connected than expected, in both research and education, presenting a potential that is not yet tapped into.

### *2.3 “Building” an (inter-)institutional foundation*

The experimental learning lab (cf. Section 2.1) and subsequent research (cf. Section 2.2) showed the need to create an institutional platform for tapping into the identified potential. It was clear that without institutional backing, continued support and work on this topic would be challenging because of bureaucratic and institutional obstacles, such as budget lines, allocation of teaching hours and academic resistance regarding new teaching approaches and foci.

To address these challenges, strategic support was sought from the Social Science Teaching Academy within the university. A teaching portfolio was presented to the Academy, which drew upon contemplative perspectives and whole-person approaches, and provoked many questions about both what and how we teach. However, after two rounds of interviews and scrutinizing, the jury was convinced. Even better, they were supportive of making such perspectives more explicit and prevalent in both teaching and research[6].

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The Contemplative Sustainable Futures Program was set up to provide a platform for such endeavours. The aim was (and still is) to critically assess the potential role of inner dimensions and transformation in societies' transition towards sustainability, and create space and opportunities for knowledge development, learning and networking on this topic. Accordingly, it was designed to consist of different building blocks, including research, networking and teaching activities.

The establishment of the program was supported by the increasing number of publications in recognized sustainability outlets (journals and publishing houses; cf. Section 2.2), which started to open up new dialogues on the issue within existing structures. In addition, a knowledge network was established through launching a database of relevant actors in the field, and regularly exchanging knowledge with them. The research conducted under the program quickly spread and helped to expand this network of mutual support and engagement, without which it would have been impossible to enter Phase 2.

The financing of program activities continued, however, to be challenging, as they did (and still do) not fall within the traditional funding frameworks. Consequently, to generate an initial financing stream and create momentum for the program, aspects of inner transformation were first built into ongoing teaching (cf. Section 3.1) and research activities (cf. Section 2.2).

### 3. Phase 2 – development and implementation

The findings of Phase 1 were evaluated and integrated into the creation of the master's level course "Sustainability and Inner Transformation" and two associated contemplative interventions. This section presents the development, implementation and evaluation of these activities.

#### 3.1 *New master's-level course: linking inner and outer sustainability*

The successful implementation of Phase I motivated the move from temporary activities to the more sustainable integration of the topic into existing academic structures. The proposal to develop and dedicate a whole new course on this topic was, however, initially met with scepticism. Some colleagues were opposed to the idea that such issues should enter the academic field, and certainly not sustainability science. As the separation of church and state has become deeply embedded, academic institutions have almost completely rejected any mention of aspects that may be interpreted as inner or spiritual, something that has been reported in various cultural contexts (cf. [Astin et al., 2007](#); [Burchell et al., 2010](#); [Lee, 2012](#); [Goleman and Davidson, 2017](#)). While the separation of church and state has provoked certain advances, their separation has also been referred to as the "disenchantment of the world" ([Weber, 1966](#)) or the severing of the "lifeworld" of personal and social relations from "systems" ([Habermas, 1981](#)), and is reflected in a long-standing tension between subjectivity and objectivity in sciences ([Bourdieu, 1988](#))[7].

Given the existing structures, the course description was reworked into an acceptable format, by explicitly highlighting its critical and scientific approach. After two years and several rounds of discussions at the faculty level, it was accepted in 2018. Its empirical, scientific and (inter-) institutional grounding established during Phase 1 (cf. Section 2) had overcome resistance from traditional structures and paradigms.

The overall purpose of the course was (and still is) to critically assess the potential role of inner dimensions and transformation for sustainability. Its aims are threefold. Firstly, it allows students to develop a critical understanding of the potential interlinkages between inner transformation and sustainability (theories and practices). Secondly, it supports students in assessing inner transformation theories and practices in relation to specific sustainability fields (such as climate change adaptation, climate change mitigation, risk

reduction or sustainable consumption). Thirdly, the course allows students to engage and reflect on the nature of inner transformation and its salience in sustainability science and education[8]. The latter also includes the development of a critical understanding of inner transformation as a social phenomenon.

