University students as Change agents? -A Comparative Study of the Role of Students in Higher Education for Sustainable Development in Germany and Sweden

Jan-Ole Brandt
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### Abbreviations

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<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CBE</td>
<td>Competence-based Education</td>
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<td>CEMUS</td>
<td>The Centre for Environment and Development Studies</td>
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<td>EE</td>
<td>Environmental Education</td>
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<td>ESD</td>
<td>Education for Sustainable Development</td>
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<td>GAP</td>
<td>United Nations Global Action Program on Education for Sustainable Development</td>
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<td>HEI</td>
<td>Higher Education Institute</td>
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<td>HESD</td>
<td>Higher Education for Sustainable Development</td>
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<td>IUCN</td>
<td>International Union for the Conservation of Nature and Natural Resources</td>
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<td>RQ</td>
<td>Research Question</td>
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<td>SCLE</td>
<td>Student-Centered Learning Environment</td>
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<td>SD</td>
<td>Sustainable Development</td>
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<tr>
<td>SLU</td>
<td>Swedish University of Agricultural Science</td>
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<tr>
<td>SWEDESD</td>
<td>Swedish International Centre of Education for Sustainable Development</td>
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<tr>
<td>UNCED</td>
<td>UN Conference on Environment and Development in Rio de Janeiro (1992)</td>
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<tr>
<td>UNDESD</td>
<td>UN Decade of Education for Sustainable Development</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>UNESCO</td>
<td>The United Nations Educational, Scientific and Cultural Organization</td>
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<td>WCED</td>
<td>World Commission on Environment and Development</td>
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University Students as Change Agents? - A Comparative Study of the Role of Students in Higher Education for Sustainable Development in Germany and Sweden

JAN-OLE BRANDT


Abstract:
To readjust the direction of social development and to enable sustainable learning for students at all levels, international policy emphasises the necessity to transform education systems based on a whole institution approach. The idea of involving all stakeholders in the transformation of educational environments shifts the focus of research in connection to education for sustainable development (ESD) also towards the teachers and students as protagonists of didactic situations, in order to gain knowledge on their respective potential to contribute to the desired change of learning and teaching environments.

Concentrating on sustainability-related study programs at leading universities in Germany and Sweden, this comparative case study investigates how different actors in the field conceive of the role of students as change agents in higher education for sustainable development (HESD). Recent research has largely ignored learners as potential initiators of change in this regard. Taking a discourse analytical approach and referring to the concept of different educational traditions in environmental education (EE), the focus of this thesis is on didactic contracts among teachers and students, to analyse how the general organisation of learning as well as the degree to which students apply critical thinking and transformative action in class is perceived by experts, teachers and students themselves. It is investigated if and how active and critical participation on part of the students is actually seen to contribute to changing their own learning environments. The didactical perspective on students as critical change agents, shaping their own learning processes, helps to understand to what extent HESD in these two countries – both considered ‘advanced’ in implementing ESD – allows students to gain the experience of achieving change in learning, fostering their confidence to initiate change outside of academia also. The findings of this research indicate that students are generally expected and seen to act as change agents within their own learning processes. However, it is to emphasise that the degree of change agency on part of the students appears not only to differ between the examined institutions and course formats, but also to be depending on individual personality traits of students and the establishment of a critical learning culture.

Keywords: Sustainable Development, Sustainability, ESD, Change Agents, Higher Education, Sweden, Germany

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University Students as Change Agents? - A Comparative Study of the Role of Students in Higher Education for Sustainable Development in Germany and Sweden

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Summary:
Facing the ongoing social, economic and ecological crises, many describe quality education as one of the key drivers for actually creating a better and more sustainable future for all. In 2014, UNESCO published the final evaluation report on the UN Decade of Education for Sustainable Development (DESD), stating that the previous ten years (2005-2014) had shown progress in globally integrating the principles and practices of sustainable development (SD) into all levels of learning. Yet, at the same time, the report indicates that most if not all countries still lack a general implementation of education for sustainable development (ESD) across their education systems. Moreover, the desired changes in behaviour of people, allowing for a social transformation towards a more sustainable future, would first and foremost require a transformation of educational institutions like schools and universities, ideally based on the active participation of all actors involved.

In the context of higher education, it has explicitly been emphasised that the capacity of students to act as so-called ‘change agents’, by co-creating their own learning environments, should be particularly considered. Rooted in the idea of experience-based learning, one can eventually argue that students need the experience of being able to achieve change in learning, in order to foster their confidence to initiate change in society at large as well. However, previous research on the implementation of ESD and the connected transformation of learning environments at universities has mainly focused on the relevance of teachers as agents of change and largely ignored the role of students in this regard. Therefore, this Master thesis is designed to contribute to closing this gap.

Concentrating on sustainability-related study programs at leading universities in Germany and Sweden, this thesis represents a comparative case study, investigating the role of students as change agents in the planning and organisation of learning and teaching situations in higher education for sustainable development (HESD). Based on the statements of experts, working with the national implementation of ESD in higher education, as well as teachers and students from two selected Master programs in Lüneburg, Germany (‘Sustainability Science’), and Uppsala, Sweden (‘Sustainable Development’), this thesis examines how the different actors perceive of the students’ role in HESD, with a special focus on their active and critical behaviour in class. It is analysed if and how active and critical participation on part of the students is actually seen to contribute to changing their own learning environments.

In order to compare the educational approaches applied in the two programs and how they actually leave space for students to have an impact on the design of course formats or the selection and development of topics, the present study refers to the concept of different ‘selective traditions’ in environmental education (EE). On the basis of various categories, such as the ‘main method of teaching’, ‘planning and democracy’ or the ‘role of students’, this concept allows for a distinction between different learning and teaching cultures, that indicate varying degrees of change agency on part of the students.

The findings of this research demonstrate that the ‘Sustainable Development’ Master in Uppsala involves students more in the actual planning of the program, since certain courses directly engage students in the active transformation of their own learning environment, recognizing their capacity as change agents. Although experts and teachers from both countries generally acknowledge the great potential of active and critical students, the aforementioned trend is also reflected in the actual students’ behaviour. Whereas the German students are perceived to stay away from classes, in case their expectations are not met, Swedish students rather seem to get together, show shared commitment and initiate change. However, the results further show that the degree to which students act as agents of change in HESD not only differs between the examined institutions and course formats, but also depends on individual personality traits and the establishment of a critical learning culture.

Keywords: Sustainable Development, Sustainability, ESD, Change Agents, Higher Education, Sweden, Germany

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“Education is the most powerful weapon which you can use to change the World.”
(Nelson Mandela)

1 Introduction/Problem Background

Be it the ruthless exhaustion of natural resources, increasing greenhouse emissions, the accelerating loss of biodiversity or persistent poverty – today’s humanitarian, environmental and economic crises call the global community to take serious action in leading the world towards a more sustainable future. To achieve this, we urgently require profound changes in the management of resources and current human behaviour patterns and lifestyles. Especially since the impact of human activities already caused the transgression of several planetary boundaries – putting our natural basis of life at risk (Rockström et al., 2009) – and led us into a new geological era, the Anthropocene, “where humans constitute the dominant driver of change to the Earth System.” (Ibid.)

According to UNESCO (2014), one of the main catalysts for building a better and more sustainable future for all is education and Education for Sustainable Development (ESD) in particular. Eventually, establishing more sustainable societies requires a fundamental change of our current modes of production and consumption. Such large-scale transition is only achievable through rising our awareness and changing our mentalities, which, in turn, can only be realised by education (Michelsen & Fischer, 2015).

The UN Decade of Education for Sustainable Development (UNDESD), taking place from 2005 to 2014, already led to first progress and the engagement of various stakeholders in the global undertaking. Yet, the final evaluation report of the UNDESD reveals that most countries still lack a full implementation across their education systems, policies and planning (Buckler & Creech, 2014). Among other things, the report explicitly points out that “leading change for sustainability in higher education presents a significant challenge” (ibid., p.117f.) and that more needs to be done “to engage students in the transformation of HEIs (Higher Education Institutes), recognizing their capacity as agents of change rather than as simply the recipients of instruction.” (ibid., p. 119)

Therefore, the UNESCO member states agreed on a Global Action Programme (GAP) on ESD (2015–2019), aiming to scale up former achievements of the decade and transform the educational landscape corresponding to the envisioned societal change. One of the GAP’s priority action areas is the transformation of learning and teaching environments following a whole-institution approach (UNESCO, 2014). The desired change within the field of higher education requires a respective alteration of organizational culture on part of universities and other HEIs. However, changing the structure of teaching and learning environments, just like changing the culture of an organization, depends on a transformation of thought and action patterns (habits) on part of its members (Rathje, 2009).

While education per se is by some viewed as being “determined by human values, history, and changing patterns of power relationships” (Barth & Michelsen, 2013, p. 107), others emphasise that it should not be exploited for political aims (Jickling, 1992). ESD stands at this crossroads between considering underlying values of certain social goals and changes that are to be achieved and supporting the learner in critically reflect on them (Barth & Michelsen, 2013), which would leave space to initiate change. Vare and Scott (2007) try to bridge this paradox and propose a two-fold concept of ESD. According to them, ESD is about a) promoting certain ways of behaviour and ways of thinking, by “raising awareness of the necessity for change” and b) “building the capacity to think critically about [and beyond] what experts say and to test sustainable development ideas.” (Vare & Scott, 2007, p. 193-194)
In general, current pedagogical approaches are increasingly based on social-constructivist theories of learning and indicate a considerable shift from teacher-centred training and instruction to more learner-centred forms of education (Jonassen & Land, 2012). In order to bring about sustainable learning and support the individual development competences, also the pedagogies in ESD focus more and more on the learner “and offer opportunities for dialogue, active and critical reflection.” (Barth & Michelsen, 2013, p. 107)

However, education was already by Dewey (1916) seen as instrumental in creating social change (“growth”). He further argues that such changes take place through learning processes in form of communicative social interaction, that correspond to the development of individual “habits” and collective “customs” (Ibid.). Connecting Dewey to more learner-centred teaching, Garrison et al. (2012) state:

“Education should be organized in ways that all involved in the educative process have the chance to experience themselves as participants and agents in a diverse and pluralistic as well as open and growing democratic community of learners.” (Garrison et al. 2012, p. 18)

This idea of democratic and participatory education mainly refers to the actual learning process, shifting the focus on the didactic situations in class and the triadic relation between student, teacher and subject matter (Meyer, 2012). According to Brousseau et al. (2014), both teachers and students reenact “didactic contracts” that indicate how they conceive of the organisation of learning and teaching as well as the specific roles that the protagonists assume. As the same would apply for the context of higher education for sustainable development (HESD), where students are expected to act as future change agents (Rowe, 2007), it seems interesting to investigate how students and teachers actually conceive of the students’ role as change agents in the didactic situations of related study programs.

However, whereas the involvement and active participation of students as change agents is generally considered to be crucial in promoting sustainable behaviour patterns (UNESCO, 2014, p. 34-36), existing literature describes scientific styles and forms of education as rather culture-bond (e.g. Galtung 1985). On the same note, Barth and Michelsen (2013) mention a “shifting nature of relevant topics both over time and in different cultures” and claim that even “ESD pedagogies rely strongly on their historical roots.” (Ibid., p. 107).

Since the beginning, environmental education (EE) – as the predecessor of ESD – was not only influenced by public and political discourses, but also constantly accompanied by respective scientific traditions and knowledge cultures in the academia (Sandell et al. 2005). These knowledge cultures or “selective educational traditions” (Östman, 1995) are said to relate to selective processes in education and have an impact on both the content (what) to be taught and the forms (how) to educate (Östman, 1995, Öhman, 2006).

After EE emerged in Europe during the 1960s, with the debate on the treatment of nuclear waste and associated environmental problems, today countries like Sweden and Germany are often referred to as exemplary in the context of sustainable development (SD). Particularly, in terms of education, Leal Filho (2010) revealed that the national level of implementing ESD into the education systems in both countries could be considered as fairly advanced.
Yet, Germany and Sweden demonstrably have different education systems, based on historically formed approaches and institutional landscapes that potentially cause distinctive learning and teaching cultures – including the degree of students assuming the role as agents of change. In a comparison of the two respective schooling systems, Peters (2010) attested the tripartite federal system in Germany an education policy with a particular emphasis on the education of each student according to his or her capabilities. In Sweden, on the other hand, the focus would be rather on equal access to education, regardless of gender or socio-economic background (Ibid.).

In his paper on ESD in Europe, Leal Filho (2010) explicitly criticized the paucity of comparative research in ESD in Europe. In the context of higher education, this thesis aims to contribute to closing this gap, by analysing didactic contracts between teachers and students HESD in Germany and Sweden and how they reflect the different educational traditions the have emerged in both countries. The main goal is then to compare how students act as change agents in HESD. Research on the transformation of educational systems has so far mainly focused on teachers as change agents (e.g. Priestley et al. 2011, Bridwell-Mitchell 2015) and ESD (e.g. Leo & Wickenberg 2013), while the role of students as agents of change has not been addressed within the context of educational institutions, such as HEIs.

The Leuphana University in Lüneburg, Germany, and Uppsala Universitet, Sweden’s oldest university, are both renowned and distinguished for their focus, commitment and educational approach on sustainability issues (ZEIT, 2013; Uppsala Fredspris, 2015). In particular, the concept of student-led education at the Centre for Environment and Development Studies (CEMUS) and the upcoming research project of Leuphana Lüneburg in cooperation with the Arizona State University under the title ‘Educating Future Change Agents’ make these two institutions extraordinarily interesting and highly relevant as objects of a comparative study in the context of HESD (Higher Education for Sustainable Development) and students as change agents in higher education.

Eventually, this thesis attempts to provide a valuable contribution to ESD research, by shedding light on educational traditions and pointing out the possible improvement of education by democratic education and taking the potential of students as agents of change into account. The empowerment of students to shape their own learning processes would give them the possibility to experience having an impact and being in charge, which is crucial requirement to act as future change agents after leaving the university context. Thus, the objective is to illustrate how change agency is conceived not only in existing literature, but also in the educational systems and on part of experts, teachers and students. According to recent didactical approaches, that partly refer to learning theorists like John Dewey, Buckler and Creech (2014) emphasise: “ESD requires participatory teaching and learning methods like critical thinking, imagining future scenarios and making decisions in a collaborative way in order to empower learners to take action for sustainable development.” (Ibid., p. 20)

However, the different socio-historic conditions in Germany and Sweden make it more likely to find differences in terms of educational traditions and didactic contracts. Differences in that would make it possible to question the taken for granted idea of ESD and students to act as change agents. The comparative character of this research represents an effort to render visible the cultural specificity and limits of taken for granted conceptions of ESD as they define the conditions of possibility in specific socio-historic contexts. Therefore, I aim to compare educational traditions and didactic contracts in order to highlight differences and alternatives in how education and the role of students as change agents are understood.
2 Research aim

The main objective of this thesis is to investigate the role of students as change agents in HESD in Germany and Sweden. Focussing on the organisation of learning and teaching processes, this investigation will take a didactical perspective on the change agency of students.

This overarching goal is an aggregate of the two following sub-objectives:

- To generate knowledge on similarities and differences in educational traditions and didactic contracts in HESD in Germany and Sweden.
- To reflect on how these educational traditions and didactic contract in HESD in Germany and Sweden allow student to act as change agents.

These sub-objectives are based on the assumption that the role of students and how they act as change agents in HESD in Germany and Sweden is determined by certain historical conditions in the sense of different educational traditions and their empirical equivalents in class (didactic contracts). Educational traditions in the field of EE and ESD are here understood as being framed by public, political and scientific discourses that lead to specific institutional landscapes within the German and Swedish education system. Didactic contracts, on the other hand, can thus be seen as institutionalized settings in the educational process that – according to the broader traditions – influence how learning and teaching is organized in class. This would imply that educational traditions represent a certain degree of continuity in social (re-)production visible in didactic contracts and the conception of the roll of students as agents of change.

