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Connecting Teachers – Changing from Within. Proceedings from the 2024 Lund University Conference on Teaching and Learning

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Two years of the initiative *Teaching for Sustainability* at Lund University – understanding challenges and exploring opportunities

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Abstract

In a world where the challenges of climate change, social inequality, economic instability, and geopolitical tensions are ever-present, educators have a unique opportunity—and responsibility—to prepare their students to navigate these complexities. However, educators are also juggling teaching and research, competing deadlines, shifting expectations, institutional paradigms, and limited time and support.

To address this, we have launched the Lund University-wide initiative *Teaching for Sustainability* (TfS). With the TfS initiative, our goal is to foster a culture that enriches the educational experience for both educators and students. We also aim to provide educators with the theoretical frameworks and practical tools they need to integrate sustainability into their curricula. To achieve this, we employ a variety of methods, including pedagogical coursework, training opportunities, workshops, expert-led seminars, and other inspiration-rich resources.

During our workshop at the Lund University Teaching and Learning conference 2024 (LUTL2024), we presented the TfS initiative, including existing resources, and invited participants to join the TfS initiative. In addition, we asked participants to share actions they are planning on carrying out to advance Education for Sustainability. In this contribution, we summarize the results from the LUTL2024 workshop, complemented

with a survey sent to members of the TfS initiative, put them in the context of the theoretical background, and reflect on its progress.

Introduction to Teaching for Sustainability at Lund University

Education for Sustainability has been highlighted by the United Nations as essential to advance sustainable development, with, for instance, the UN Decade for Education for Sustainable Development 2005-2014 (UNESCO, 2014; 2017), followed by the adoption of the 2030 Agenda for Sustainable Development in 2015 (United Nations General Assembly, 2015, p. 17), with a specific target on Education for Sustainability. Sweden's Higher Education Act says that Higher Education Institutions should, in the course of their operations, promote sustainable development (Ministry of Education and Research, Sweden (1992), Chapter 1, Section 5). Lund University strategy for sustainable development says that all students should learn about sustainable development as part of their education, and the university's quality assurance process includes sustainable development (Lund University, 2024a).

Education for Sustainability goes beyond purveying information about sustainability, it trains students to be able to understand, address, and cope with sustainability challenges, equipping students not just with knowledge, but also the necessary skills and attitudes (e.g. UNESCO, 2017; Öhman & Sund, 2021). As described by the United Nations Educational, Scientific and Cultural Organization (UNESCO): "Quality education for sustainable development is about what people learn, its relevance to today's world and global challenges, and how learners develop the skills and attitudes to respond to such challenges and prosper, now and for future generations" (2014, p. 21).

Against this backdrop, the *Teaching for Sustainability*-initiative – henceforth TfS initiative – uses the concept of key competences for sustainability as a framework to better understand how sustainability can be integrated in education, coupled with academic and professional competencies, rather than as an ad-hoc element (e.g., Redman & Wiek, 2021; Brundiers et al., 2021). The scholarly literature provides guidance on pedagogical approaches and pedagogies (e.g. Lozano & Barreiro-Gen, 2022), with specific activities seen as opportunities to practice sustainability competencies (e.g. "carving space to learn for sustainable futures", Holmqvist & Millenberg, 2024), rather than a tick-the-box type of exercise. Education for Sustainability requires substantial rethinking of existing curricula and teaching

practices, which takes time and effort. For instance, Lidgren et al. (2006) discuss incorporating sustainability into Lund University education and list intervention points with suggestions on how to enhance sustainability integration, with the most powerful intervention having to do with transcending deeply rooted, dominant paradigms that stand in the way of transformation.

The goal of the TfS initiative is to support teachers at Lund University in supporting students' Education for Sustainability. Below, we present our approach, data on current activities and challenges to advance teaching for sustainability and discuss how we can better support teachers support their students.

Our approach to building a community of teachers to teach for sustainability

Our approach to our TfS initiative builds on Wenger (1998)'s Communities of Practice (CoP). In this model for learning through participation, CoPs are "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (Wenger et al., 2002). Wenger et al. (2002, Chapter 3, p49ff) give seven principles to consider when creating a CoP, and in Table 1: Design and development of the different groups within the initiative TfS modelled after Wenger et al. (2002)'s principles for designing a CoPTable 1 we show how each of them is reflected in our work. In a nutshell, with the TfS initiative, we focus on creating overlapping welcoming, supportive and flexible communities, where members learn from and with each other.