Accordingly, the course, which ran for the first time from November 2018 to January 2019, included a series of lectures and seminars to explore the role of inner dimensions (e.g. values, beliefs, worldviews and associated cognitive/emotional capacities) and their transformation to support sustainability (for instance, regarding environmental leadership, activism, social justice, human–nature connections and integral urban development). In this context, knowledge coming from sustainability science, social neuroscience, psychology, behavioural economics, contemplative studies and transformation theories could be systematically integrated with the help of both the gained experimental, empirical and theoretical findings (cf. Sections 2.1-2.2) and the established knowledge network and associated actors (cf. Section 2.3). In addition, contemplative teaching and learning practices could be systematically integrated into mandatory course activities. This included the encouragement of mindful interactions during listening (deep vs distracted listening), debating, reflecting and working together, and the integration of weekly councils (cf. Section 3.2) and a voluntary practice lab (cf. Section 3.3). Finally, written assignments on sustainability and inner transformation, and related peer teaching were included as graded tasks.

Written and oral course evaluations (response rates: 100/100 per cent) and two surveys were conducted to assess the course’s innovative approach and to develop it further. Surveys were completed by a target group of 14 people (participants in the Sustainability and Inner Transformation course; response rates: 100/79 per cent). The control group consisted of 23 students from another course that was run in parallel (response rates: 100/70 per cent)[9].

All participants from the target group stated that the Sustainability and Inner Transformation course was very relevant for them, by highlighting its importance for both personal and professional development and the interconnections between the two for supporting sustainability transformations:

I am very grateful to have chosen this course. It combined personal development (leadership, self-knowledge and awareness, my own values and skills) with our academic choice (sustainability).

Another student explained:

Personally, it [the course] offered me hope for the first time since I started studying environmental studies and sustainability science. Professionally, it added another perspective to the commonly very limited, rational understanding of sustainability problems.

The course was perceived as transformative at different levels:

Inner transformation can offer both a straightforward scientific field within science, but also a personal practice that has the potential to improve both my personal and professional life, which for some had immediate outcomes: The course definitely changed me.

Accordingly, all participants in the target group stated in the post-course survey that their expectations were fully met, and 13 out of 14 students indicated in the course evaluation that they were “very satisfied”. In contrast, the control group reported that the main reason for selecting their course was to open up future job opportunities, a rationale which vanished when certain course activities did not fully match students’ professional plans.

Another interesting result was related to students’ stress levels. The stress level of the target group was lower at the beginning and continued to fall during the time the course ran, while the stress level of the control group increased (Table I). Stress triggers that students in both groups described related to:

- their studies in terms of pressure to succeed;
- the topic of their studies (“learning about the terrible environmental impacts we have on the planet and how unaware people are of them is always depressing and stressful”);
- their life context (often living for the first time in a foreign country and being in transition between education and work with uncertainties regarding one’s future and meaning-making); and
- the teaching methods used (traditional methods were said to leave little room for deep learning and self-reflection, which ultimately increased stress levels).

While the percentages identified in [Table I](#) do not, as such, say much, the qualitative comments from students who completed the post-course survey provide important information about the change in stress levels and how this relates to identified triggers. One student from the target group, whose stress level had reduced, noted:

The reason why my answer changed so much is not that we have less to do than we had before (I still think that the amount of work in the master’s program overall is too much and this doesn’t add to our learning experience – to the contrary I believe that it lowers the possibility to engage deeply with the topics). It is more that I gained a more healthy perspective on the topic: I do as much as I can, but not [anymore] at the expense of my health and well-being.

Other reasons relate to an increase in positive emotions (motivation, hope), agency and meaning:

For the first time I started studying I am motivated again and don’t feel that we are just going to kill our planet [. . .]. I learned super much about sustainability, but also about myself, and what I want to work afterwards.

Given that teaching methods, in themselves, were identified as a source of stress, the course’s non-traditional approach also seems to have contributed to this change. In this context, not only the weekly councils (cf. Section 3.2) and the practice lab (cf. Section 3.3), but also the inter- and trans-disciplinary approach (“It was amazing to have so many different perspectives on sustainability [. . .] truly an interdisciplinary course”) and peer teaching practices were mentioned. One student explained:

One of the parts I enjoyed most in the class was the peer teaching because it narrowed down this huge and unfamiliar field to topics I and my classmates could relate to, it integrated the class in our own thinking process.