However, from the by me chosen discourse analytical perspective it is assumed that traditions might not be able to fully determine what can become possible within didactic situations in classrooms. Instead, different conceptions of education and how it should be organised may exist simultaneously. That is there are potentially different contesting educational traditions within and among socio-historic contexts. For the didactic contracts in class, this means that the conceptions regarding the role of students in HESD might not only differ between Germany and Sweden, but might also be altered or reconfigured in relation to specific didactic citations.

Following the educational theory of Didaktik, which focusses on the educational process itself, it appears not only to be relevant to identify which educational traditions can be found in HESD in Germany and Sweden. It is also of interest to empirically analyse the didactic contracts (specifying the educational conditions), in both countries. Furthermore, the empirical work will reflect on the limits of educational traditions to fully determine what can become possible in didactic situations.

The research objectives described above are operationalized by four analytical steps:

a) To identify general educational traditions in Germany and Sweden through the analysis of how change in and through HESD is perceived in Germany and Sweden,
b) to identify currently institutionalized didactic contracts between teachers and learners in HESD at HEIs, with a particular focus on the roles of students as agents of change,
c) to investigate the connection between educational traditions as general patterns (object of knowledge) and current didactic contracts as their concrete empirical expression in HESD (object of study), and
d) to reflect on how change agency on part of the students is understood in both configurations
3 Research questions

Eventually, the research objectives described above lead to the following research questions, which informed the structure of the interview guidelines (see Annex I, II, & III):

**RQ1:**

*What are the educational traditions in HESD in Germany and Sweden and how do they conceive of students as change agents?*

**RQ2:**

*What are the didactic contracts in HESD in Germany and Sweden and how do they conceive of students as change agents?*

**RQ3:**

*How do the identified didactic contracts relate to the educational traditions?*
4 Structure of Thesis

In order to demonstrate the relevance and positioning of this thesis, it will start with a review of existing academic literature and research on the emergence and relevant conceptions of EE and its newer offspring ESD. As many scientific contributions can be viewed as being related to developments within the political discourse, I will here also look at international policy documents and agreements. This will provide an overview of previous work and help to understand how this study is contextualized.

In the next step, I will describe my theoretical framework that clarifies how the key concepts of ‘discourse’, ‘educational tradition’, ‘didactic contract’, and ‘change agency’ are understood and connected in this work. This will then be followed by a presentation of my methodological approach and applied methods to collect and analyse the empirical data, in order to finally provide a comprehensive foundation and enable the reader to understand the here adopted research approach.

In a first empirical step and against the background of educational traditions in EE and ESD, this thesis will take a look at how change in and through HESD is currently understood in Germany and Sweden. In this context, it is to explore, whether and to what extend the active participation of students does play a role regarding a successful implementation of ESD in higher education. For that, I will refer to statements of experts from UNESCO and SWEDESD, who support the respective national implementation of the international Global Action Programme (GAP) on ESD. This level of analysis is addressed, in order to account for the role of students in currently predominant educational traditions in HESD in both countries.

The centrepiece of this work will then be the empirical investigation of culture-bound differences and similarities in approaching change agency on part of the students within didactic contracts in sustainability-related Master programs at universities in both countries. As the empirical object of study, the didactic contracts as well as the (perceived) possibility for change through agency on part of the students will be identified by analysing argumentative patterns emerging from interviews with both teachers and students in HESD in Germany and Sweden. In the sense of a comparative case study, the analysis will be based on empirical data gained from interviews with students and educational staff active in the Master programmes of ‘Sustainability Science’ at Leuphana University, in Lüneburg (Germany) and ‘Sustainable Development’ at Uppsala University and SLU (Sweden).

Thus, there are two different levels addressed empirically. First, a comparative view on current understandings of ESD and their connection to related educational traditions in general. Secondly, the organisation didactic contracts with a particular interest in the role of students and how thy acting as change agents.

In a final step, I aim to make connections between current didactic contracts identified in the respective study programs and traditional learning and teaching cultures, in order to draw conclusions from my empirical object of study to the broader object of knowledge and achieve the overarching research aim of this study.
5 Literature Review

Conducted with Scopus – as one of the largest databases for peer reviewed academic articles worldwide (Chadegani, 2013) – and Google Scholar, this literature review gives an overview of how the development of EE and its growing branch of ESD has been portrayed in previous academic literature. This will provide a horizon for delineating the position of this paper and its contribution to the research field.

At the same time, this literature review will present certain findings of previous research that will later be utilized in the analysis, as they can help approaching the first research question concerning the educational traditions in HESD in Germany and Sweden.

Thus, in a first step, I will take a look at the general genesis of EE and attempts at a definition, before the focus shifts towards the development of educational traditions in Germany and Sweden. Of special interest in the context of this thesis is the consideration of (selective) educational traditions in EE and how they conceive of the role of students. In a second step, I will introduce ESD as the new branch of EE, trace the development of its pedagogical approaches and present the core concepts of competence and change agency and how they relate to change in and through (higher) education for sustainable development. As political decisions and measures appear to have a big influence on education and its organisation, I will here also refer to developments within the political discourse and how EE and ESD, have been addressed by the UN – respectively its educational, scientific and cultural organization UNESCO.

5.1 Environmental Education (EE)

Whereas the term ‘environmental education’ (EE) has already been used at a meeting of the International Union for the Conservation of Nature and Natural Resources (IUCN) in Paris, in 1948 (Disinger, 1983), it was not until the late 1960s that EE was actively discussed and promoted at a global level (Palmer, 1997). At that time, EE emerged in Europe and other parts of the world with the discourse on the treatment of nuclear waste and associated environmental problems and consequences (Hasslöf, 2015).

On the concept of EE, Bill Stapp – one of the founders of ‘The Journal of Environmental Education’ – and his colleagues (1969) wrote that “Environmental Education is aimed at producing a citizenry that is knowledgeable concerning the bio-physical environment and its associated problems, aware of how to solve these problems, and motivated to work towards their solution.” (Stapp et al. 1969, p. 30-31) One year later, in September 1970, at the conference of IUCN and UNESCO on “Environmental Education in the School Curriculum”, held in Nevada, USA, international policy makers agreed on a definition that was subsequently widely used around the world (Palmer, 1997): “Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelations among man, his culture, and his biophysical surroundings.” (IUCN, 1970, p. 11) This definition implies that the aim of EE was to simply understand environmental issues through the cognitive processing of facts and information.

Since then, the translation of this global definition as well as the implementation of objectives and principles into national policies and educational programs has been the topic of various international meetings and reports, such as “The International Workshop on Environmental Education” in Yugoslavia 1975, leading to “The Belgrade Charter” (UNESCO, 1977) or “The Tbilisi Declaration” formulated at “The Intergovernmental Conference on Environmental Education” in 1977 (UNESCO, 1978).
Despite criticism of predominant Western perspectives (Gough, 1997), the latter resulted in the first specific guidelines and goals for EE, such as its integration into the entire system of formal education “to provide the necessary knowledge, understanding, values and skills needed by the general public and many occupational groups for their participation in devising solutions to environmental questions.” Eventually, the overall objective of EE at an international policy level was then “to enable people to understand the complexities of the environment and the need for nations to adapt their activities and pursue their development in ways which are harmonious with the environment.” (UNESCO, 1978, p. 12)

Regarding the pedagogical approaches in the field of EE, Palmer (1997) distinguishes between education “about”, “in” and “for” the environment. To truly enable an ecological perspective on part of learners, he states, there is not only a need for bringing education “about the environment” (transmission of knowledge) and “in the environment” (experiential fieldwork) on the agendas of educational practice. Also an education “for the environment” would have to be considered, which, in turn, may be understood and implemented by following activities:

- personal involvement of students and emotional commitment
- interdisciplinary learning and research
- reflective action to improve environmental conditions, and
- involvement of students in decision making or problem finding, in procedures, and monitoring their work (Ibid., p. 7)

Palmer’s concept of interdisciplinary learning and putting the student in the centre of education was later revived and currently finds its correspondence in ESD. Furthermore, education for the environment, according to Palmer, includes the improvement of environmental conditions through reflective action and the personal involvement of students in decision-making processes (Palmer, 1997). This already indicates the concepts of change and agency that are of relevance in the context of this thesis, as its focus will be mainly on the role of students and their potential to contribute to change in ESD and HESD in particular. However, since its emergence in the late 1960s, the concept of EE, and with it the understanding of the role of students, has changed considerably over time and can be divided into different educational traditions.

### 5.1.1 (Selective) Traditions in EE

Developments in the philosophy, policies and practice in the field of EE have caused a transformation of educational approaches. According to Palmer (1997), one can see a shift from “teaching ‘about’ nature – with ‘show-and-tell’ techniques – in the early 1970s” to “teaching through experiential fieldwork and values education in the 1980s” to “action research and student-led problem-solving fieldwork in the 1990s.” (Palmer, 1997, p. 4) These different forms of teaching and learning in EE lead to the concept of “educational traditions” in the field, first introduced by Östman (1995).

Based on a broad document analysis, Östman (1995) distinguishes three main traditions in EE: the fact-based tradition (“faktbaserat miljöundervisning”), the normative tradition (“normerade miljöundervisning”) and the tradition of education for sustainable development (“undervisning om hållbar utveckling”). Adopting the notion of “selective traditions”, which implies the idea of selective processes in education that affect the way of learning and teaching (Öhman, 2003, 2004), Sandell et al. (2005) refer to the same distinction of educational traditions in EE. According to them, the “selective traditions of environmental education” are labelled by their main orientations in terms of specific environmental approaches and educational philosophies (Ibid.):
Fact-based Environmental Education

Within the fact-based tradition in EE – taking shape in beginning of the 1960s, and “firmly established during the 1970s” (Ibid., p. 160) – natural scientists are mainly trusted to provide solutions to the substantial problems of mankind. Environmental problems seem to be solvable through intensifying research and informing the general public. The declared goal is to keep control over the consequences of using natural resources and to ensure the wealth and further development of societies (Ibid.). Whereas the related teaching processes mainly focus on conveying scientific facts “on the knowledge within the actual discipline” (Ibid., p. 161), the role of students remains rather passive (see Table 1). The most common method applied in class is, within this tradition, that of teacher-led lessons, while some “laboratory tests and other practical experiments are carried out in order to illustrate particular phenomena.” (Ibid., p. 161)

Normative Environmental Education

The normative tradition of EE emerged during the 1980s as the result of a reorientation in the (social) debate on environmental issues, where moral-ethical categories encountered scientific arguments. Based on the notion that environmental problems “are locked upon as a conflict between humans and nature”, in the normative tradition it is assumed that this conflict can be “resolved by adopting environmentally friendly values.” (Ibid., p. 162) Correspondingly, the scientific knowledge from different fields is here “regarded as promoting certain normative, prescribed values, which are acted on accordingly”. (Ibid.) The educational approaches in line with this tradition, consider the “development of practical skills”, such as the ability to put theory into action as particularly important (Ibid.). Whereas the “content is partly organized in a thematic way, in which several teachers cooperate” (Ibid., p. 163), the student plays a more active role in the didactic situation (see Table 1). “To ensure that the lessons achieve the intended objectives, a great deal of attention is given to work methods and using student reference points that are based on their experience and attitude.” (Ibid.) Therefore, the most commonly used working method of the normative approach is group work, where students have to find information themselves, which is usually accompanied by field trips, “as certain aspects of the lessons require first hand experience.” (Ibid.)

Education for Sustainable Development

The tradition of education for sustainable development, which Öhman (2003, 2004) calls the “pluralistic approach” of EE, emerged in the echo of the UNCED in Rio (1992). “Increasing uncertainty on environmental issues and the growing amount of different opinions in environmental debates are central points of departure in this tradition.” (Sandell et al., 2005, p. 163). As part of this tradition, the environmental theme has been replaced by the concept of ecological, economic and social sustainability, while science lost its role as “ultimate source of guidance” (Ibid., p. 164). Against the background of conflicting human interests and perspectives, the goal is here to have a “democratic debate” which is centred “on the discussion of the ‘good’ society and quality of life, and how that can be achieved in the present and maintained in the future.” (Ibid.) With regard to learning and teaching, the aim of this approach of EE is “to give students the opportunity to actively and critically evaluate different perspectives of environmental- and developmental issues.” (Ibid.) Therefore, the lessons have a “reconstructivist character” and the content is presented in an integrated manner, while the students are asked to play an active and critical role in the educational process (see Table 1).
Due to the fact that the problems encountered in class may differ considerably in education for sustainable development, the methods to approach them also vary. However, a common starting point is to discuss each topic from different viewpoints (Ibid.).

<table>
<thead>
<tr>
<th>The goal of environmental education</th>
<th>Fact-based Environmental Education</th>
<th>Normative Environmental Education</th>
<th>Pluralistic Environmental Education (ESD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students receive knowledge of environmental problems by learning scientific facts</td>
<td>Students actively develop environmentally friendly values, primarily based on knowledge of ecology</td>
<td>Students develop their ability to critically evaluate various alternative perspectives on environmental-developmental problems</td>
</tr>
<tr>
<td>Main method of teaching</td>
<td>Factual information from teacher to student</td>
<td>Student active in the development of knowledge and values</td>
<td>Critical discussions based on a number of alternatives</td>
</tr>
<tr>
<td>Planning and Democracy</td>
<td>Teacher plans based on observations and experience of students’ input</td>
<td>Teacher and students plan together</td>
<td>Students plan under teacher supervision</td>
</tr>
<tr>
<td>Role of students</td>
<td>Passive</td>
<td>Active</td>
<td>Active and critical</td>
</tr>
</tbody>
</table>

Table 1: Traditions in Environmental Education (Adopted from Sandell et al. 2005, pp. 165-167)

According to Sandell et al. (2005), all three traditions of “fact-based”, “normative” and “pluralistic” EE/ESD are still present in education institutions today and partly exist simultaneously. In the context of this thesis, the concept of selective traditions in EE as well as their implications for the organisation of learning and teaching, will serve as the main reference point for the analysis of current didactic contracts in HESD in Germany and Sweden. Finally, ‘the goal of environmental education’, ‘main method of teaching’, ‘planning and democracy’ and ‘role of students, will function as analytical categories for comparing the didactic contracts.

Furthermore, the idea of educational traditions in EE, that can be perceived as being influenced by discursive action in the scientific, political and public domain, may help to better understand the development of EE in both countries. What is particularly interesting to keep in mind for the analysis of this study is that, at least in the Swedish context, a lot of the results from previous research have been implemented in the actual teaching practice 1.

### 5.1.2 Educational Traditions in Germany and Sweden

In order to better understand the educational background of German and Swedish students as well as the emergence of different national traditions in HESD, it is firstly useful to take a brief look at the development of education systems and the underlying philosophies in education policy in both countries. Especially, as educational traditions are here understood as being influenced by political and scientific discourses.

One can see parallels and differences when considering the history and institutional landscape of the education systems in both countries. The origin of Germany’s current education system and its structure dates back to the beginning of the 19th century. At that time, the tripartite school system of elementary schools, high schools and universities was introduced to build and stabilise a class-based society (Peters, 2010).

---

1 From what we have seen in the analysis is that practitioners take up the findings from research as presented here.
The fragmentation of the secondary education into ‘Hauptschule’ (lower secondary school), ‘Realschule’ (secondary school) and ‘Gymnasium’ (high school) (see Figure 3) came in the 1960s and is still existing in most parts of the federal system of the German education sector (Ibid.). In Sweden, on the other hand, a 6-year compulsory education was first introduced in 1842, whereas the various types of schools still differed considerably until the beginning of the 20th century. This changed with the standardisation of subject matters and the introduction of a 6/7-year ‘folkskola’ (folk school) in the late 1920s (Lundahl, 2008). In 1962, the current concept of comprehensive schools was implemented in Sweden (Peters, 2010), which implies that all students would be taught together up to the 9th grade in the ‘grundskola’ (primary school) (see Figure 3).