Table 1: Design and development of the different groups within the initiative TfS modelled after Wenger et al. (2002)'s principles for designing a CoP.

Wenger et al. (2002)'s	Reflection of Wenger et al. (2002)'s principles in the design and development of
principles for	the inititative TfS
designing a CoP	

Invite different levels of participation.

We work with three main circles of involvement:

The "Community of Practice" is an open network for all interested teachers at Lund University. Teachers join through our MS Teams group, by opting in to an email list, or by joining events.

The "Roundtable" consists of voluntary (in contrast to officially appointed) representatives from all faculties. Its role is to ensure information flow and collaboration between different parts of the university.

The "Coordination Team" engages in operational planning and implementation based on recommendations and wishes from the Community of Practice and the Roundtable.

Members may choose to play central roles or remain in the periphery in any and all of the circles above, and to change their roles over time. In addition to those three circles, we also support overlapping sub-communities, for example on exploring Serious Games in teaching and learning (see below).

Create a rhythm for the community.

Interacting and practising together regularly is the backbone of a CoP.

Members of the CoP meet both in formal structures like courses or seminar series, as well as informally, to share experiences, discuss external input or own teaching practices, and provide mutual support.

The "Round table" gathers twice per semester in a meeting with agenda and protocol.

The "Coordination Team" meets weekly, organised around both an agenda and a protocol.

Finding a good rhythm for each of the circles is crucial to neither overwhelm people nor let them forget about the circle or let them experience the work as inactive

Develop both public and private community spaces.

To accommodate different preferences, and to keep the community open for new ideas, we work in different arenas. For the CoP, the Roundtableand the Coordination Team, we have separate regular meetings and private MS Teams groups. We aim to keep the threshold to join each of the groups (or to linger at the edge) low, by for example sharing meeting notes, event summaries, etc. on our blog, https://teachingsustainability.blogg.lu.se/, and by sending out monthly compilations of news to an email list. At the same time, we experience formation of small subgroups that rely on and support each other also in professional contexts outside of our initiative.

Open a dialogue between inside and outside perspectives. We regularly invite outside speakers to our events, organize "public viewings" where we attend online seminars together in one room, and participate in regional, national, and international networks to ground our work in the developing best practice in the field. We have recently started a book club to explore new perspectives. We regularly extend open invitations to our events, for example, our academic development courses routinely use the final presentation of course projects to invite other interested colleagues for discussion and feedback.

Combine familiarity and excitement.

Members need both predictability, e.g. in routines and regular meetings, as well as excitement, e.g. spontaneous events and new input. Within all three circles, we strive to engage in what Martinovic et al. (2022) call "generous scholarship": In addition to regularly running courses, seminars and workshops, we focus on investing time and energy in building supportive, caring relationships, and to react to needs as they come up.

Design for evolution.

A CoP depends on the voluntary contribitions of its members, their interests and goals. As these change with time, the CoP also needs to change and adapt. The

main motivation of the study presented here is to understand the needs of LU teachers as we develop our work. For example, a sub-CoP has formed around serious games, where we initially ran a seminar, then a follow-up, and where since engaged teachers have taken over inviting each other to test games together. We have also started running monthly "Transformation Thursday" lunch meetings, where the "Coordination Team" and often also members of the "Roundtable" are available for drop-in meetings in one of the cafés on campus to anyone who wants to talk about teaching and sustainability, and we run a lot of "on demand" workshops in pre-existing networks.

Focus on value.

Reflecting on the value of the community helps to show the value to Lund University and to sustain motivation.

After more than two years working with the TfS initiative, we are looking to better understand what teachers feel is in their power to do within the current setting, and what kind of support they are looking for. While previous studies have been carried out at Lund University (Lidgren et al. 2006), students' needs and teachers' resources change, and we believe that regular inventories are needed. We investigate teachers' ideas and activities, perceived challenges, and suggestions for change using a crowd-sourcing method at our LUTL workshop and complement it with a survey done in early 2025.