Question: Do you consider the master program and/ or your life situation as stressful?	Control group (%)		Target group (%)	
	Pre-course survey	Post-course survey	Pre-course survey	Post-course survey
Yes	30.4	37.5 (increase of 7.1%)	21.4	18.2 (3.2% changed to lower stress levels)
Sometimes	60.9	56.4 (4.5% changed to higher stress levels)	42.9	18.2 (24.7% changed to lower stress levels)
No	8.6	6.3 (2.3% changed to higher stress levels)	35.7	54.6 (increase of 18.9%)

**Table I.**  
Changes in perceived stress levels



Reasons why initial stress levels in the target group were lower in the control group might, among other things, be related to the fact that in the pre-survey, 54 per cent of the target group stated that contemplative practices played a role in their life, compared to 12.5 per cent in the control group.[10] The results from the evaluation of the practice lab support this reasoning (cf. Section 3.3). Practices mentioned by students included for instance mindfulness and compassion meditation, walking meditations, breathing and attention exercises, mindful listening and talking and self-enquiry techniques such as journaling.

A related aspect appears when looking into students' value–action gap, i.e. the mismatch between their knowledge and concerns about the environment on the one hand, and the way they act (e.g. lifestyle or purchasing decisions) on the other hand. In fact, a greater percentage of the target group seemed to live in accordance with their values (i.e. the value–action gap is lower), with 72.7 per cent stating in the post-survey that they considered their way of living, to a great extent, to be sustainable. This can be compared to 43.75 per cent in the control group, where some members explicitly mentioned in this context also their high stress levels, stating, for instance “I cannot picture myself living with this stress level for a longer time period.” Looking into specific sustainability actions, the biggest differences between the two groups related to consumption; in particular, 72.7 per cent of the target group saw their consumption, in the form of acquisition, usage and disposal of goods, as sustainable, compared to 25 per cent of the control group. At the same time, the target group showed high levels of critical self-reflection:

I try to be vegan, I try to only buy second-hand (or fair) goods, I try to avoid plastic, I don't fly [...] but I still possess so many things, I travel home by train quite sometimes, I go shopping to a supermarket, I live in a space that is huge when compared to the world average – can I actually call my consumption sustainable?

Another participant from the target group stated that he/she reduced her/his use of social media and mobile phone. This aspect was also discussed in the context of the course's “Guidelines for joint class work and interactions” as well as different lectures on stress, well-being and their linkages to pro-social behaviour and sustainability.

Exploring the potential importance of inner dimensions in addressing the value–action gap was also the focus of an assignment conducted within the Sustainability and Inner Transformation course (Hertog *et al.*, 2019), which provided further insights. It was based on a survey ( $n = 97$ ) sent to all current students and staff involved in the master's program, and a focus group discussion with all participants in the Sustainability and Inner Transformation course. Interestingly, although the survey participants only included people who were highly environmentally aware, their level of action varied from quite low (indicating a high value–action gap) to quite high (indicating the contrary). In addition, more than half of the participants identified a value–action gap by themselves. Various inner dimensions were identified as potential influential factors. Positive correlations were, for instance, found between pro-environmental behaviours, subjective well-being and self-authoring mindsets [i.e. people able to critically evaluate and choose their own values and determine their own path (Kegan and Lahey, 2009)]. The survey sparked a lot of interest among students and staff. “Why don't we talk more about this?”, was a question that was commonly asked (Hertog *et al.*, 2019, p. 35).

The personal and inner side of sustainability was a topic that many students felt strongly about and struggled with, but is seldom touched upon in sustainability science and education. Reactions to the survey and focus group discussion clearly showed that there was a strongly felt need to also engage with, and discuss, inner dimensions, the associated

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value-action gap and the inconsistencies and moral discomfort that comes with environmental awareness (Hertog *et al.*, 2019)[11].

This is in line with the result that 100 per cent of the target group, and 50 per cent of the control group stated in the post-course survey that they would like to see inner transformation theory and practices more firmly integrated into the curriculum and future activities (i.e. as a mainstreaming topic, which should be addressed in all sustainability-related courses). 50 per cent of the students explicitly stated in the written course evaluation (and 93 per cent in the oral course evaluation) that the Sustainability and Inner Transformation course was (one of) the best and most inspiring courses they had ever taken. It was described as “the missing piece in the [sustainability] puzzle” as it allowed students to link personal, practical and political spheres of transformation.