Figure 1: The education systems of Germany and Sweden in Comparison (Adopted from Eurydice, 2012, p. 10 & 21)

Whereas the structures of schooling systems in Germany and Sweden lie far apart, the situation for higher education shows a different picture. Especially with the ‘Bologna Reform’, implemented in 1999, the HEIs in Europe and their course offerings in a Bachelor/Master system became, at least formally, more and more similar. Van Damme (2009), for example, states that the whole European Higher Education Area (EHEA) experienced not only a “systemic convergence”, but gradually also even “institutional homogenisation” (Ibid., p. 39).

However, according to Peters (2010), the general educational policy in Germany still has its focus on educating each student according their individual capabilities. Philosophically, this leads back to the thoughts of Enlightenment and Immanuel Kant as well as the concept of ‘Bildung’, first introduced by Humboldt ([1792] 2000), focusing on the development of one’s unique self and leaving space for intervention (Hopman, 2007).
In Sweden, on the other hand, the emphasis in education is rather on providing equal access to education, independent of gender, origin and socio-economic factors (Peters, 2010), which rather corresponds to a policy of “inclusive education” that has traditionally been underpinned by a strong philosophy of universalism, equal entitlements of citizenship, comprehensiveness, and solidarity as an instrument to promote social inclusion and equality of resources.” (Berhanu, 2011, p. 128)

This is, of course, only a rough outline and not an exhaustive structural description of the German and Swedish education systems and all their branches, inherent contradictions and philosophical foundations. However, it provides a good starting point for looking at the national development of EE, which will be considered in the following section in connection with the (selective) educational traditions presented above.

5.1.3 (Selective) traditions in EE in Germany and Sweden

In Germany and Sweden – as well as internationally – it was mainly the public outcry over emerging environmental problems in the early 1970s that brought EE to the political agendas (Hasslöf, 2015, Overwien, 2015). The unresolved issue of nuclear waste disposal, accompanied by acid rain and dying forests, led to an environmental movement that was politically motivated and asked for novel educational approaches to change life styles and production methods (Becker 2001). According to Hasslöf (2015), EE in the 1970s was in Sweden and other countries mainly rooted in a so-called “fact-based tradition”, treating “environmental problems as knowledge problems” and guided by the idea that science is to provide “knowledge as scientific facts and models” (Ibid., p. 17).

During the 1980s, environmental issues like deforestation, the acidification of oceans, the hole in the ozone layer as well as the devastating consequences of the Chernobyl disaster (1986) continued to be part of the general political and public discourse both in Germany (Fischer & Richter, 2013) and Sweden (Peterson, 2012). Based on a value-laden political discussion that revealed how different conclusions can be drawn from the same scientific knowledge, EE took on a more normative character. “In this interpretation, knowledge alone is seen as not enough to change people’s behaviour.” (Hasslöf, 2015, p. 18) In Germany, it was the national Conference of Education Ministers in 1980 that first indicated a shift towards a normative tradition in EE (Overwien, 2015). Also the Swedish school system experienced a corresponding reorientation in treating environmental topics (Skolverket, 2001). Emphasising the importance of students’ experience, teachers were asked to teach students environmentally friendly values and attitudes in order to promote environmentally sound thinking and action patterns (Ibid.).

In 1992, the UNCED in Rio de Janeiro resulted in the non-binding action plan Agenda 21, which considers peace, development and environmental protection as closely interrelated and further promotes the role of relevant education (UN, 1992). In the wake of this and influenced by an increasing number of interpretations of complex problems within the environmental debate, emerged what Öhman (2003) calls the “pluralistic approach” of EE or “education for sustainable development” (ESD) (Sandell et al., 2005), which considers pluralism and critical conversation as cornerstones of education. In Sweden, the official teaching and learning requirements – formulated by the National Agency for Education (Skolverket) in 1994 – follow a new didactic concept of interdisciplinary learning. Based on the fundamental idea of a democratic education system, this novel approach of interdisciplinarity is to support concrete learning outcomes, such as holistic and critical thinking as well as the development of action competence on part of the students (Skolverket, 2001, p. 9).
On the implementation of HESD in Sweden, Lindberg (2006) states:

“One thing that is particularly important in education for sustainable development is active student participation, so as to foster a feeling of responsibility and a will to actively contribute to the development of a sustainable society after completing their education.” (Ibid., 169)

Also in Germany, the educational tradition in EE opened up to coordinate social, economic and environmental objectives at the same time and is, according to Brunold, (2015), now “structured in an inter-disciplinary and cross-disciplinary manner.” (Ibid., p. 30) Aiming to contribute to the UN’s sustainable development goal of an inclusive and equitable quality education (Ibid.), like in Sweden, the German curricula of HESD focus on a more active participation of students in the learning processes and the development of “Gestaltungskompetenz” (shaping competence) (Michelsen, 2006, p. 52).

Thus, while the institutional landscape of the schooling systems in Germany and Sweden shows some considerable differences in structural and philosophical foundation, the emergence of EE and the development of its educational traditions reveal striking parallels. Given that HEIs in Europe are assumed to be more homogeneous and both universities considered in this paper offer Master programs in ‘Sustainability Science’ respectively ‘Sustainable Development’ makes it interesting to study the role of students within the educational process in class. Eventually, it can be expected that students from Germany and Sweden have had different experiences in their previous education.

Nevertheless, the national and international discourses around connected education policies and academic contributions as well as public concerns, that initially led to the blossoming of EE, also had a major impact on how ESD was perceived and approached in both countries. In the sense of a precursor, EE and its movement away from fact-based, transmissive approaches towards more pluralistic, student-centred education set the stage for ESD in Germany and Sweden and many of its relating concepts.

5.2 Education for Sustainable Development (ESD)

While one might assume that ESD is just a new label for more of the same in EE, against the background of the described three traditions, it is here understood as a possibility to break with previous forms of EE. However, to account for the implications and inherent contradictions of ESD, I will here first refer to the genesis of the term and concept for ‘sustainable development’ (SD) as one of its elementary components. Only then will the various political efforts and scientific approaches towards ESD and its conceived potential to contribute to social change be presented. After all, the different understanding of the relation between ESD and change does not only imply a different view on competences in sustainability, but also on the here relevant idea of students assuming the role of change agents in the didactic situations.

5.2.1 Sustainable Development (SD)

Against the backdrop of globally ongoing social and environmental crises, sustainable development (SD) is one of the hottest buzzwords in today’s public, political and scientific discourses. Initially defined by the World Commission on Environment and Development (WCED) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 41), SD calls governments, businesses and the civil society to ensure “a convergence between the three pillars of economic development, social equity, and environmental protection.” (Drexhage & Murphy, 2010, p. 2)
Yet, the political concept of SD, as proposed by the so-called Brundtland Commission and its report “Our common future” (WCED, 1987) has been subject of criticism in the field of EE and ESD research. For Robinson (2004), for example, it remains far too vague in terms of operationalization and providing implementation measures aiming for “drastic changes in behaviour and priorities” of the people (Ibid., p. 372). Therefore, he states, it could be argued for the concept of “sustainability” instead, which is rather “integrative, [...] action oriented [and] goes beyond technical fixes.” (Ibid., p. 369). However, while some scholars even consider the term ‘sustainable development’ itself as an ‘oxymoron’ or a paradox combination of words (e.g. Frazier, 1997; Redclift, 2006), already 20 years ago, Dobson (1996) identified over 300 different available definitions for SD.

Moving it slightly away from economic incentives and pushing it rather in the direction of global well-being and the survival of the planet, an interdisciplinary and international group of young scientists from the Sustainable Development Master Programme at Uppsala University (including the author of this thesis) agreed on the understanding of SD as “a progress or change towards an equitable society within the bounds of nature through cooperation and responsibility.” (MSD 2015, unpublished)

The vagueness of SD illustrates its inability and ambiguity to create uniform visions for change, thus bringing to the fore Bengtsson and Östman’s question: “How can such a diffuse, ambiguous or illusionary concept as SD contribute to a homogenisation and approximation of education systems?” (Bengtsson & Östman, 2013, p. 480).

Despite the existence of different approaches and definitions, Hattingh (2002) claims that introducing the notion of SD to the broad societal discourse set the stage for “those who are concerned about the impact of human activity on the ecological basis of our existence.” (Ibid., 2002, p. 5)

Whereas SD may generally be understood as a normative concept that represents a set of values asking for a change of human behaviour and societal conditions, the form of its implementation has ever since been interpreted in various ways (Holmberg & Sandbrook, 1992). However, education is in the political sphere increasingly considered a promising driver. Within the context of the international conference on “Globalization and Education for Sustainable Development – Sustaining the Future” in Nagoya, Japan, 2005 the then Director-General of UNESCO, Koïchiro Matsuura, explicitly highlighted “the central role of education and learning in the common pursuit of sustainable development.” (Matsuura in Wong, 2006, p. 17)

5.2.2 ESD as a Political Issue

Already with the UNCED in Rio 1992, education gained entrance to the global discourse on SD. According to Schrage (2015), the Earth Summit in Rio “was a platform where education [...] emerged as an essential tool for achieving sustainable development.” (Ibid., p. 12)

Yet, as the ambitious goals of Agenda 21, agreed upon by the UN member states in Rio, largely remained unachieved (UN, 2002), the international community had to rethink how SD could be implemented more effectively on local, national and global level. Hence, at the World Summit on Sustainable Development in Johannesburg (WSSD) in 2002 – among others initiated by Germany and Sweden – the United Nations decided that 2005 to 2014 would be the ‘UN Decade of Education for Sustainable Development’ (UNDESD).
With UNESCO as lead agency for the UNDESD, the new objective was to “encourage Governments to consider the inclusion (...) of measurements to implement the Decade in their respective education system and strategies and, where appropriate, national development plans.” (UN, 2005, p. 2) By combining SD and quality education as two of UN’s core interests, the UNDESD was aiming to promote “the vision of and transition to sustainable development – through all forms of education” and emphasise “the important role of education and learning in sustainable development.” (UNESCO, 2005, p. 6).

In the evaluation report on the decade, it is emphasised that progress has been made in the sense that many stakeholders, such as organisations, schools and institutions of higher education, “joined in the challenge to advance learning towards a broader and deeper understanding and practice of sustainability.” (Buckler & Creech, 2014, p. 9) Besides the contribution of institutions, it is claimed that also “students have played an important role as agents of change, participating actively in discussions that affect their future, advocating for a transformation in their learning environments and bringing the message of sustainability and global citizenship home to parents and communities.” (Bokova in Ibid., p. 3)

As a follow-up to the UNDESD and its achievements, a Global Action Programme (GAP) on ESD has been developed at the 37th session of the General Conference of UNESCO in Paris 2013. Launched in Nagoya, Japan, one year later “the programme aims at scaling up action in order to accelerate overall progress towards sustainable development”. (Ibid.) Among other so-called “priority action areas”, the GAP explicitly focuses on “transforming learning and training environments” (UNESCO, 2014, p. 15) and fostering stakeholder involvement, “promoting whole institution approaches.” (Ibid., p. 18)

This points directly towards the political relevance of this thesis as it aims to investigate if and how the involvement of students in HESD can act as contribution to changing their learning environments, here represented by the didactic contracts in class.

5.2.3 Competences and Pedagogies in ESD

In the academic sphere, however, there are different and strongly diverging perspectives discernible on the idea of ESD and its conceptual implications. Partly resulting from the shortcomings of defining SD, also ESD has been subject to various interpretations and conceptualized differently in terms of its content, pedagogy as well as regarding the skills and competences to be acquired on part of the learners (Tilbury & Mulà, 2009; Wals & Kieft, 2010; Wiek et al., 2011). As ESD is constantly dealing with highly complex problems – such as climate change, poverty or the survival of eco- and social systems – all of which “have no one obvious optimal solution” (Wiek et al., 2011, p. 203), authors like Grundwald (2004) claim that related education is nowadays considered to be mainly problem-driven and solution-oriented.

To have “a critical reference point for the ambitious knowledge and skill profile of students” (Wiek et al., 2011, p. 205f.) Wiek and his colleagues emphasise the crucial role of defining key competences in sustainability. They argue for the requirement of an overarching “research and problem-solving competence” (Ibid., p. 205) and define five key sub-competences (systems thinking competence, anticipatory competence, normative competence, strategic competence, and interpersonal competence). To make it more comprehensible, they applied those key competences applied to an “integrated sustainability research and problem-solving framework.” (see Figure 1)
Lately, the idea of competences in sustainability was mainly discussed in the context of curriculum development (e.g. Thomas, 2009) and appears internationally to be a popular concept for political agendas in relation to ESD (e.g. Buckler & Creech, 2014).

The relevance of an overarching competence as a central educational objective of ESD” (Adomßent & Hoffmann, 2013, p. 2) is also appealed to in Germany and Sweden. Within the German discussion, it is often referred to the notion of “Gestaltungskompetenz” (shaping competence) (e.g. de Haan & Harenberg, 1999, de Haan, 2006, Barth, 2007). According to de Haan (2006), shaping competence may be understood as “having the skills, competencies and knowledge to enact changes in economic, ecological and social behavior without such changes always being merely a reaction to pre-existing problems.” (de Haan, 2006, p. 22)

In Sweden, on the other hand, most scholars rather use the concept of “action competence” instead (e.g. Almers, 2009, Grice & Franck, 2014). A research group from Uppsala, for example, defined action competence in ESD as “the ability to critically make value judgements about different alternative ways to act for a sustainable future.” (Hedefalk et al., 2014)

Relating “action competence” to the German notion of ‘Bildung’, however, Mogensen and Schnack (2010) claim:

“[It] is not a goal that can be reached [,but] rather refers to an educational ideal, which is “situated in a non-place, a utopia, where it maintains good company with such concepts as liberal education, democracy, human rights, sustainable development and equal (herrschaftsfrei) communication.” (Ibid., p. 60)

After modern competence-based education (CBE) was already introduced with the reform of teacher education and training in the United States of America during late 1960s (Brown, 1994a), there has been considerable criticism of the concepts of CBE rising up already in the 1990s. Hyland (1993), for example, complains about the

“weakness and incoherence of the logical and epistemological basis of competence-based education, and the consequences of this for the educational enterprise. (…) It is argued that the competence approach displays confusion and incoherence in its interpretation and use of the ideas of ‘knowledge’ and ‘understanding’, and so should be challenged and resisted by educators committed to these values.” (Ibid., p. 57)

Also according to Pennington (1994), CBE ignores the educational process, focusing only on particular measurable outcomes. Whereas he argues that “education is a process of development and growth” (Ibid., p. 70). Regarding “graduate education” in particular, Brown (1994b) adds that CBE is traditionally embedded in a rational-positivistic paradigm and deters emancipation or free and independent thinking.

Coming from a “Didaktik” perspective, I would partly support the criticism of CBE and take a rather critical stance towards the related curriculum approach. Eventually, I perceive education as an individual process of personal development and consider each learning and teaching situation as unique and requiring “a considerable amount of autonomy for both teachers and the students” (Hopmann, 2007, p. 117). Yet, it is only logical that certain competences discussed in the context of ESD, such as the ability to collaborate (“interpersonal competence”) or to take action (“Gestaltungskompetenz”) also are some merit for this thesis. Especially when it comes to the concept of change agency – but more on that later.

Moving away from strict behaviouristic conceptions, the 1990s showed an increasing demand for alternative educational models that would also incorporate understanding, values and a knowledge component focusing on learning and development (Hyland, 1993, 1997).
At that time, pedagogical approaches, not only in ESD, showed a considerable shift from transmissive, teacher-centred training and instruction to rather student-centred learning environments (Jonassen & Land, 2012).