Methods to create an inventory of teachers' ideas, activities, challenges, and suggestions

- 1. Workshop at the Lund University Teaching and Learning 2024 conference After a presentation of what we describe in "our approach" above, we asked participants to think for a moment in silence, and then write on sticky notes "a meaningful action that supports students to solve sustainability challenges", and place the note on the floor in a grid according whose responsibility that action falls in (individual, department, university), and how much agency they feel.
- 2. Survey of teachers belonging to the initiative TfS In January 2025, we sent out a survey on Menti to all teachers that have either attended workshops or seminars with us, or that have signed up to the Community of Practice MS Teams (N=64), but we know of at least one teacher forwarding the survey within their network, and thus the total number of recipients is unknown, with the questions, all relating to "meaningful actions that support students to solve sustainability challenges":
 - What are you doing already?

- What do you want to do that you are not doing?
- What hinders your/our progress?
- What more can Lund University do to support Education for Sustainability?

In this survey, we wanted to hear from teachers that are, to some extent, engaged in Education for Sustainability, to collect examples of activities taking place at the university already, and to better understand challenges that teachers have experienced when engaging in this topic. This means that the survey results are not representative of all teaching staff at Lund University and should be seen as a starting point for discussion that could be complemented with further studies.

Results and Discussion

Through our LUTL workshop and follow-up survey, our investigation highlights various actions that may be implemented to support teaching for sustainability, exploring stakeholders' perspectives on agency, obstacles, responsibility, and support.

Workshop at the Lund University Teaching and Learning 2024 conference Workshop participants shared meaningful actions that teachers can implement to support students to solve sustainability challenges. These suggestions broadly fall into three categories: *teaching curriculum*, *teaching methods*, and *leading by example*.

Those suggestions that fall into the category of *teaching curriculum* pertain to the content contained within coursework. Several participants suggested that sustainability should be included in the curriculum, while others provided specific examples such as incorporating content *about* unsustainable consumption, climate change, or public health. Other examples include competencies *for* sustainability such as systemsthinking, futures-thinking, reflective practice, and intercultural competence.

Equally important, participants suggested *teaching methods* that promote sustainability. These suggestions spanned the gamut from best pedagogical practices (e.g. Socratic questioning, providing choice, creating time for reflection, ensuring supportive feedback, constructive alignment) to more transformational methods (e.g. active learning, case-based learning, authentic assessment, breathwork). These methods perhaps have greater potential to promote transformative learning, especially when integrated with sustainability content (Michel et al., 2020).

Finally, participants suggested *leading by example*, probing individual and organizational responsibilities. Suggestions focused on behaviour choices, for example, reducing printing, providing access to e-books, improving waste sorting, and reducing travel / choosing more sustainable modes of transport. Perhaps that these obvious actions continue to be made says something about how staff perceive sustainability at Lund University. This was seen in few inputs, advocating for Lund University to lead by example, better aligning its strategic documents with the everyday experience of staff and students.

Interestingly, workshop participants primarily identified actions that they may enact with high degrees of agency to implement. This may signal that individuals perceive themselves as having the necessary power and resources to integrate sustainability in their teaching practice. However, another possible conclusion is that teaching staff is used to focusing on what they can change in their own teaching, rather than more overarching organisational issues, and the results mirror this.

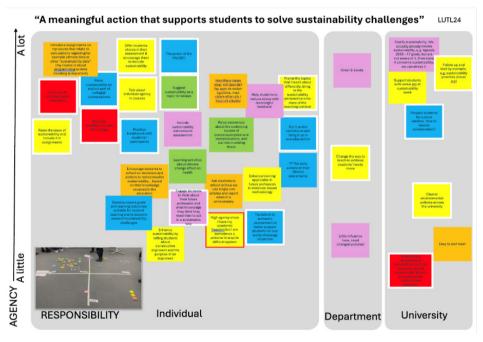


Figure 1: A photo of the original sticky notes (lower left corner) organised on the axes responsibility (individual – department – university) and agency (a little – a lot), and a slightly re-organized rendition to maximise font size while still maintaining most of the relative positioning. Larger version available at http://teachingsustainability.blogg.lu.se/files/2025/04/Postlts_LUTL24.pdf

Survey

The survey was primarily distributed to teaching staff engaged in the TfS initiative (see Section: Methods). We have synthesized the results below, making effort to anonymise the responses to avoid identifying individuals or the contexts in which they reference.