The described, systematic, step-by-step approach taken for integrating inner dimensions and transforming existing systems and structures from within has recently led over to the next phase, consisting of:

- the further improvement of the Sustainability and Inner Transformation course to incorporate emerging practices developed for sourcing innate inner capacities for being, knowing and acting to be able to simultaneously solve problems and shift systems and cultural norms (Sharma, 2007, 2018; Walsh *et al.*, 2020); and
- the revision of the master program’s overall aims and intended learning outcomes. The latter now includes the development of awareness and understanding of how personal spheres and approaches beyond academic and scientific knowledge (e.g. cultural, traditional or indigenous) contribute to sustainability.

### *3.2 Weekly councils: conversations that matter*

At the end of every week, the course included weekly councils[12]. The aim was to create a space for sharing theoretical and personal insights, perceptions, experiences and feelings in a way that allowed participants to be fully present and learn from each other. Based on the council methodology (Zimmermann and Coyle, 2009), sessions were conducted in a circle with a focus on deep listening and understanding. Three guiding questions were defined to help structure the conversations:

- (1) WHY? Why is the consideration of inner dimensions and transformation (not) relevant for sustainability research, practice and teaching? (Critical assessment of existing rationales and associated concepts/theories).
- (2) WHAT? What is the influence of inner dimensions and transformation on sustainability and vice versa? (Critical assessment of mutual influences and outcomes at different scales and their relation to the SDGs).
- (3) HOW? How can inner dimensions and transformation be considered in sustainability research, practice and teaching? (Critical assessment of concrete measures and their potential integration at different scales to support the SDGs).

The conversations were based on:

- weekly reading of obligatory course literature;
- input from weekly course activities (lectures, seminars and excursions); and
- students’ personal insights and experiences. Regarding the latter, students were asked to write down their reflections at home to share during class.

Most weekly councils lasted 30-45 min. In addition, three 60-min sessions were provided to allow space for more in-depth discussions on each of the three guiding questions. For these three sessions, student groups were asked to prepare a short teaser setting out their understandings, and illustrate them in the form of a mind map, which was then used to structure the group discussion.

Everyone appreciated the fact that the councils provided a safe place (“It was a safe space to discuss and increase knowledge”) and opportunity that made it possible to:

- listen to each other (“Listening to each other, and creating the time once a week to do that is excellent”).
- reflect upon and systematize newly gained knowledge (“The summing-up and open dialogue. Great.”), which was seen as particularly important as the course took an innovative approach to sustainability (“Be able to express all those things that the course had set into motion”); and
- give students agency in their learning process (“It felt like we had ownership. This takes humility and trust in our abilities, thank you for that”) and in “walking the talk” (“It was very useful to bring contemplative practices into practice”, “Using knowledge in our own practice, how we talk, listen, work together”).

70 per cent of students stated that the weekly councils were of value in their current form. The other 30 per cent said that they would have liked to:

- have more time for the councils;
- change the timing (avoid late afternoons and end of the week); and
- have a simpler format (e.g. simpler use of mind maps).

### *3.3 The practice lab: walking the path*

Another aspect of the course was a voluntary practice lab[13]. The lab was intended to be an unconventional classroom component, which disrupts the traditional model of teaching and learning in the hope of offering something that is more transformative for students and teachers alike.

The design of the practice lab was mainly based on lessons learned from the experimental learning lab (cf. Section 2.1). Compared to the first lab, its focus was more closely linked to the course’s content (i.e. sustainability) and associated fields (e.g. climate change mitigation and sustainable consumption). Accordingly, sessions built upon each other, moving from individual, to social and environmental dimensions. Related practices were based on different sources, such as:

- an online tool recommended by the Lund University Student Health Centre, which provides exercises related to individual and social dimensions (e.g. breathing, body-scan, compassion and loving-kindness exercises)[14]; and
- the Education for Sustainable Consumption through Mindfulness Manual, which provided exercises related to the environmental dimension (Fritzsche *et al.*, 2018).

Compared to the first lab, more time and room was allowed for in-depth engagement and reflection (in the form of additional in-class time, at-home exercises and journaling). The first few minutes of each session allowed participants to get settled and relax. Then, the next 5 min were allocated to introducing the session’s content/techniques, either by the session coordinator or through an introductory video. At least 10 min were dedicated to the actual

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exercise. The last 5 min allowed for silent or group reflections. Participants were then asked to do additional exercises at home (10-15 min per day) and write down their reflections.