“During the 1990s, the rise of constructivism and its associated theories in psychology and education represented a paradigm shift for educators and instructional designers to a view of learning that is necessarily more social, conversational, and constructive than traditional transmissive views of learning.” (Jonassen & Land, Preface VII)

Barth and Michelsen (2013) found that current pedagogies for ESD in particular are “based on social-constructivist learning theories and offer opportunities for dialogue, active and critical reflection.” (Ibid., p. 107) Corresponding to the differentiation in EE made by Palmer (see above), some authors distinguish also between education “about”, “in” and “for” sustainability (e.g. Sterling, 2011).

On that note, Barth and Michelsen (2013) state:

“While education about sustainability simply transmits ‘factual’ information about sustainability concepts and processes (leaving existing assumptions unchallenged), education in sustainability uses experiential and interactive learning processes (a more learner-centered approach) to support the development of greater understanding. Education for sustainability, finally, is oriented more strongly toward a transformative approach to education, encouraging the adoption of sustainability principles, ethics, and values.” (Barth & Michelsen, 2013, p. 107)

Referring to this distinction offered by Bart and Michelsen, it could be reasonably argued that the provision of information about sustainability concepts and processes is still crucial in HESD – especially in the initial phases of study programs. Yet, based on the idea that student-centred learning environments are meanwhile common practice, this work is interested in how education for sustainable development is organized within the two said Master programs in Lüneburg and Uppsala. Eventually, it focuses on the role of students in the sense of a transformative approach to education and aims to find out how the sustainability principle of change agency on part of the students is adopted in didactic situations in class.

5.2.4 ESD and Change

The relationship between education and social change is one the most contested aspects in the international discourse on ESD. Critics of the concept, such as the Canadian scholar on environmental education, Bob Jickling, were already from the start concerned about the conceiving of ESD as a mechanical apparatus – implying that the objectives of SD have already been defined by others, so that education, in a sense, would only lead to social reproduction (Jickling, 1992). Instead, Jickling and his colleague and friend Arjen E.J. Wals point towards the importance of creativity and undetermined dynamics for innovation and true change to occur. Whereas reproduction would rather stand for the acceptance of existing societal structures and power relations, from the latter vantage point, educated citizens are expected to be “active participants in ongoing decision-making processes within their communities.” (Jickling & Wals, 2008, p. 8)

In response to this criticism and bridging the paradox aims of ESD – to follow the determined path towards sustainability while, at the same time, enabling change – Vare and Scott (2007) propose the idea of two interrelated and complementary approaches to ESD: ESD 1 and ESD 2 (see Figure 2).
“[The authors] see ESD 1 as the promotion of informed, skilled behaviours and ways of thinking, useful in short-term where the need is clearly identified and agreed, and ESD 2 as building capacity to think critically about what experts say and to test ideas, exploring the dilemmas and contradictions inherent in sustainable living.” (Vare & Scott, 2007, p. 191)

![ESD 1 and ESD 2 Diagram](image.png)

- Promoting/facilitating changes in what we do
- Building capacity to think critically about (and beyond) what experts say and test sustainable development ideas
- Promoting (informed, skilled) behaviours and ways of thinking, where the need for this is clearly identified and agreed
- Exploring the contradictions inherent in sustainable living
- Learning for sustainable development
- Learning AS sustainable development

**Figure 2:** ESD 1 and ESD 2 (Adopted from Vare & Scott, 2007)

ESD 1 can further be understood as a separation between the educator (teacher) as expert and the learner (student) as non-expert and simply the receiver of knowledge, while “ESD 2 involves the development of learners’ abilities to make sound choices in the face of the inherent complexity and uncertainty of the future.” (Ibid., p. 194)

Hence, ESD 2 goes beyond the expert-driven knowledge associated to ESD 1, which corresponds to the stand this paper takes. That is, perceiving change in educational settings and processes not only on a structural level and as externally initiated. Instead, it is viewed as also being dependent on permitting creative, explorative and critical dynamics within learning and teaching situations that are driven by learners themselves. In particular, as ESD is aiming for a transformation towards sustainability, not only on a macro level of society, but also in terms of individual behaviour and action. Eventually, students – and especially those in SD related programs in higher education – are expected to act as future change agents (Rowe, 2007).

### 5.2.5 Change Agency in (H)ESD

The conception of change agency in ESD is often based on the the idea of students acquiring certain competences that are needed in the field of sustainability and consequently emerge as parts of the curricula (Wiek et al. 2016). Even though Wiek and his colleagues (2016, p. 241) recognise the need for “a large-scale educational transformation”, they adhere to the idea of the five key competences presented earlier (see Chapter 5.2.3) and translate them into learning objectives in HESD. They state:

“Sustainability programmes in higher education institutions are supposed to convey these competencies in sustainability and enable graduates to make contributions to resolving challenging societal problems and building a sustainable future.” (Ibid., p. 242)

Also Svanström et al. (2008) discuss change agency explicitly as a learning outcome and connect it to certain abilities, such as the ability “to communicate ideas clearly”, “to influence group dynamics”, “[to] collaboratively solve problems using critical thinking” and “tolerate ambiguity” (Ibid., p. 347-348).
Whereas I would adopt the idea that critical thinking and the ability to have an impact on group dynamics are crucial for students to act as agents of change, I here reject the concept of a curriculum perspective that considers change agency as a set of competencies acquired by the students only as a learning outcome. The idea of determining the learning process of the student that is inherent to the curriculum tradition theoretically denies the ability for change to be instigated.

Instead, this paper takes a didactical perspective, which makes it particularly interesting to focus also empirically on students and how they assume the role of change agents within the the educational tradition, respectively the didactic contracts in class and how they can contribute to the process of educational transformation. In correspondence to that, Heiskanen et al. (2016) claim that students are to “*develop a sense of agency through the experience of being able to accomplish change*” (Ibid., p. 218), “*which serves as a source of confidence and encouragement for sustainability change agents working in the difficult real world conditions prevailing in most parts of the world.*” (Ibid., 225)

Recent research and literature about educational transformation assigned the role of change agents to teachers (e.g. O’Sullivan, 2008, Priestley et al., 2011, 2012, Lukacs & Galluzzo, 2014), while the role of students in this regard remained largely ignored. Therefore, I see a clear research gap, to the closing of which this work aims to contribute.

Eventually, the objective of this study is to investigate and compare how students perceive and experience the didactic contracts as conditions for acting as change agents in didactic situation in HESD in Germany and Sweden. The concept of selective traditions in EE will finally be used as a (theoretical) reference point for the current didactic contracts, resulting from the empirical data.
6 Theoretical Framework

This section will introduce the theoretical concepts of ‘discourse’, ‘educational tradition’ and ‘didactical contract’, in order to allow for a specific understanding of how ‘change agency’ and its role in HESD is understood and analysed in the context of this thesis.

Based on the idea that “our access to reality is always through language” and that in the social domain of ESD – as in any other – “the ascription of meaning in discourses works to constitute and change the world” (Jørgensen & Phillips, 2002, p. 8-9), ‘discourse theory’ will be presented as the fundamental theoretical baseline of this thesis. Accordingly, the role of students and their possibility to initiate change in and through HESD is understood to be discursively framed. That is, discourses provide the means of thinking and acting education. This allows not only to perceive educational traditions and didactic contracts as discourses, but also justifies a discourse analytical research approach focussing on statements of experts, teachers and students from HESD. More specifically, from a discourse theoretical perspective, educational traditions only partly determine how learning and teaching is to be organized in class, while still allowing for different conceptions to exist. The same counts for didactic contracts and the expectations of how students are to act as change agents in HESD. Writing in the tradition of didactical theory and looking at the educational process itself, instead of concentrating on general learning outcomes, I will then demonstrate how the notions of ‘didactic contracts’ and ‘change agency’ are conceived theoretically in this work.

6.1 Discourse Theory

As a theoretical starting point, this thesis is based on a poststructuralist perspective on education as well as the idea that communication and language in particular are crucial for the social constitution of the meaning and being of the world.

Therefore, the overarching research approach would here be that of discourse theoretical outlook, according to Foucault (1966), in form of socially critical analysis of social constructions. Eventually, this work is not only based on a discourse theoretical foundation. At the same time, it uses discourse analysis as overarching method to investigate patterns in and gain knowledge from the articulation of relevant actors on how they perceive the organisation of learning and teaching with particular focus on the role of students as change agents.

Discourse theory, as postulated by Laclau and Mouffe (1985), “has its starting point in the poststructuralist idea that discourse constructs the social world in meaning, and that, owing to the fundamental instability of language, meaning can never be permanently fixed.” (Jørgensen & Phillips, 2002, p. 6) However, the notion that social phenomena never reach a state of being finished or complete “opens up the way for constant social struggles about definitions of society and identity, with resulting social effects.” (Jørgensen & Phillips, 2002, p. 24) Consequently, the here applied approach of discourse theory implies that discourses (educational traditions / didactic contracts) have the character of social constructions that provide a continuity in meaning.

Yet, the constant process meaning-making by actors involved still bears the potential for change. The idea that discourses “overdetermine” (Laclau & Mouffe, 1985) what is possible in individual conceptions of the world finally allows for different meanings of ESD or educational models and traditions for students, teachers and politicians.
Taking this constructionist perspective implies, according to Burr (1995, p. 2-5):

- **A critical approach to taken-for-granted knowledge:** our knowledge and representations of the world are not reflections of reality ‘out there’, but rather products of our ways of categorizing the world.
- **Historical and cultural specificity:** the ways in which we understand and represent the world are historically and culturally specific and contingent: our worldviews and our identities could have been different, and they can change over time. (…) Discourse is a form of social action that plays a part in producing the social world – including knowledge, identities and social relations – and thereby maintaining specific social patterns.
- **Link between knowledge and social processes:** Knowledge is created through social interaction in which we construct common truths and compete about what is true and false.
- **Link between knowledge and social action:** Different social understandings of the world lead to different social actions, and therefore the social construction of knowledge and truth has social consequences.

In the context of this paper, this means that conceptions of and meanings attributed to certain educational traditions or didactic contracts are not seen as universally valid, but have to be considered in a culture-specific perspective. However, the understanding of how students act as change agents has an impact on how society is structured and re-enacted.

### 6.1.1 Discourse as Social Structure

The term ‘discourse’ itself is, in many cases, based on the general idea that language – and the way of how we give meaning to the world and act according to that meaning – is structured by different patterns that people’s utterances follow when they take part in different domains of social life. Correspondingly, Foucault (1972) describes discourse as “a group of statements in so far as they belong to the same discursive formation” (Ibid., p. 117), whereas Jørgensen and Phillips (2002) define it as “a particular way of talking about and understanding the world (or an aspect of the world).” (Ibid., p. 1)

In the present thesis, I build upon this notion of discourse yet see discourse not only as related to spoken language but also to provide the basis for meaningful action (Laclau & Mouffe, 1985). Thus, when using the term ‘discourse’ I refer to discernable patterns (particular ways) in spoken language and action that are associated with particular meanings. This, in turn, complies with the discourse theoretical assumption of Laclau and Mouffe (1985), who

> “call articulation any practice establishing a relation among elements such that their identity is modified as a result of articulatory practice. The structured totality resulting from the articulatory practice, we will call discourse.” (Ibid., p. 105)

Although discourses are established as totalities where each element is temporarily fixed as a discursive “moment” through its relation to other elements – excluding all other possible meanings that this element could have had – “[n]o discourse is a closed entity: it is, rather, constantly being transformed through contact with other discourses.” (Jørgensen & Phillips, 2002, p. 21) According to Laclau and Mouffe (1985), a discourse can further be understood as being formed by the partial determination of meaning around so-called “nodal points” within a specific social domain (Ibid., p. 112).
These nodal points are “privileged signs”, such as concrete terms, concepts or actions, which are surrounded by other signs or elements that “acquire their meaning from their relationship to the respective nodal point.” (Jørgensen & Phillips, 2002, p. 26)

On the one hand, the concept of ESD may hence be considered as a term (element) that acquires varying meanings within both political and educational discourses as well as the broad spectrum of sustainability. On the other hand, however, ESD may also be interpreted as an own social domain and discourse, which is influenced by other discourses and where ‘didactical approaches’ and ‘educational models’ represent further elements that potentially attain different meanings. Such elements, again, attain their meaning by being put into relation to other signs and nodal points. The discourse-specific meaning of signs like ‘content’, ‘participation’ or ‘contribution’, is then also crystalized, which transforms them into discursive moments.

Eventually, as any other social domain, ESD in higher education consists of different actors, such as teachers, learners, researchers or politicians, who assume different roles and perspectives. Their conceiving of and statements on ‘ESD’ and ‘didactic contracts’ in higher education for sustainable development can each be considered as individual attempts to fully fix the meaning of and relations between elements. Yet, those attempts are doomed to fail, since “closure is never definitive” (Jørgensen & Phillips, 2002, p. 28), which leads us to the phenomenon of “discursive struggle.” (Ibid., p. 21)

The alterity of discursive articulations should be understood in terms of mutual exclusiveness and “reduction of possibilities” (Jørgensen & Phillips, 2002, p. 27), that is that one particular way of conceiving the world and being in that world is not compatible with other ways of conceiving the world or being in that world. Hence, discourses entail political agendas, they appeal to particular actions and means of giving meaning to those actions, in order to attain distinct political visions for society and change of existing social structures. The difference of articulations further shows that discourses are not able to fully determine the meaning of elements, which refers to the parallel existence of different conceptions or what Laclau and Mouffe (1985) call “overdetermination”. Therefore, discourses are here understood as alternative ways to perceive education, the role of learners and the possibility of change. Especially since “our ways of talking do not neutrally reflect the world, identities and social relations but, rather, play an active role in creating and changing them.” (Jørgensen & Phillips, 2002, p. 1)

Thus, discourses provide a social structure of continuity, which is, at the same time, open for change in the sense of a personal dimension. That means that the way of how learning and teaching is organized in HESD, for example, is to some extent socially determine, whereas in concrete situations there is the possibility to alter discourses.

### 6.1.2 Selective Traditions in EE as Discourses

However, over time, certain learning and teaching traditions have evolved, that can be understood as being influenced by discursive action within the political, academic and public sphere. The so-called “selective traditions” take broader patterns in conceiving of the relation between education and society (as well as the environment) and translate them into teaching-related practices. In this sense, the selective traditions represent institutionalized discourses, where institutionalization refers to a specification of broader notions of education with regards to specific habits that characterize learning and teaching (Wickman 2004).
Thus, perceiving educational traditions in EE (and ESD) as discourses would mean that broader socio-historic conditions in Germany and Sweden may lead to specific conceptions of education and HESD in both countries. However, following the concept of discourse applied in this work, the said conditions are perceived to “overdetermine” what conceptions of education can become possible (Bengtsson, 2014). Consequently, the conception educational approaches in HESD, which are here assumed to find their empirical expression in didactic contracts, may not only differ from person to person, but can also exist simultaneously as well as in the form of hybrids. In this sense, educational traditions are selective, as there is the possibility to select from a variety of coexisting traditions (discourses) in order to give meaning to education.

As shown above, in the field of EE one can distinguish between a fact-based tradition, normative tradition and ESD (pluralistic tradition), which differ, inter alia, in terms of “the goal of environmental education”, “main method of teaching”, “planning and democracy” and “role of students” (Sandell et al., 2005, p. 165-167) (see Table 1). In the context of this thesis, this concept of “selective educational traditions” is used in order to specify individual conceptions of HESD in Germany and Sweden, which are associated with particular ways of how learning processes are organized, and connect to didactic contracts in sustainability related study programs in both countries.