What are teachers doing already?

Respondents to the question "what are you doing already?" shared a high-level overview of their approach to teaching for sustainability. In reviewing these responses, we observed the distinction widely used in literature distinguishing between *bolt-on* and *built-in* approaches. In the *bolt-on* approach, sustainability content is added to existing educational programmes through the addition of a course, module, or lecture about sustainability. For example, a respondent stated, "I am teaching a workshop where the students evaluate wicked problems and how complex it is to find solutions to these".

In contrast, the *built-in* approach sees sustainability integrated throughout a degree programme or course, including sustainability content and/or competencies. This is exemplified by a respondent stating that they do "[l]ots of small things, tweaking, opening up small and large viewpoints to sustainability dimensions in subjects, lifting heads and attention towards systems-thinking". Other examples included:

- Embedding sustainability by using real-world sustainability challenges as a lens for exploring disciplinary content
- Using serious games or simulations to explore complex real-world scenarios in a collaborative and safe environment
- Engaging with climate fiction to encourage critical thinking and futureoriented perspectives
- Incorporating mentoring to support students in navigating sustainability challenges and their future career paths
- Facilitating structured reflection to deepen understanding and emotional intelligence
- Introducing systems thinking to help students analyse interconnections and feedback loops
- Providing diverse literature sources, considering gender, geographic origin, and historical context

What do teachers want to do that they are not doing?

Among the responses to the question "what do you want to do that you are not doing?", we identified three main directions for development that further highlight the bolt-on and built-in approaches: towards bolt-on, towards built-in, and beyond (). Firstly, respondents that currently teach little sustainability tend to state a desire to add sustainability content (i.e. towards bolt-on). Respondents that currently have standalone content wish to integrate sustainability throughout their curriculum (i.e. towards built-in). Finally, one group of respondents wish to continue to develop their pedagogical competence and/or contribute to community at Lund University and the broader profession of teaching and learning in higher education (i.e. beyond). Respondents could submit multiple responses and thus one respondent might feel a need to work both with, for instance, integrating sustainability in curricula and develop their pedagogical skills.

Table 2. Selected quotes exemplifying different desires for development

Towards Bolt-On	Towards Built-In	Beyond
"I would like to actually include sustainability perspectives or at least sustainability skills into my courses."	"I want to integrate sustainability into my class to make it part of the teaching rather than just a separate workshop."	"I would like to expand my knowledge in using games, quizzes, and practical exercises to engage students more."
"Specific seminars around sustainability."	"Incorporate sustainability lens throughout entire program(s) instead of teaching sustainability-related content in isolation in module or dedicated courses"	"I want to give more space to students to explain their values but also fears about these questions."

What hinders teachers' progress

Respondents to the question "what hinders your/our progress" shared various obstacles that prevented their ability to teach for sustainability, which generally fit into three themes: time, resources and support, as well as unclear leadership roles with one theme being most prominent - lack of time was mentioned by seventy percent of respondents to this question. This included lack of time to read literature, learn from others, develop new course content, prepare for classes, as well as reflect upon or evaluate their teaching to make meaningful changes. Respondents also stated they have too little time with

students – or students do not attend classes – to feel like they can support students in this way.

Similarly, respondents expressed frustration at the perceived limited *resources and support* to develop their own competence. Seemingly, teaching is perceived as an individual and isolating endeavour, with insufficient venues to share experiences or seek inspiration from others. Moreover, several mentioned limited support from their faculties, departments, or directors of study, signalling a lack of support by leadership or the example they provide.

This speaks to the perception of *unclear leadership roles* – who has the responsibility or mandate to ensure coherence between the strategic documents and systems of support across the University, faculties, departments, and degree programmes. Respondents expressed frustration at reduced administrative support, long timeframes for changing syllabi, overemphasis on research, limited recognition or time allocated for pedagogical training, and job insecurity as barriers that hinder their progress to integrate sustainability into teaching. For example, one respondent stated, "[d]on't assume teachers will spend time on important activities without support or recognition of their value from the University".

What more can Lund University do to support Education for Sustainability?