The evaluation showed that 86 per cent of participants “very much” appreciated the opportunity to participate in the voluntary practice lab and attended most of the sessions. One student was neutral (preferred to do exercises at home), and one was not particularly interested. These two students decided not to participate. Time constraints were given as the reason for not being able to attend all of the sessions or for dedicating less time to at-home exercises.

All participants stated that the lab added value to the course. The reasons were manifold. Students stated, for instance, that it had initiated or supported their own practice through providing time and introducing different techniques. This had, in turn, an effect on their overall well-being and learning processes, in that the regular practice was said to have increased concentration, self- and group reflections:

I could notice the days in class in which we did the practice lab that my attention level was considerably higher, I felt it was easier to focus in class, and at home on the readings.

“Being more patient and thinking before speaking. Better listening” were effects that were particularly noted. Students also stated that the lab supported their learning environment, in that it influenced their relationships with others. They mentioned that “there was a different atmosphere in the classroom because of it”. It also helped to deepen knowledge through their own experience of how individual social and environmental dimensions are interlinked. One student stated, for instance, that “our behaviour is to a large extent influenced by our level of happiness, our fears and needs; these can all be influenced by mindfulness”. Finally, the lab was seen as important for aligning knowledge with action: “Practicing something that we were theoretically discussing. Walking the talk”.

Several students also explicitly expressed their appreciation of the critical mindfulness perspective that was taken, which was achieved by combining the lab with lectures on critical mindfulness, well-being and stress, and their relation to sustainability issues, such as sustainable consumption: “I have learned about the history, use and misuse of the concept. It has been contextualised and brought to a broader relevance.” 67 per cent of participants also said that it had influenced their daily behaviour, while the remainder were neutral. One of those who gave a neutral response stated that, “When I did it regularly, yes [it influenced my daily life].”

When asked about which aspects of life the lab had most influence on, the following answers were given: decreased stress/anxiety (83.3 per cent); increased attention during class and study (83.3 per cent); increased overall well-being (66 per cent); greater compassion and/or understanding for myself and my work/interests (83.3 per cent); greater compassion and/or understanding for others (66 per cent); greater compassion for, or connectedness with, nature (50 per cent); increased awareness of personal (un)sustainable consumption (50 per cent); and increased awareness of others’ (un)sustainable consumption (50 per cent).

The reasons given for lower or no perceived influence were:

- irregular personal practice;
- the short duration of the course and, thus, the practice lab (11 weeks, with 7 weeks of in-class practice); and, consequently; and
- the limited time dedicated to contextualised exercises (social and ecological dimensions).

The importance of contextualising contemplative practices in sustainability became apparent through various statements, such as: “To me, the last sessions in which mindfulness was put in a social and environmental context were the most relevant and valuable ones”.

79 per cent of participants stated in the post-course survey that they planned to continue with contemplative practices, and those who already had an established practice before the course were planning to increase the time they dedicated to it. One student justified his answer by saying: “It makes me a more content and better person”. Another noted: “Be the change you want to see”, indicating its integrated value for both individual and global sustainability. Finally, all of the target group and 50 per cent of the control group perceived mindfulness-based, contemplative approaches as being relevant in the context of sustainability teaching and learning.

#### 4. Conclusions: critical reflections and the way forward

Research into ESD points to the need for:

- interdisciplinary and systemic teaching approaches (Wals and Jickling, 2002);
- the transformation of taken-for-granted assumptions about the scientific underpinning of different disciplines, and the values they engender (Wals and Jickling, 2002; O'Brien *et al.*, 2013);
- a re-orientation towards more experimental, innovative and whole-person approaches that challenge the fundamental assumptions of mass education (Dawson and Oliviera, 2017), which, in turn requires;
- the incorporation of new pedagogical models, where engaged students become agents for change in a learning community (Dawson and Oliviera, 2017).

The latter requires learning that builds on experience and emotions that are embodied – and not only embrained – and which are therefore better aimed at fostering the behavioural change needed to act sustainably (Dawson and Oliviera, 2017). Despite recent advancements in the fields of contemplative and transformative pedagogy (cf. Mezirow, 2000), putting these principles into practice is still a challenging endeavour.