6.2 Didactical Theory

As the aim of this study is not only to explore conceptions of educational traditions in HESD, but also didactic contracts in class, this thesis positions itself towards the so-called “Didaktik tradition” (Hopmann, 2007). According to a didactic perspective, the focus of this thesis is on teaching and learning processes. This didactical focus is chosen based on the objective to account for the role of students as change agents within the educational process itself. Perceiving learning from a didactical perspective as experience-based, the main interest is to explore change agency in the practice of learning and not as a learning outcome.

Within educational theory, which is generally interested in the construction of premises for learning, one can distinguish three different theoretical streams: The Anglo-American concept of curriculum and instruction, the French transposition didactique and the traditional Didaktik, which mainly emerged in 19th century in Germany and the Nordic Countries. Whereas all three share “the notion of the classroom as a transformative space in which knowledge is created” (Ibid., p. 120), the theoretical approaches differ considerably in terms of the learning and teaching aspects they focus on.

The curriculum tradition, for example, focusses rather on learning outcomes and teaching methods to achieve them, while French tradition of transposition didactique merely concentrates on the content and how knowledge can be transpositioned from one field to the other, for example, from the classroom to everyday life. However, neither of them implies the concepts of “Bildung” and “the necessary autonomy of teaching” respectively the idea of “restrained teaching” that lay at the core of the Didaktik tradition (Ibid.) and are of relevance in the context of this work.

As one of the theoretical cornerstones of Didaktik, the concept of Bildung is based on the idea that students can contribute to societal change by developing one’s own individual self (Humboldt [1792] 2000). This, according to Hopmann (2007), can only be achieved by restrained teaching in the way of “opening up for the individual growth of the student.” (Ibid., p. 115)
6.2.1 Didactic Situations

In line with Dewey (e.g. 1978 1985), learning and individual growth corresponds to the development of action- and thinking “habits”, that evolve through the personal reconstruction of socially formed “experience” in communicative interaction. In other words: If we only passively perceive a situation without experiencing the consequences in an emotional and reflective way, we will not sustainably change our individual habits and, after all, collective customs and culture (Ibid.). Eventually, as we engage in communities of discourse and practice, our knowledge and beliefs are influenced by and influence those communities (Jonassen & Land, 2012).

Based on the idea that humans are social beings, who rely on feedback from their social environment in order to determine their own existence and verify their personal beliefs, one can claim that learning is an individual process of creating meaning, that is still of social nature (Jonassen & Land, 2012). Eventually, knowledge does not only exist in individual minds, but also in “the discourse among individuals, the social relationships that bind them, the physical artefacts that they use and produce, and the theories, models, and methods they use to produce them.” (Ibid., Preface X)

Thus learning has both a personal and social component and matches the concept of discourse, which is understood as creating (determining) and changing the social world in meaning. Considering learning from a discourse theoretical perspective allows me to draw a connection from individual habits and collective customs of learning – here conceived of as institutionalized didactic contracts – to discourses. The fact that discursively shaped didactic contracts “overdetermine” the educational process and makes every didactic situation unique, which allows for “a considerable amount of autonomy for both the teachers and the students”. (Hopmann, 2007, p. 117)

Moreover, following the ideal of democratic education, Dewey also emphasises the significance of active participation on part of learners to ensure primary experience, while he calls “Communication (…) the process of creating participation.” (Dewey, 1985, p. 248) The idea of democracy and active participation, in turn, corresponds to the didactical core assumption of restrained teaching and indicates the potential for considering the role of students as change agents. The emphasis on primary experience in social interaction, on the other hand, makes it relevant to investigate the conception change agency within the educational process itself and not as a learning outcome.

In accordance with this framework, I follow the idea of education as a democratic “process of social interaction” (Dewey, 1985, p. 80), where learning, based on experience, leads to individual development (growth) and, ultimately, social change. However, looking specifically at the learning process, where the said the development of habits (growth) is assumed to take place, shifts the focus to the concept of didactic situation respectively the phenomenon of didactic contracts between teachers and students how they perceive the role of students as agents of change.

According to the concept by Chambreuil et al. (2000), I will use the term ‘didactic situation’ to refer to a situation, where a mutually negotiated process of teaching and learning is taking place.
Independent from the subject, content and method applied in the learning process, a didactical situation is

“the place where the knowledge to be acquired is accessed. Its role as a space where the learner and the knowledge to be acquired come together, turns the didactic situation into a multifaceted and highly complex entity. For individual learning, for example, every facet of this complexity must be taken into account so as to choose and individualize, according to a learning goal, a didactic situation to be proposed to a particular student.” (Ibid., 2000, p. 649)

In their paper on “Didactic Situations as Multifaceted Theoretical Objects”, Chambreuil and his colleagues (2000) describe various facets of didactic situations that refer to different levels of the learning process. Some of them are be helpful to make the concept of didactic situations more comprehensible:

In terms of didactic planning, for instance, a didactic situation is considered a “unit of action (...) to achieve the goal of a didactic session”, whereas, in relation to the individual student, it may be understood as “a complex problem to be solved.” Regarding the relation between students and the teacher, “a didactic situation is space for interaction”, while, on part of the teacher it represents a specific “knowledge structure” that has to be “taken into account in the decision making process[es].” (Ibid., p. 649)

To reduce complexity and frame didactic situations in a structured way, this paper will use the idea of the triadic relation between student, teacher and subject matter (content) (see Figure 3).

![Figure 3: Didactic Triangle (Adopted from Meyer, 2012)](image)

According to Meyer (2012) “the triangle reminds everybody concerned that the student’s development and the teacher’s professionalism depend on each other and that in the didactic context subject matter must always be seen in relation to the teachers and students.” (Ibid., p. 458)

In the context of this thesis, didactic situations represent contingent and situated interactions that are structured by discourses (didactical contracts), yet bear the potential for change. In moments, where the didactical contract between teacher and students is unable to determine how learning and teaching is to be organized, a decision (“choice”) has to be made on how to continue in the didactical situation (Östman, 1995)^2.

^2 Furthermore, Dewey (1985) claims that inquiry processes that are never pure reproduction but always situated in terms of different people at different points in time. Thinking of learning in this notion implies that there have to be constant adjustments in didactical situations.
However, as Östman underlines, the didactic situations are preceded by situations where teachers have to make decisions on what to include and exclude in a didactic situation they want to create. This also implies a choice regarding the didactic contract or how they expect to interact with the students in class (Ibid.). Hence, in the context of this thesis, the concept of ‘didactic situations’ refers to all forms of situations in the two Master programs, where teaching and learning takes place.

### 6.2.2 Didactic Contracts

As stated above, from a discourse theoretical perspective, learning may be viewed as a process of meaning-making in didactic situations – predetermined by didactic contracts. The concept of ‘didactic contracts’ is originally drawn from the French tradition of *transposition didactique* (e.g. Brousseau, 1980) and here interpreted from a *Didaktik* perspective.

Corresponding to the definition of Brousseau et al. (2014), a didactic contract is “*an interpretation of the commitments, the expectations, the beliefs, the means, the results and the penalties envisaged by one of the protagonists of a didactical situation (student, teacher, parents, society) for him- or herself and for each of the others.*” (Ibid., p. 154)

From this perspective, didactic contracts indicate how students and teachers – as two main protagonists of didactic situations, also in HESD in Germany and Sweden – conceive of the organisation of learning and teaching in class.

Referring to the “*didactic triangle*” of teacher, student and subject matter (see Figure 3), this work is interested in how the protagonists interpret

- their own role in the relation to the other as well as the role of the other in that relation (student – teacher)
- their own role in the relation to the subject matter and the role of the other in relation to the subject matter (student – subject matter), (teacher – subject matter)

According to Brousseau et al. (2014), “[t]he objective of these interpretations is to account for the actions and reactions of the partners in a didactical situation” (Ibid.). In this sense, one might perceive didactic contracts as the description of specific learning and teaching habits (or customs), that are not only expected to be partly determined by certain educational traditions, but also provide continuity within didactical situations. Eventually, educational traditions can be seen to provide overarching ways of thinking of the role of students and learners in a social perspective, where didactical contracts relate to the specified expectations in educational settings. However, also the mutual expectations that students and teachers have towards the didactic situation may still vary, based on their individual socio-historic imprint.

In connection with the concept of selective educational traditions in EE and ESD, the main focus regarding the didactical contracts and all its relational levels between teacher, student and subject matter (content) will be on:

a) the goal of environmental education,  
b) main method of teaching,  
c) planning and democracy, and  
d) role of students

After all, I am not only interested in the in the impact of students on the content and its development in class, but also in the way that students attain agency or are acknowledged as initiating learning and change.
Hence, this thesis is based on the didactic view that individual learning processes are socially framed and require autonomy on part of learners and teachers as well as a restrained teaching approach. This allows for democratic education and active participation of students to learn and grow through experience. Whereas this rather contradicts the idea of curriculum tradition that certain competences can certainly be acquired by specific educational models, the concept of change agency remains valid here. This is due to the fact that the main interest lies in how the protagonists conceive of students as change agents in the educational process itself and not in the competence of change agency as a learning outcome.

6.3 Students as Change Agents

Based on the idea of discursive overdetermination, theoretically attested to both educational traditions and their empirical specification of didactic contracts, didactical situations may be understood as “social networks [with] structural holes [, which] aid the initiation and adoption of changes that diverge from the institutional status quo.” (Battilana & Casciaro, 2012, p. 382) This generally opens up the possibility to change and transform social institutions, such as didactical situations in HESD, and raises to question of who is to take responsibility.

Focussing on the role of teachers, O’Sullivan (2008) proposes the idea that “to be considered social change agents, educators must teach from a critical and transformative perspective.” (Ibid., p. 96) This is demarcated from other perspectives, be they innovative and progressive and encourage students (Ibid.). However, transferring this concept to the role of students in HESD, “active participation” and “social criticism” (critical thinking) are not only referred to as key characteristics of so-called “sustainability change agents” (Svanström et al., 2008), but also theoretical prerequisites for successful learning (Dewey (1985) and learning for ESD in general (e.g. Tilbury, 2011, p. 8)

Therefore, I will here adopt the conceptualization of change agents as being critical, actively participate and show transformative behaviour in the very educative process itself. Eventually, the special interest with respect to the didactic contracts will be in the mutual expectations of students and teachers regarding the role of students in terms of active and critical participation and impact on the subject matter (content) and its development in the didactic situation.

From the didactic and discourse theoretical perspective applied in this thesis, it is particularly appealing to focus empirically on the role of students as change agents in didactical contracts and not only at the level of educational traditions.

Firstly, it is interesting to see if the conceptions of students as agents of change found in didactical contracts correlate with those proposed by the overarching educational traditions. Secondly, to learn and develop the required habits to act as sustainability change agents, students need the actual “experience of being able to accomplish change.” (Heiskanen et al., 2016, p. 218)
7 Research approach

In order to gain knowledge on the role of students in HESD in general, this thesis follows the approach of a comparative case study in form of discourse analysis. To investigate overarching educational traditions, I decided on Germany and Sweden as my research area. Both countries are, in the public discourse, often considered as best practice examples in terms of implementing ESD, while showing considerable differences in the established structures of their education systems (due to different socio-historic conditions). This makes a comparison particularly interesting. In order to empirically analyse how ESD is actually organized at an institutional level of higher education, I looked at the Leuphana University in Lüneburg (Germany) and Uppsala University/SLU (Sweden). Finally, both universities have a focal point on ESD and offer Master programs in ‘Sustainability Science’ respectively ‘Sustainable Development’, which provide promising cases to look at HESD in practice.

7.1 Methodology

Through the epistemological lens of a constructivist paradigm, knowledge is generally viewed as being “created in interaction among investigator[s] and respondents” (Guba & Lincoln 1994, p. 111), which complies with my approach and understanding. Furthermore, it is to note that findings of scientific investigations are dependent on and mediated by the values of the investigator and participants, which may be seen as an epistemological perspective of critical theory (Ibid.)

When it comes to studying human attitudes and opinions, based on people's constructed experiences and ideas, research should primarily be designed to obtain qualitative data, which provides contextual information about the object of investigation (Nygren & Blom 2002). In the social sciences, in particular, qualitative research has recently gained acceptance and is more than just a supplement to quantitative approaches (Ibid.).

Within the framework of this study, I decided on a discourse theoretical outlook, which is inseparably linked to the qualitative approach of discourse analysis. In the words of Jørgensen and Phillips (2002):

“Discourse theory aims at an understanding of the social as a discursive construction whereby, in principle, all social phenomena can be analysed using discourse analytical tools.” (Ibid., p. 24)

As stated above, the applied approach is based on a certain ontological and epistemological position (see 6.1), whereas the following section focuses concretely on the discourse analytical procedure.

7.1.1 Discourse Analysis

In connection with the objective of this thesis, I draw upon discourse analysis, in order to outline the conditions that specify how agency for social change can be conceived of in HESD in Germany and Sweden. Eventually, both the development of educational traditions in EE and interpretation of didactic situations (didactic contracts) are by me viewed through the discourse theoretical lens and basically perceived as discursive action. Discourses are for this thesis seen to represent discernible pattern in spoken language and action that relate to particular meanings, while discourse analysis is the tool to analyse these patterns.
In the context of this thesis, I consider the elements of ESD as well as teaching and learning as being determined by different discourses. What interests me now is how certain key words (elements), acting as indicators for analytical foci in approaching my research questions, become moments by the temporary fixation of meaning; that is, to identify nodal points (privileged signs) and patterns in the discourses on educational traditions and didactical situations, according to which the elements attain meaning.

In fact, you can never really reach supra-social discourses, but only the articulations and how the people understand their world in the sense of meaning-making processes. The identification of discourses is thus only an afterwards reconstruction of patterns that seemingly regulate the process of articulation.

Based on the statements of experts, students and teachers, I will reconstruct the discourses as if they would steer that process themselves. Regarding the discourse analysis, this means that the conducted analysis of interviews “starts from the analysis of articulation as the constitutive practice for meaning.” (Bengtsson, 2014, p. 359)

Bengtsson (2014) states that a discourse analytical framework according to Laclau and Mouffe (1985) “embraces the pragmatic aspects and contingency of articulation.” (Ibid., p. 349). This makes the empirical analysis of individual articulations (interviews) of teachers and students from Germany and Sweden particularly interesting, in order to make the cultural specificity and limits of taking for granted knowledge visible. Finally, the analysis of their interpretations of didactic situations (didactic contracts) is to show how the educative practice corresponds to the overarching educational traditions in EE and ESD in Germany and Sweden.

As stated above, the concept of “(selective) educational traditions” (Sandell et al., 2005) is here used in order to specify the particular ways to organize learning processes in class that are associated with the specific conceptions of education. However, it is important to note that I do not aim to cover the overarching social discourse in this regard, but that I have a special interest in the ascription of role of agents of change.

Hence, I will draw on the categories of “the goal of environmental education”, “main method of teaching”, “planning and democracy” and “role of students” as analytical focus point, according to which one can distinguish between fact-based tradition, normative tradition and pluralistic tradition (ESD) of EE.
7.2 Methods

To create a reference framework for the empirical findings, I conducted a literature review, that not only portrays the field of earlier research, but also presents specific findings of previous studies that can help approaching the first research question concerning the educational traditions in HESD in Germany and Sweden.

However, to ultimately answer the research questions posed in this thesis, the main method of data collection was that of qualitative (semi-structured) interviews.

7.2.1 Interviews

As one of today’s key methods for gathering data in qualitative research (Yeo et al., 2014), semi-structured interviews “consist of several key questions that help to define the areas to be explored, but also allows the interviewer or the interviewee to diverge in order to pursue an idea or response in more detail.” (Gill et al., 2008, p. 291)

In the Spring of 2016, I conducted a total of 14 qualitative, semi-structured (rather narrative) interviews.