Once again, the suggestions of support mirror the overarching obstacles expressed among participants (Table 3). Quite simply, respondents request paid and protected time to attend workshops and courses to develop specialised pedagogical competence in sustainability, as well as the time to develop teaching materials, which in extension also means that competence development opportunities like courses and other recourses need to be available.

While there are many actions suggested, it should be noted that respondents also valued existing efforts. One respondent stated, "I believe that the University gives support if you are looking for it". Likewise, another stated, "I think [Lund University] is doing a lot – and well!".

Table 3. Selected quotes about suggestion actions

Time	Resources & Support	Unclear Leadership Roles
"Give us paid time to work with this, rather than having to squeeze it in between other activities."	"Create opportunities for peer- to-peer sharing of experiences, pedagogical approaches, or teaching materials."	"Have a more strategic approach that includes long-term funding for strengthening teaching for sustainability at LU."
"Paid time for development and reflection, perhaps together with students."	"Provide seed funding to teachers to develop pedagogical competence, spend time on course development, etc."	"Create more demand for teaching sustainability, including pressure for faculties to include sustainability in all degree programs."
	"Establish a prize or recognition programme for teachers that exemplify best practices."	"Motivate teachers that are not focussing on sustainability."
	"Provide dedicated workshops or courses for teachers."	"Clear and specific leadership that overcomes silo (or faculty) thinking."
	"Introduce a mentoring programme for new teachers and/or those that wish to learn from more experienced teachers"	"Move beyond arguing for why it is good; ensure sustainability permeates all levels of leadership, administration, and decision-making."

The thresholds and challenges identify above are far from unique to Lund University. Annelin & Boström (2024) report that teachers call for clearer signals from leadership, more resources and especially more time. Parry & Metzger (2023) also point to the insufficient support that teachers receive, mainly in the areas of inadequate professional development opportunities to prepare them for teaching for sustainability, too little time for collaboration and curriculum development, and a lack of effective curricular materials to build on.

Next steps for the initiative Teaching for Sustainability

The goal of the TfS initiative is to improve the students' learning of key competencies for sustainability. To achieve this goal, our focus is on what teachers need to support students. In this paper, we have discussed results from our workshop, survey results, and relevant literature. In sum, we find that the following main points need to be addressed to further support Education for Sustainability:

- More time and resources for individual teachers to advance their teaching for sustainability.
- Support for shared resources at the collegial level, such as workshops and seminars, to support networking and learning between teachers. This support could be:
 - administrative support, for example communication and logistics.
 - personnel support, for example low percentage funding of positions within departments to coordinate teams of teachers for sustainability.
 - infrastructure to share inspirational content, e.g. a database of good practice examples.
- 3. Competence development opportunities for teachers that fit teachers' busy schedules. To allow for this, academic developers need opportunities to specialise on teaching for sustainability, with time to improve resources for teachers, have consultations with teachers, and connect to networks.
- 4. Further translate the commitment to teaching for sustainability at the university level, seen in strategic document, into support of the operationalisation at the study program level. This could, for example, be done through seed funding of transformational teaching projects, or awards and recognition of teachers advancing education for sustainability.

Lund University was recently ranked third globally in the *QS World University Rankings:* Sustainability (Lund University, 2024b), which can be seen as recognition of existing work, as well as aspiration to continuously strive for. Many teachers at Lund University are highly engaged and working hard to prepare students for "the end of the world as we know it" (Stein et al., 2022), with current activities and new ideas, as seen not least in the survey results underpinning this paper. Meanwhile, a majority report lack of time as a major obstacle, which makes us wonder if the lack of time results in less teaching for sustainability or if the teaching is done anyway, possibly at high costs to teachers' health and social life – in itself a sustainability problem. Here, we see a need for more clarity on roles and responsibilities, and coordination of efforts at different levels – from the individual level, the program board to the overarching university level, to create synergies and mutual learning.

Despite focusing this article on our own work and the work of the teachers within our TfS initiative, we wish to acknowledge the many other stakeholders working to enhance teaching for sustainability and education generally at Lund University. We recognise that they are likely struggling with similar obstacles that we have identified, and that due to the decentralised nature of the university, we might not even be aware of their

efforts. If this is you, or you know of someone we should know, please do reach out! We would love to connect and join forces towards our shared goal, to foster a culture that enriches the educational experience for both educators and students, working for a sustainable world.

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