The reflexive case study of the Sustainability and Inner Transformation course is a case in point. The lessons learned from its development and implementation demonstrate that embracing the above-mentioned principles is possible and, if realized, are beneficial and highly appreciated by students. In addition, it shows that these principles can be supported by:

- continuous empirical experimentation and validation of new teaching approaches;
- the linking of these approaches to research that challenges taken-for-granted assumptions about the scientific underpinning of different disciplines to allow the emergence of fundamental new ways of critical thinking and problem-solving; and
- their anchoring in an institutional and inter-institutional support system that allows people to engage in such endeavours and, ultimately, helps them to collectively become more capable of withstanding setbacks and addressing complex sustainability challenges.

These aspects helped to overcome bureaucratic and institutional obstacles and academic resistance by starting the process in a spirit of experimentation (here, the first lab) and then continuing, step-by-step, to transform existing systems and structures from within (here, the development of the Contemplative Sustainable Futures Program and associated curriculum developments), while at the same time creating a supportive community and new paradigms (here, through developing scholarship and a knowledge network). The recognition of the course by leading scholars outside one's own structures as being “the first of its kind” (Egan, 2019) can also be a powerful source of change. Creating a supportive community,

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while shifting paradigms within the academic discourse (as seen in studies that took up the outcomes of the Program; e.g. [Brown et al., 2019](#)) was crucial to unite efforts and ultimately create spaces where new approaches to research and learning could take root, be nurtured and flourish into ways of knowing, being and becoming that serve people, places and the planet.

The establishment and work of the Program and related curriculum development can be seen as part of a newly emerging nexus of integral education ([Esbjörn-Hargens et al., 2010](#)) and social change that is based on building a more conscious society, what others have called “meta-modernism” ([Björkman, 2018](#)), or the interplay between systems, soul and society ([Emerge, 2019](#); [Perspectiva, 2019](#); [Wilber, 1999](#))[15]. As scholars, researchers and educators, we can choose how we position our work with respect to (neoliberal) institutional norms, growing worldwide resistance to these norms, and more integral approaches – even if it means the humility of not knowing.

It may turn out to be the case that some of what is currently proclaimed about inner dimensions and transformation pathways may be wrong. But we do not (yet) know what is true.

It is thus crucial to shift the conversation and undertake a critical analysis of what the potential benefits of inner dimensions and transformation are – and are not. An increasing number of authors are seeking to show how contemplative practices can change our minds, brain and body ([Goleman and Davidson, 2017](#)). But such conversations have to be taken further. Platforms such as the Contemplative Sustainable Futures Program are needed for related critical enquiry, teaching and learning that can connect current knowledge to changes on a wider scale. This applies also to the issue of mindfulness and associated concepts, such as empathy and compassion. While mindfulness is gaining mainstream acceptance in education, research on mindfulness for education in sustainability is still in its infancy ([Frank et al., 2019](#); [Wamsler et al., 2018](#)). Related explorations require actively considering and engaging in critical debates and associated challenges. Mindfulness should, in fact, not be seen as a universal panacea or a “one-size-fits all” approach. Instead, any potential negative applications or impacts need to be actively considered, such as possible adverse effects ([Rocha, 2014](#)), its instrumentalisation for undesirable purposes, or to reproduce neoliberal self-optimisation ideologies ([Reveley, 2016](#); [Walsh, 2016](#)). In addition, it is important to adapt its use to the context of sustainability and associated fields of application, rather than automatically assuming a positive effect. The reflexive case study presented here shows that linking mindfulness with sustainability education that addresses emotional and cognitive capacities and biases is, in this context, a promising way forward. This outcome is supported by other studies in the field of sustainable governance ([Whitehead et al., 2017](#); [Jupp et al., 2017](#)). It shows the need for further inquiry on this topic that can assess and continue to develop the evidence base of such approaches, to support inner-outer sustainability.

By actively considering existing critiques and challenges, individual inner dimensions and transformation can thus become a vehicle for critical, improved education and social change (thus being both a means and an end). The field is clearly underexplored, but highly relevant in the context of education for sustainability and the SDGs, particularly the global education goal (SDG 4) and its target to ensure that all learners are capable of contributing to sustainable development (Target 4.7). This is supported by influential players such as UNESCO, which has also started to openly advocate for better recognition of cognitive and socio-emotional dimensions of ESD ([UNESCO, 2017](#)). This case study provides important insights and sets a precedent for related endeavours.