In order to gain knowledge on the educational traditions in HESD in Germany and Sweden (RQ 1), I interviewed one expert from the German UNESCO Department for ESD and two experts (in one interview) from SWEDESD. Both organizations act as national focal points responsible for the coordination and monitoring of the implementation of ESD in higher education system in Germany and Sweden. Therefore, I considered representatives of both institutions as experts suitable to interview regarding educational traditions. To get hold of the experts’ interpretations of what general education and ESD in particular are to achieve and what role students can be expected to play in transforming education, related key themes were covered in the interview guidelines by connected questions (see Annex I).

To approach RQ 2, I conducted 12 interviews – three teachers and three students from the Master program of ‘Sustainability Science’ in Lüneburg, Germany, and three teachers and three students from the ‘Sustainable Development’ Master in Uppsala, Sweden. As main protagonists of the educative process in class, students and teachers can be expected to have experiences from the actual enactment of the said educational traditions, while their statements may reveal how didactic situations are interpreted by both sides (didactic contracts) and how they conceive of the role of students as change agents. However, it is to note that most teachers are only responsible for specific courses with individual requirements, whereas the students have a broader perspective on the entire program. To ensure representative data, I only interviewed native students in Germany and Sweden, whereas this selection criterion was not completely realized on part of the teachers. One teacher each is from a neighbouring country. As the Master program in Uppsala is regularly divided between courses at Uppsala University and the Swedish University of Agricultural Sciences (SLU), I have ensured to have teachers from both universities represented in my sample.

To make my interview partners articulate their conceptions of didactic contracts – as the empirical specification of educational traditions – the interview guidelines covered more specific questions regarding their impression of the educative process in class. These questions were not only related to the didactic situation in terms of its relational levels, but also about the perceived degree of personal agency (see Annex II and III).
In general, the guidelines for the conducted interviews consisted of pre-formulated, open questions that were held flexible in terms of chronological order and choice of wording. In accordance with Flick (2011), I aimed to cover certain core aspects (‘key themes’) of the research agenda, such as the relations between student and teacher, student and content (subject matter) and teacher and content (subject matter).

7.2.2 Coding (MAXQDA)

All interviews have been tape-recorded and fully transcribed by me. The interview transcripts have then been coded by means of the qualitative data analysis software MAXQDA.

To allow conclusions from the didactic contracts to educational traditions in EE, the code plan in MAXQDA consisted for both concepts of the codes, ‘goal of environmental education’, ‘main method of teaching’, ‘planning and democracy’ and ‘role of students’. Eventually, these four codes not only represent categories, according to which selective educational traditions may be defined (Sandell et al., 2005). They also act as analytical focal points for the investigation of didactic contracts. Therefore, these analytical codes were ascribed to the articulated interpretations of ESD, by the experts and didactic situations in HESD made by teachers and students, in order to discern differences and certain patterns.

Articulations about the ‘goal of environmental education’ are to provide information on how the actors conceive of educational objectives in general, but also in terms of specific skills and competences that students are to acquire, while the ‘main method of teaching’ refers to the relation between the protagonists and the content and the structure of didactic situations. ‘Planning and democracy’ covers the relationship between student(s) and teacher(s) regarding the organisation of the learning process. Finally, statements supplied with the code ‘role of the students’ were interpreted to indicate how experts, teachers and students perceive the role of students in terms of their potential for change in HESD. However, as the students, in contrast to the teachers, have not explicitly been asked for specific educational goals of the respective Master program, their articulations will only be analysed according to the last three categories.

Since the boundaries between the different categories are rather fuzzy and some statements could be assigned to two or more of them, the coding is mainly oriented towards certain key words (nouns and related verbs or adjectives) serving as elements derived from the analysis and interview guidelines (see Annex I - III):

‘goal of environmental education’: goal, objective, aim, competence, skill, capability

‘main method of teaching’: teaching style, teaching method, lecture, seminar, workshop, discussion, debate, interaction

‘planning and democracy’: planning, democracy, (self-)organisation, hierarchy, joint learning, supervision, button-up, top-down

‘role of students’: (critical) participation, activity, passivity, (change) agency, making a difference, impact

After a first round of paraphrasing the interview transcripts, the second analytical step was to detect and summarize prime examples and core statements (see Annex IV), that represent general patterns of articulation and serve as reference points in the following results, where they will further be assigned to the corresponding (selective) educational tradition(s), as presented by Sandell et al. (2005).
8 Empirical Findings – Results and Analysis

8.1 Educational Traditions in HESD

8.1.1 Germany - UNESCO

On a general note, the expert (E) from the German UNESCO Department for ESD states that:

“When we talk about ESD in Germany, [environmental education, peace education and development education] are the three pillars that need to come together and are coming together under a new umbrella. (...) I think that is exactly what is happening in Germany as well. That these several strands of education that have been there before and are still running as well, are being more and more developed into what we call ESD.”

This statement indicates that ESD is not understood as an alternative educational branch to the previous traditions, but as combining several educational traditions that already existed before. Therefore, according to the expert, (H)ESD in Germany would not refer to one particular tradition, but rather corresponds to a pluralistic approach.

Goal of environmental education

Based on the overarching idea of “building peace” and “intercultural dialogue” through education as well as the concrete objective of students developing the “skills and competences needed to be acting as global citizens”, the educational goals formulated by E go beyond the fact-based and normative orientation in EE. The mentioned objectives do not only require the students to receive knowledge about environmental problems (fact-based tradition) or develop environmentally friendly values (normative tradition), but ask for a more comprehensive concept that mostly complies with the selective tradition of ESD (see Table 1). However, E notes that the big question of teaching ESD would be “how the actual behaviour patterns change afterwards”. This, so the interpretation, depends on the “personal commitment” of the teachers and “how they are prepared for teaching ESD”, which puts a lot of the responsibility on the teaching staff.

Planning and democracy

Talking about “a good compromise between top-down and bottom-up” in the general process of implementing ESD, E refers to the teacher-student relationship in class as being “more on an eye-to-eye level”, which complies with normative tradition in EE, where teachers and student share a joint planning of didactic situations. The formulated aim of shifting the focus of teaching “from the system to the student” as well as the general conception of the teacher as “a coach”, even point towards ESD-like form of ‘planning and democracy’, where students plan their own learning processes under the supervision of the teacher (see Table 1, p. 10).
Role of the students

In the context of transforming Germany’s higher education system, E stresses “the big and large number of student activities”. E even explicitly talks about students as “change agents”, “who are really bringing things forwards”. Even though E emphasizes that “there is always room to improve”, E ascribes students “a very important role to play” and formulates the perception that the German students are “willing to participate, willing to come forward, to step up, to take up responsibility, to bring forward their own workspace at their universities (…)”. This interpretation of students being active and critical corresponds strongly to the selective tradition of ESD (see Table 1).

What is particularly interesting, regarding the first research question and how the role of students in HESD is currently conceived of, is that students are explicitly referred to as change agents, who actively contribute to the transformation of learning environments.

Summary

According to the statements of the German UNESCO representative, HESD in Germany can be seen to be built on several pre-existing educational traditions, while E’s interpretations – in connection to the analytical categories – indicate that educational approaches have generally outgrown the fact-based tradition in EE. The formulated objectives of an intercultural dialogue and students acting as global citizens argues for a pluralistic perspective corresponding to the ‘goals of environmental education’ representing the selective tradition of ESD. Also E’s articulations on ‘planning and democracy’ indicate certain elements of an ESD tradition, where teachers supervise a student-led planning of didactic situations. However, the idea that students and teachers approach each other on an “eye-to-eye level” rather matches the normative tradition of EE.

The ‘role of students’, on the other hand, is not only interpreted as an active and critical one, which strongly complies with the understanding of the ESD tradition. The expert explicitly states that students would act as change agents that bring forward their own learning environments.

8.1.2 Sweden - SWEDESD

Goal of environmental education

Whereas SWEDESD, in general, does not aim for one definition or one specific goal of ESD, according to the first expert (E1), they “work a lot with the concept of transformation and transformative learning”, in order “to facilitate social change.” With a focus on “ecological literacy in school”, the second expert (E2) emphasises the need for a plurality of approaches, as “the challenges look different in different regions, in different local municipalities.” Even though the statements of both Swedish experts provide only little information on knowledge, skills or competences to acquire, allowing for a diversity of perspectives may generally be read as an indicator for the selective tradition of ESD. Furthermore, the idea of social change and transformative learning which is not limited to the development of environmentally friendly values on part of the students, reinforce the impression that the objectives articulated by E1 and E2 go beyond the normative educational tradition in EE (see Table 1).
Planning and democracy

Regarding the organisation of the Swedish education system, E1 stresses the importance of “democracy and participation”, which indicates that students are asked to contribute to the organisation of learning processes in HESD planning and democracy in HESD that goes beyond that of a fact-based tradition in EE. Like in the German case, student-centred education is also in Sweden “a topic” (E1). At this point, E1 connects the approach of learner-centred education to her previous involvement in CEMUS (The Centre for Environment and Development Studies at Uppsala University), which follows the concept of “student-led education” (www.cemus.se). However, there is no concrete statement on students planning their own learning processes, which would correspond to the selective tradition of ESD.

Role of the students

In the context of implementing ESD in higher education, E1 states that students can play “a great role”. According to her interpretation, the impact of students in HESD becomes evident by the fact “that there exists such a thing as CEMUS at Uppsala University”, which has been founded by students themselves in the early 1990s. On the other hand, E1 criticises the disregard of students on a political level and asks for more activity of the students: “[I]f students would demand and want more of SD and ESD, that would make a huge difference.” Eventually, so E1’s impression, “the faculty society would react on that, I am sure.” After all, the articulations of E1 on ‘role of students’ – be they formulated as a request or an interpretation of the current situation, correspond to the idea of active and critical students, which is in line with the selective tradition of ESD. In connection to the existence of CEMUS, E1 even points out the students’ potential as change agents HESD in Sweden.

Summary

While the Swedish experts state that SWEDESD, as an organisation, does not work with one specific definition of ESD but rather allows for a diversity of perspectives, most statements made in the interview are consistent with the selective tradition of ESD. The consideration of different needs in different areas as well as the general objective of social change through transformative learning indicate a ‘goal of environmental education’ that corresponds to a pluralistic approach, implying the development of “alternative perspectives on environmental and developmental problems” (Sandell et al., 2005, p. 166). In terms of ‘planning and democracy’, the mentioned concepts of participative and student-centred education fall rather between the normative tradition in EE and that of ESD. Whereas the former indicates rather a joint educational planning, the latter puts the student literally in the centre of the organising of their own learning process and the teacher assumes a supervisory role. The conceptions of the ‘role of students’, however, goes beyond that of a simply active behaviour. In the context of implementing ESD in Sweden’s higher education system, E1 assigns an important role to students and refers to the foundation of CEMUS as an example for the students’ potential to act as true change agents in HESD.
8.1.3 Comparison of Educational Traditions

The presented findings from the expert interviews with UNESCO (Germany) and SWEDESD (Sweden) representatives help to answer the first research question of:

**RQ1: What are the educational traditions in HESD in Germany and Sweden and how do they conceive of students as change agents?**

<table>
<thead>
<tr>
<th>Comparison: Educational Traditions in Germany and Sweden</th>
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<tr>
<td>Goal of environmental education</td>
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<tr>
<td>Expert Germany</td>
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<td>Experts Sweden</td>
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*Table 2: Comparison: Educational Traditions in Germany and Sweden*

As stated before, previous research indicates striking parallels in the emergence of EE and the historical development of different educational traditions in Germany and Sweden, suggesting an ideal-typical course from a ‘fact-based’ tradition through ‘normative’ EE to ESD. Based on the statements of experts involved in the national implementation of ESD, it can largely be confirmed that current conceptions of HESD in both countries correspond to the selective tradition of ESD. According to the German expert, ESD is not understood as an alternative educational branch to previous traditions, but as combining several educational strands that already existed before, reflecting a pluralistic approach in EE. The Swedish expert, on the other hand, emphasises the relevance of different perspectives on ESD and HESD according to respective local requirements. The formulated objectives to foster intercultural dialogue and enable students to act as global citizens in Germany and to facilitate social change through transformative learning in Sweden both comply with the selective tradition of ESD as well.

Furthermore, we can see some similarities in the statements on the organisation of learning processes. While student-centred education is a topic in both cases, the German expert describes the relationship between teachers and students on an eye-to-eye level, while one of the SWEDESD experts stresses the importance of democracy and participation. In both countries, the joint planning process reflects a rather normative tradition with only some traits of ESD. However, in the context of student-centred education, the German expert explicitly stresses the importance of the teacher in class, whereas the Swedish expert rather connects the concept to CEMUS and its approach of student-led education. With regards to the role of students in HESD and in addition to the idea co-creating their own learning processes, both sides emphasise the great potential of students as change agents. While in Germany several “student activities” are seen to make an impact on universities as learning environments, in the Swedish case, CEMUS is mentioned as a concrete example of students making a lasting change in education and HESD in particular. Yet, even though students are in both cases already considered as active and critical, which corresponds to their role in line with the ESD tradition, the expert from SWEDESD criticises the structural disregards of students on a political level. In this context, the Swedish expert explicitly calls for students to “demand and want more of SD and ESD”, whereby they could make “a huge difference”. On the same note, the German expert remains rather vague and points out that “there is always room to improve”.

Finally, the numerous similarities between the interpretations of educational traditions in Germany and Sweden and the common outlook on ESD, which largely corresponds with the pluralistic approach of EE, may be due to the shared political agenda of UNESCO and SWEDESD, against the background of the running GAP. However, the facts that on of the Swedish experts explicitly asks students to be even more critical in order to initiate change in HESD indicates a slightly different conception of students as critical agents of change.
8.2 Didactic Contracts in HESD

As indicated above, when reading the interpretations of didactic situations (didactic contracts) in the Master program of ‘Sustainability Science’ it has to be taken into account that teachers mostly refer to the particular course(s) they are teaching. The students, on the other hand, consider the organisation of teaching and learning in the entire Program. This, of course, has consequences for the formulation of conceptions regarding educational goals, the organisation of learning and teaching or the role of students as change agents.

8.2.1 Germany – Leuphana University Lüneburg:

8.2.1.1 Teachers

**Goal of environmental education**

With respect to skills and competences, that are to be acquired by studying the Master program of ‘Sustainability Science’ at the Leuphana in Lüneburg, the first teacher (T1) states that students would have to deal with “plurality on many different levels. Plurality of disciplinary backgrounds and according thought styles and research techniques. (...) Plurality also in the sense of dealing with a huge variety of different aspects that are linked to sustainability”. Furthermore, T1 emphasises the necessity that students have to develop their “own professional profile and identity”, which would be particularly relevant “when they move into the labour market.” While a plurality of alternative perspectives on sustainability issues in class points towards the tradition of ESD (see Table 1), the emphasis on the development of a market-orientated profile does not fit in any of the selective traditions in EE. A focus on economic objectives and a successful entry into the labour market remains unconsidered by the concept of Sandell et al. (2005).

However, also the second teacher (T2) claims that students have to “locate themselves in terms of (...) the disciplinary grain”, and stresses the ability to “work transdisciplinary” and apply the “thinking of sustainability” across different “knowledge domains”. Another thing that T2 sees as being embedded in the whole Master program is a “strongly solution-oriented agenda.” Ultimately, according to his interpretation, the educational endeavour is “to create people that are able to create solutions.” The ability to work across different disciplines already indicates diverse conceptions of sustainability and goes beyond the concept of a normative tradition in EE. The formulated approach of focussing on solutions theoretically even surpasses the goals of ESD that remain oriented towards the evaluation of environmental and developmental problems.

The initial focal point of the third teacher from Lüneburg (T3) is “to create a common knowledge base about the idea of sustainability and concepts of sustainable development”. On a first glance, this idea mainly corresponds to the fact-based tradition in EE. However, it is important to note that T3 refers here to the first semester in particular. The fact that he promotes a common understanding of “different approaches” to sustainability and requires students to develop the skill to communicate “uncertainties” of scientific results indicates an orientation towards a pluralistic tradition of ESD (see Table 1).
Main method of teaching

With respect to one specific course of the Master program, T1 describes her educational approach as “[t]ransdisciplinary, research-based learning that deals with case studies. Besides introductory lectures, that are classical lectures, we have a series of different formats of group work, which is particularly in the first phase based on certain guidelines. Interpreting the didactical situations in class, T1 states that the students “elaborate different perspectives on the phenomenon, which refers to the plurality in the group.” Whereas the concept of classical lectures in the beginning of the course mostly corresponds to the idea of transmitting factual information to the students, the different forms of group work as well as the integration of various perspectives T1 mentions rather point towards the tradition of ESD and discussions, based on a number of alternatives (see Table 1).

Regarding his methodical approach, T2 explicitly emphasises that different courses and phases of the program require different methods of teaching. Even though “lectures” are part of the educational repertoire, the “usual courses” would follow the concept of working in “small groups”, where one can better adapt to the “different skills and challenges of the individuals.” According to his statements, T2 does not believe so much in “full frontal lobotomies”, while his philosophy of teaching is rather that of “learning by doing”. Therefore, the formulations of T2 reveal methodical elements representing both the fact-based and normative traditions as well as the pluralistic tradition of ESD.

On a general note, T3 states that “[t]ransdisciplinary projects” would represent “a bit of a red thread in the philosophy” of the whole Master program in Lüneburg. However, he further describes that this “new and alternative research mode to the classic disciplinary approach” would sometimes be difficult to implement in a comprehensive manner. While T3 claims to be influenced by the concept of “explorative learning” he claims that it is hard to “stimulate a discussion based on the reading of studies.” Thus, also in the statements of T3, one can find articulations on various methods of teaching that may be assigned to different educational traditions. Even though the method of transdisciplinary projects and his idea of explorative learning mostly correspond to the tradition of ESD, T3 mentions certain difficulties in their actual implementation.

Planning and democracy

T1 describes her fundamental philosophy of teaching as being entirely based on the idea that learning “is a joint endeavor”, which becomes hard to realize “when you have hundreds of students” and “you aren’t able anymore to relate personally to each of them”. Regarding the organisation of learning processes in class, T1 states that her course follows “a very self-organized approach to learning.” Whereas the first phase of the project would be “still quite strongly guided”, she interprets her own role in later phases as that of a supervisor. Although T1 recognises that the teacher may “have more knowledge that he or she gained before”, she strives for a didactic situation, where both “students like teachers learn and teach”, instead of making it “a hierarchical one”. Based on the statements of T1, it may be said that she views the ‘planning and democracy’ of her courses in a way that corresponds to the tradition of ESD, although it varies a little between the different phases of the said projects.

T2 states that he would try “to have a joint learning process” in class. Yet, he notes that there are certain things he wants the students to know, which is why he prepares his lectures around certain “goals that I want them to achieve.” As in regards to the teaching methods applied in class, T2 emphasises that the impact of students on the selection and treatment of topics depends on certain structural conditions of the course. While a lecture for 160 students, for
instance, “needs to be super centrally planned”, settings with 20-30 people would much more allow to “adapt to the group”. Thus, from the perspective of T2, the organisation of didactic situations varies a lot between the different courses. While the desired form of a joint learning process mostly corresponds to the normative tradition in EE, some of the bigger courses only allow for a ‘planning and democracy’ that complies with that of a fact-based tradition in EE.

Following the general idea of “explorative learning”, T3 approaches students as colleagues at the “same level”, who are given space to develop their own research questions. In his interpretation, it is not the primary task of the teacher “to impart knowledge to the students, but to support them in becoming researchers.” This indicates an organisation of didactic situations that mainly corresponds to the selective tradition of ESD, in which students plan under the supervision of teachers (see Table 1). However, even though T3 claims to only provide a “rough framework”, he also states that the actual degree of a pre-given structure decided by the teacher differs from seminar to seminar. According to his interpretation, there are “hybrid forms”, “highly structured ones” and “quite open ones”, which slightly alters the impression of an overall ESD-like ‘planning and democracy’.

Role of students

Concerning the role of the students, T1 explicitly states that she would ask her students “to elaborate a critical view on things.” And, in her interpretation, the students in Lüneburg more or less meet this requirement. At least compared to previous experiences, T1 perceives the learning culture in Lüneburg as “much more open and critical”. After T1 already stressed the active role of students in the context of organizing their own learning processes (see ‘Planning and democracy’), the formulated conception of students being critical in class ultimately leads to the impression that the behaviour of students perceived in didactic situations of the Master program complies with the ‘role of students’ that is in line with the selective tradition of ESD.

Also T2 expects his students not only to be “passionate” in what they are doing, but also to “see why they do that” and “how they can make a difference”. With respect to the actual behaviour of students in class, T2 claims to be “quite happy” with his students. Especially in comparison with didactic situations he experienced at other universities, the students in the ‘Sustainability Science’ Master would be “particularly motivated” and “rather critical”. Therefore, the understanding of the ‘role of students’ articulated by T2 matches the interpretation of T1 and corresponds to the idea of active and critical students (ESD). That T2 mentions the idea that students could make a difference may be read as an indicator for their potential for change.

Whereas T3 wants the students to “question scientific findings” and “acquire a critical intuition” as well, he recognises different behaviour patterns on part of the students that do not meet his expectations. According to the interpretation of T3, the demands that students would place upon university teachers have change to “a customers’ orientation”. Hence, he states:

Also in higher semesters, it is very often about the question of what (...) our requirements are to get a good grade. If we want to have it like this or like that. But it is not the question how we would like to have, but rather how it should be, appropriately.”

While T3 expects students in the first place to take on a critical role in class, his conception of their actual behaviour, formulated in the statement above, raises doubt on whether students actually assume a role according the understanding of ESD (see Table 1).
**Summary**

To sum up the didactic contracts identified in the formulations of teachers from the ‘Sustainability Science’ Master at the Leuphana University in Lüneburg, it can be said that the didactic situations differ between the phases and courses of the program and rely on elements from different educational traditions in EE. Concerning the ‘goal of environmental education’, for example, the teachers mainly refer to objectives that correspond to the selective tradition of ESD. Indicators for this pluralistic approach in EE are the general emphasis on the required capability of students to work in transdisciplinary settings, take different perspectives on sustainability and question the universal validity of scientific results. Furthermore, it has occasionally been noted that there is a need to create a common knowledge base on part of the students, which can rather be assigned to the fact-based tradition in EE (see Table 1).

Regarding the applied ‘teaching methods’ in the courses of the program, the picture is much more diverse. The methodical approaches mentioned in the interviews of the teachers vary from fact-based lectures through different forms of group work to discussions and transdisciplinary case studies, that ask for the consideration of different perspectives, as in the tradition of ESD. In this context, it has repeatedly been said that the choice of methods finally depends on the specific requirements of each course. However, the approaches of transdisciplinary projects and explorative learning seem to build the red thread.

In terms of ‘planning and democracy’, the interpretations basically fall between a normative tradition and that of ESD. Generally striving for didactic situations, where the teachers and students approach each other at an eye-to-eye level, and aiming for joint, partly even student-organized learning processes, where the teacher acts as a supervisor, the teachers mention structural difficulties that hinder the implementation of their ideas. Correspondingly, the degree of student-involvement in the planning process depends, for example, on the size of the course or the personal research interest of the teacher.

With respect to the ‘role of students’ in didactic situations, the teachers’ expectations correspond to an active and critical behaviour, which is also largely seen to be fulfilled – with some exceptions. According to the statements of the teachers, it is, among other things, due to the continuing relationship of dependence, that students do not reach their full potential as change agents. This dilemma becomes most evident in the general statement on the didactic situation, made by T1:

“I find it very, very difficult to create this trustful joint environment, because we do have the problem to be in a double role. To be in the role, as in this case, of a co-researcher, supporting them in the research and, on the other hand, we have to grade people. So this system and the way students are socialized in this system is absolutely contradictory to the teaching philosophy. And this is something where I sometimes get a bit desperate when, even after half a year of confidentially working together, people fall back into old patterns of hierarchical thinking and mistrust or at least skepticism that is based on a more systems inherent aspects.”
| T1 | Students dealing with “plurality on different levels” (ESD) Students developing their “own professional profile and identity” (ESD) | Depends on the phase of the course: “introductory lectures” and “different formats of group work”, where students “elaborate different perspectives on the phenomenon” (fact-based – ESD) | The course follows “a very self-organized approach of learning” with a varying degree of guidance and where “students like teachers learn and teach” (normative – ESD) | Students are asked “to elaborate a critical view” (ESD) Students are perceived as being rather “open and critical” (ESD) |
| T2 | Students developing the ability to “work transdisciplinary” and “create solutions” (ESD) | Depends on course and phase of the program: Few “lectures”; More working in “smaller groups”, where one can better adapt to the “different skills and challenges of the individual” (fact-based – normative – ESD) | Depends on the course: Bigger lectures have to be “centrally planned” Smaller settings allow “to adapt to the group” (fact-based – normative) | Students are asked to be “passionate”, see “why they do things” and “how they can make a difference” (ESD) Students are perceived to be “particularly motivated” and “rather critical” (ESD) |
| T3 | Creating “a common knowledge base” on part of the students Students developing the skill to communicate scientific results and their inherent “uncertainties” (fact-based – ESD) | “Transdisciplinary projects” form the red thread in the program (ESD) Difficulties to “stimulate a discussion” that is based on readings (failed ESD) | Students are seen as colleagues on the “same level”, who are given space to develop their own research questions Format of seminars depends on the research interest of the teacher and differs between “hybrid forms”, “highly structured ones” and “quite open ones” (fact-based – normative) | Students are asked to “question scientific findings” and “acquire a critical intuition” (ESD) Students are seen to lack critical behaviour as they are often focus on the requirements of the teacher “to get a good grade” (failed ESD) Commodification: Students place demands on the teacher that correspond to “a customers orientation” |

Table 3: Summary: Didactic Contracts – Teachers Germany
8.2.1.2 Students

Main method of teaching

In connection to the teaching methods applied in didactic situations of the Master program of ‘Sustainability Science’ in Lüneburg, the first student (S1) emphasises that the pedagogical approach “depends very much on the teacher and course”. At the same time, she states that most courses would be based on “group work”. Referring to on specific course, S1 mentions an open discussion on various concepts, where students were asked to “bring in different perspectives”, which mostly complies with teaching methods of the ESD tradition. However, what S1 finds particularly valuable, is the approach of “explorative learning” applied in one of the courses, as it provides the opportunity to “go through an entire research process.”

The second student (S2) interprets the educational concepts in comparison with her Bachelor studies as “way more interactive”. Instead of “lectures”, the method of teaching in the Master program at the Leuphana would be rather that of “real seminars, where you get tasks and have to give some input. At least most of the times”. Furthermore, S2 observes a lot of “discussions” taking place in class, which she perceives as “respectful dialogues”, where you can “say your own opinion”. Especially the approach of discussions allowing for alternative perspectives would clearly correspond to the pluralistic tradition of ESD (see Table 1). However, in general S2 points out the necessity of diverse methods in class, by saying:

“From time to time, you also need some classic frontal learning to get some input, but that has only limited benefits. The more you have a dialogue on an eye-to-eye level, I think the more fertile the ground for personal development.”

Also based on the statements of the third student (S3), the methods of teaching are “very different in the different courses”. While she states that the Master program “started with more lectures”, there has, from her perspective, always been room provided for “interaction” in addition to the “input part”. Later, S3 took a course, where the content has been approached “from very different points of view”. While, from her perspective, she “learned a lot” in this course, in the end, the concrete outcome remained a bit unclear to her, which may be read as a perceived problem with the concept of open discussions. Nevertheless, S3 generally appreciates the fact that most “projects” offer the possibility to “communicate” and work with “different people”. After all, according to S3, the ‘main methods of teaching’ vary between the different courses and phases of the program and show elements of all three kinds of educational traditions, as lectures (fact-based), interactive parts (normative) and discussions based on alternative perspectives (ESD) are perceived to be part of the educational repertoire.

Planning and democracy

Just as in the case of ‘teaching methods’, S1 states that the relationship between student(s) and teacher(s), in terms of organising the learning processes, is “dependent on the course”. In one of them, the teacher only plays a “minor role”, while the students “work almost fully self-organized”. In this context, S1 formulates a specific demand “in terms of the supervision”: “I would appreciate if there was more space to talk to the teachers and to have intensive discussions regarding our group works and research projects.”
Thus, even though S1 stresses the importance of applying her own knowledge in class, the statements she makes reveal that she would be dissatisfied with a concept that leaves too much responsibility to the students. Instead, she relies on the teacher as an “eye-opener”, which still corresponds mostly to the idea of ESD, where students plan under the supervision of the teacher (see Table 1). According to S2, students have the general opportunity to “co-create” and “participate” if they want to. “And many do that and thus have a voice in determining the direction” of the courses. At the same time, S2 states that the very topics of the courses are “to a large extent already specified”, which is why she perceives “little room for manoeuvre” in this regard. In any case, there would be advantages and disadvantages of students having an impact on the planning process, in terms of topic selection and development. In S2’s interpretation, a course structure that is too open “is as doomed to fail as if everything is completely pre-structured”. Eventually, it would be “difficult to be creative if the field is too open”, whereas the provision of “some key points” can help “to create ideas”. After all, the conceptions formulated by S2 fall somewhere between the tradition of normative EE and ESD, as it is hard to identify if the organisation of learning processes corresponds rather to a joint endeavour between teachers and students or teachers only assume the role of a supervisor.

S3 states that the first semester started off with “lectures”, where most of the input was provided by the teacher, while the second semester was rather characterized by “group work”, where teachers reduced their input and students took over, by “giving presentations”, “hosting discussions” and “bringing in own topics” they were interested in. According to interpretation of S3, all the teachers left at least some “open space” for students to contribute. However, like her predecessors, S3 perceives a course concept that just relies on the planning of students and “without any input from the teacher” as “unsatisfying”, which calls for a certain degree of supervision by the teacher. Hence, also her statements on the personal perception of the ‘planning and democracy’ vary between the fact-based tradition, normative tradition and ESD.

**Role of students**

With regards to the ‘role of students’ in didactic situation of the ‘Sustainability Science’ Master, S1 emphasises the “great potential amongst students”. Eventually, so the impression, students are not yet “socialized in scientific roles” and can thus bring in new and “different perspectives”. The fact that certain courses allow for students to lead discussions themselves is by S1 interpreted as “playing an active role in organizing the way of learning”. While she recognises “critical thinking” to be “very important” in order to have an impact in class, there would be only “some students” in the Master program that are “prepared to think out of the box”. Although, S1 mentions that there are certain teachers that require students to “think about what you are doing”, she is of the impression that others “don’t want you to ask critical questions”. However, that students do not always take on an ESD-like (active and critical) role and develop their full potential as change agents in didactic situations is, according to S1, not only to blame on the teacher. In one of the courses, where the teacher gave students the possibility to “try things out”, she says, it “failed on part of us students”, since people kept on using “conventional methods and approaches”.

S2, on the other hand, stressed that not all students have the needed capability “to discuss”. In her interpretation, some people “maybe don’t dare to say anything”, because they are just not “that type of person”. From her perspective, this “is a pity”, as those students “might have great ideas that would be good for everyone else”.

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Furthermore, S2 mentions a didactic situation in a course, where the teacher “had very high expectations of how we have to contribute and what we have to say”. In this case, so the impression, the answers to the posed questions felt like being “already pre-formulated”, which had the consequence that students refrained from further contributions. Thus, the statements of S2, imply that not only certain personality traits, but also the educational approach of a teacher can hinder students in being active and critical in class and corresponding to the selective tradition of ESD.