## Notes

1. Inner transformation through expanded consciousness is an inherent human capacity and is embodied in notions such as self-awareness, mindfulness, empathy and compassion (Goleman, 2009, 2011), which can be related to cognitive/emotional, religious and indigenous practices or knowledge systems (Chinn PWU, 2015; O'Brien, 2018; Schlitz *et al.*, 2010; Sharma, 2007; Wamsler *et al.*, 2018). Accordingly, consciousness refers here to the subjective sense of knowing, while expanding consciousness means then strengthening the experience of knowing – strengthening and opening our capacity to be aware. The latter relates to four categories of knowns: i) our first five senses (hearing, sight, smell, taste, and touch); ii) interior signals of the body (bodily sensations), iii) mental activities (thoughts, feelings and memories), and iv) sense of connection to other people and to nature (relational sense) (Siegel 2012).
2. This includes a broad range of meditation practices and other interventions/methods linked to the concept of mindfulness aimed at increasing non-judgmental attentiveness to the present moment (Chiesa and Malinowski, 2011; Cortland and Davidsson, 2019).
3. It is recognised that contemplative teaching approaches have a long history in different educational settings; this is not the case, however, in mainstream universities, and particularly in sustainability education, in a context in which we seek to meet the SDGs and address wickedly complex global issues, such as climate change.
4. Details regarding the lab evaluation can be found in Wamsler *et al.* (2018).
5. All studies are available at: [www.lucus.lu.se/research/urban-governance/contemplative-sustainable-futures](http://www.lucus.lu.se/research/urban-governance/contemplative-sustainable-futures) and <https://christinewamsler.wixsite.com/sustainable-futures>
6. At the institutional level, the Program's establishment and continuation was also supported by systematically anchoring it in personal development plans of staff.
7. The emerging recognition for the need for more holistic or integral approaches, which retain both subjective and objective insights and methods, is spurred by today's context of complex global issues. Mindfulness is an interesting case in this context. Although it centrally involves subjectivity, many mindfulness-based interventions, such as mindfulness-based stress reduction and cognitive therapy, have been carried out in an evidence-based way, including objective measurement of impacts from the start and in a secular framework (Kabat-Zinn, 1990).
8. The course syllabus is available at [www.lumes.lu.se/about/programme-outline/3rd-semester/sustainability-and-inner-transformation](http://www.lumes.lu.se/about/programme-outline/3rd-semester/sustainability-and-inner-transformation)
9. The post-survey was mainly used for evaluation. Comparisons were only possible in cases, where qualitative comments could provide additional insights (i.e. changes in stress levels and the value-action gap). Other comparisons were irrelevant (because of limitations regarding the number of students, potential interaction between the groups and the short-time period between pre- and post-survey).
10. This result indicates that people with previous experience with contemplative practices might show more interest in exploring the role of inner dimensions and transformation for sustainability. However, this did not have implications on the survey's results as the answers of this sub-group were not significantly different to the other course participants. It should also be noted that the previous experimental learning lab (cf. Section 2.1) led to similar positive results, although it was implemented as part of an obligatory course (without the option to select between different courses).
11. This statement has to be seen against the background that sustainability education has, so far, focused on structural dimensions, the external world of ecosystems, wider socioeconomic structures, technology and governance dynamics (cf. Section 1), which the students had been focused on for more than one year. It highlights the need for more integral approaches that address political, practical *and* personal spheres of transformation – and not structural aspects in isolation.
12. A description of the weekly councils is available at: [www.lucus.lu.se/research/urban-governance/contemplative-sustainable-futures](http://www.lucus.lu.se/research/urban-governance/contemplative-sustainable-futures) and <https://christinewamsler.wixsite.com/sustainable-futures>

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13. A description of the Practice Lab is available at: <https://www.lucsus.lu.se/research/urban-governance/contemplative-sustainable-futures> and <https://christinewamsler.wixsite.com/sustainable-futures>
  14. [www.headspace.com](http://www.headspace.com)
  15. This emergent social change is seeking to integrate inner and outer dimensions (and knowledge systems) and transformation, neither preferring one over the other, nor reducing one to the other, but finding ethical, skilful and effective ways to improve our capacity to foster sustainability research, education and practice (cf. footnote 7).

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