However, S3 states that “it is crucial for students to participate”. According to her interpretation, also fulfil that role: “We had interactions, we had tasks, we had challenges, we had discussions, presentations. So, we were very active”. Yet, even though S3 is of the general impression that students are given the opportunity to make their voices heard and bring in “impulses” and “new ideas”, the actual “impact” that students have on the planning of courses and selection of topics would still “depend on the teacher”. At the same time, she recognises that the students themselves provide “not much feedback” in class. Therefore, the ‘role of students’ is by S3 conceived as an active one, which complies with the tradition of normative EE. The degree of critical behaviour in class, on the other hand, remains rather limited. According to S3, this becomes particularly obvious in courses, where the expectations of students “are not met” and “they just disappear”, instead of instigating change.

**Summary**

After all, the interpretations and expectations of didactic situations (didactic contracts) formulated by the students from Lüneburg show numerous similarities and indicate elements of all three educational traditions. With regards to the ‘main method of teaching’ applied in the Master program of ‘Sustainability Science’, they recognise that the approaches vary a lot between different teachers and courses. While the students perceive fact-based lectures as helpful to provide some input from time to time, they rather appreciate the concept of explorative learning, based on seminars, projects and discussions, offering the opportunity to bring in own and different ideas. Such formats, however, go beyond those of the fact-based tradition in EE and point towards the concepts of students being active in the development of knowledge (normative) and critical discussion based on alternative perspectives (ESD) (see Table 1).

In connection with the applied teaching methods, also the ‘planning and democracy’ of didactic situations, is by students perceived as being dependent on the respective teacher, course and phase of the program. Yet, while almost all of the courses are seen to provide the opportunity for students to co-create and influence the selection and treatment of topics, the students are of the general impression that teachers should at least provide a rough framework in class. Eventually, a course concept that is too open and only relies on the self-organization of students is interpreted as being unproductive. Instead, students demand a certain degree of supervision by the teacher, in order to set the stage for students to develop their own ideas, which still corresponds to the selective tradition of ESD.

Regarding the ‘role of students’, one student emphasises their great potential to bring in new perspectives. Whereas many courses are generally perceived to leave space for active contribution on part of the students, some teachers would not encourage them to be critical in class. However, the lack of critical behaviour on part of the students, which would indicate their potential to act as change agents in line with the selective educational tradition of ESD, is not only to blame on the teachers.
While only some students would bring the capability to think out of the box, others are seen to miss certain personality traits to raise their voices in class and rather stay away from courses, in case their expectations remain unfulfilled, instead of initiating change. Regardless, the students appear to be quite satisfied with the way of how didactic situations are organised in the Master program of ‘Sustainability Science’ at the Leuphana University in Lüneburg. On a general note, S3 states:

“Because there is this very flat hierarchy, I feel much more confident to talk to the people, to get feedback, to ask for certain things and also to go into topics that I don’t know, but I feel like I just try it. And, if I fail, there is nobody staying behind me criticizing. It is very encouraging to have this”.

<table>
<thead>
<tr>
<th>Summary: Didactic Contracts – Students Germany</th>
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<tbody>
<tr>
<td><strong>Main method of teaching</strong></td>
</tr>
<tr>
<td>S1 The pedagogical approach “depends very much on the teacher and the course”: Mostly “group work”, or “open discussions”, where students are asked to “bring in different perspectives” (normative – ESD)</td>
</tr>
<tr>
<td>S2 Main method would be that of “seminars”, where students “get tasks and have to give input”, and “discussions”, where students can say their “own opinion”, which is appreciated “From time to time, you also need some classic frontal learning to get some input” (fact-based – normative – ESD)</td>
</tr>
<tr>
<td>S3 Different methods of teaching in different courses: The program “started with more lectures” that provided room for “interaction” Later, the content was approached “from very different points of view” (fact-based – normative – ESD)</td>
</tr>
</tbody>
</table>

Table 4: Summary: Didactic Contracts – Students Germany
8.2.2 Sweden – Uppsala University / SLU

8.2.2.1 Teachers

**Goal of environmental education**

According to the first Swedish teacher (T1), who is employed by CEMUS and thus works on the Uppsala University’s side of the Master program ‘Sustainable Development’, the main objective of ESD is to enable students “to create new information” and find their “own place” in the field. Furthermore, T1 emphasises that students are to acquire the skill of “systems thinking” as well as the ability to “be critical” to what they learn and consider “different conflicting perspectives”. This conception corresponds exactly to the way of how ‘goals of environmental education’ are understood in the selective tradition of ESD, requiring students to develop the “ability to critically evaluate alternative perspectives on environmental- and developmental problems” (Sandell et al., 2005, p. 166). Eventually, T1 broadens his perspective and formulates the general idea of providing the students with specific tools needed to “improve the world”.

The second teacher (T2), working for the Swedish University of Agricultural Sciences (SLU), states that students taking this particular program “want to create some kind of change” and aim for “a better” and “more sustainable world”. Eventually, in T2’s interpretation, it is the continuing “social and ecological crisis” that makes it relevant to have “a program like Sustainable Development”. On a personal note, T2 claims to be “very much embedded” in the educational tradition of “‘Bildung’, which is to some extent connected with the Humboldt tradition [and] emphasises a personal development – developing empowerment, emancipation and the capacity to take responsibility as citizens and as scholars”. Correspondingly, he wants students to learn about “different kinds of understanding knowledge and knowledge production” and to acquire the ability to think critically: “[H]opefully, through the learning process, the students will actually take the responsibility, they will become more critical, they will become more independent. That is at least the idea”. Thus, and in compliance with T1, the educational objectives formulated by T2 match the ‘goal of environmental education’ that has been defined in the context of the pluralistic tradition of ESD (see Table 1).

In accordance with the third teacher of Master program of ‘Sustainable Development’ in Uppsala (T3), “the most important thing” for students in HESD is to acquire the ability “to see the problems from different angles” and to look “at the whole”. From his perspective, there is a need for various “skills from different areas”, while no particular skill would be “more important than any other”. However, T3 particularly emphasises “the capacity to communicate and communicate across borders”, which rather complies with the ESD approach of evaluating diverse perspectives on different sorts of problems.
Main method of teaching

With regards to ‘teaching methods’ applied in the CEMUS courses of the Master program, T1 stresses the diversity of approaches that correspond to different educational traditions. Based on his interpretation, “the general structure of a CEMUS course (...) has quite a lot of facts”, that are “transmitted in a general way of lectures”. On the other hand, he formulates the idea to “try to build on the strengths of the group and not waste the participants’ time with having only lectures”. In this context, T1 mentions “seminars” and “workshops” as alternative didactic models. Whereas the former would rather be based on critically discussing “literature” from “different perspectives”, the latter is rather understood as “a space for creating something”.

However, although the proposed concept of seminars meets the definition of the ‘main method of teaching’ that in line with ESD (see Table 1), T1 mentions certain difficulties in terms of its implementation: “I think it is really hard to succeed with seminars. I think I failed more often than I succeeded with facilitating a good seminar discussion.”

In general, T2 notes that he is “rooted in a very problem-oriented and problem-based kind of education” that is connected to “a pedagogy, where project work and group work is combined at all levels of education”. In T2’s interpretation, with these methods “much of the responsibility is given to the student themselves”, which goes beyond the approach of fact-based EE. Referring to a specific course, however, T2 formulates the initial objective “to give the students an introduction and idea of the existing conceptual landscape” related to the course topic, which rather indicates the relevance of lecture-like methods, where factual information is transmitted to the students. Yet, in a second step, the idea of the course is to enable students to “critically reflect on how we use the concept”, which theoretically creates the basis for ESD-like discussions based on alternative perspectives.

In relation to one particular course of the Master program, T3 states that there are “two main types of teaching”: “lectures” and “computer exercises”. While the lectures focus “on the theory to be learned”, the exercises are more “problem-oriented” and based on “communication and discussion”, which indicates approaches of different traditions in EE. While T3 claims that, in the end, it is all about finding a good “balance”, for the future, he considers “to have more discussions and less of just pumping facts and theories”, which would ask for more activity on part of the students.

Planning and democracy

With respect to the organisation of learning processes – respectively the relation between students and teachers in this regard – T1 formulates the general idea of creating “a space for the students to learn together”. In his interpretation, his responsibility as a CEMUS course coordinator is to “facilitate” such a “participatory learning environment”, rather than assuming “the formal role of a teacher”, who is simply “transmitting knowledge”. Furthermore, T1 states that students generally work with “cases or real problems” and occasionally have the opportunity to “find their own problems”, while teachers provide the “basic frame”. Hence, according to the T1, the ‘planning and democracy’ of CEMUS courses mainly corresponds to the concept of the ESD tradition, where students plan their own learning under teacher supervision. Although, the participatory approach may also be assigned to normative EE, considering that both parties plan together (see Table 1). Eventually, T1 reports that the very idea of a “didactical contract” has been discussed and implemented in class, whereby basic rules for the joint collaboration “were co-created by everyone”.

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In general, T2 appreciates that the Master program is “involving the students more in the actual planning and gives more responsibility to the students”, while he recognises a more traditional learning culture at the SLU, compared to Uppsala University: “It is a more top down kind of learning, which probably has to do with that this is natural science”. On a personal note, however, T2 states that he respects “the competences of the students” and interprets the “learning process” as a “common project”. Furthermore, T2 emphasises that students themselves have the “the primary responsibility” for their own learning, whereas he would make use of his experience and knowledge only “help”, “assist” and “support” them during that process. Hence, whereas the overall approach at the SLU is perceived as being more top-down, with regards to the Master program and his particular course in it, T2 interprets the ‘planning and democracy’ in and of didactic situations in a way that matches the idea of the ESD tradition. Finally, he talks about the teacher as a “supervisor”, who is “facilitating a peer-learning process, so that the students learn from each other, which is much more efficient than if they are going to learn from a teacher”. According to his impression, also the students are “very very grateful” for this approach, because most of them had never “experienced that relationship before”.

From the perspective of T3 and with particular respect to the course of the Master program that T3 is teaching, the content, in terms of theory, philosophy and methodology “is more less given”, even though “the examples can be shifting”. According to his own statement, T3 tries “as possible, to take examples from the different countries, of which I know are represented in the group”. Despite the attempt to bring the topic and content “closer to the students”, the ‘planning and democracy’, as described by T3, rather corresponds to the educational approach of fact-based EE, where the “teacher plans based on observations and experience of students’ input” (see Sandell et al., 2005, p. 167), an less to the idea of a joint planning process.

**Role of students**

Concerning the ‘role of students’ and based on the experience from different courses, T1 stresses that the CEMUS approach of “student-run” education implies that students are invited to “take a step out of the student’s role and more into a course coordinator role”. While, from T1’s point of view, particularly the introduction-course of the Master program “was kind of a crash course in active student participation”, another course offered the opportunity for students to have an impact on terms of deciding on “what themes they want to discuss and if they wanted lectures or seminars”.

In this context, T1 also mentions a case, where one of his colleagues let students create their “own assignment”, and formulates his general impression that students are not only active in “shaping the course”, but also in “shaping the learning itself”. Besides this idea of active participation, T1 notes, that students are often asked “to be critical” and the actual “degree of critical thinking has been quite high” in certain courses, which finally corresponds to active and critical ‘role of students’ in the selective tradition of ESD (see Table 1). However, while he recognises the students’ potential as change agents in “co-creating the program”, T1 emphasises a particular understanding of critical thinking:

“I think sometimes our students can also become uncritically critical in the sense that they misunderstand or understand critical thinking as being kind of negative or critical to everything. But critical thinking could perhaps also imply that you take a stance towards something or for something as well”.
In the Master course of T2, the students are first given an introduction to various theories and methods, before they can "start navigating themselves" and have "the opportunity to ask for particular lectures" on topics they are interested in. Regarding the actual behaviour of students, T2 states that "some are more active in the classroom than others", which, in his interpretation, is "a general phenomenon" and connected to the conception that the student’s "ability to grasp what you are trying to communicate is very different". Nevertheless, T2 perceives that there are "more and more students participating in the discussions". In addition to the active participation of students, T2 tries to "develop a culture of critical reflection" in class that "the student has to internalize", even though this is a process that "takes time". This combination of active and critical behaviour, finally, indicates an orientation towards a 'role of students' that is in line with the ESD tradition in EE.

However, at the same time, T2 recognises a "commodification of higher education", where students more and more "act like consumers" and "take on an instrumental approach to education", which implies their expectation that education "is about entertainment" and not about learning per se. This, in turn, sheds a different light on the very idea of critical behaviour on part of the students.

While T3 stresses the importance of "feedback from the students" in his course, he states that in fact only "sometimes the students do engage in dialogue, but many times the don’t". From his perspective, this is quite an unfortunate situation, as he "would like more of the dialogue than it is". Yet, at the same time, T3 is of the impression that "sometimes it is enough that two or three of the students set sort of the certain atmosphere" and pull others along. This relates not only to the idea of active participation, but also to "critical thinking". According to his own statement, T3 explicitly asks students to be critical in class:

"I mean, they [the students] don’t have to agree at all with what I am saying, because in a field like this nothing is carved in stone. (...) So, I welcome any objections to what I am saying. Unfortunately, it is not as much as I wanted or expected. So, students are more quiet than I had hoped".

This indicates that T3’s expectation of students to assume an active a critical role, which would correspond to the selective tradition of ESD, is only partially met by their actual behaviour in class. In his interpretation, this might be due to the fact that he is "not giving enough space for dialogue", while the individual "culture of how frank you are" is also "depending on where you come from". However, pointing out the general potential of students to act as change agents, T3 refers to the beginning of the program, where the critical behaviour of students "resulted in change in syllabus and change in teachers".

Summary:

In summary, the didactic contracts formulated by the teachers from the ‘Sustainable Development’ at Uppsala University and SLU, differ, as in the German case, from course to course and indicate the influence of different educational traditions on the didactic situations in Sweden’s HESD. Whereas the students are generally perceived to aim for a better and more sustainable world, the ‘goals of environmental education’ declared by the teachers, closely relate to the tradition of ESD. Eventually, the idea that students are to develop critical- and holistic thinking as well as the capability to communicate across boundaries and create new knowledge while considering different perspectives to finally act as independent and responsible citizens strongly corresponds to the pluralistic approach of EE.
With respect to the ‘main methods of teaching’ that are applied in class, there are different approaches that comply with different educational traditions. While even CEMUS courses partly rely on fact-based lectures to provide input, their preferred model is rather that of workshops and seminars that are based on critical discussions and allow for alternative perspectives. Although this approach matches the methods of ESD (see Table 1), it seems hard to implement as the facilitation of discussion is perceived to be quite difficult. However, also the SLU courses mentioned in the interviews follow a mixed method of lectures, problem-oriented exercises, projects and group work, depending on the topic and phase of the course.

Regarding ‘planning and democracy’ and the relation between teachers and students in terms of organising the didactic situation in class, one can see different approaches among courses and institutions. While the general approach to learning at SLU is perceived to be more top-down, than the one at Uppsala University and CEMUS, only one of the two SLU courses has been described as being dependent on a pre-set structure of contents, which rather corresponds to the fact-based tradition in EE. Even though the background of students is taken into account when it comes to the selection of topic-related problems in class. On the other hand, two out of three teachers describe learning as a joint project, where students take responsibility for their own learning process and have the opportunity to decide on topics according to their interest, whereas teachers assume the role of a supervisor and facilitator. However, statements on “participatory learning environments” and students “co-creating” rules for collaboration, as in one of the CEMUS courses, make it difficult to draw the line between normative EE, according to which student and teacher plan together, and ESD, where students plan under the supervision (see Table 1).

Concerning the ‘role of students’, all teachers have the expectation that students participate actively and develop a critical culture in the didactic situation, which strongly complies with the selective tradition of ESD. Yet, according to the teachers’ statements, the actual degree of active participation and critical thinking in class not only depends on the phase or structure of the course, but also on individual personality traits and cultural backgrounds of the students as well as the presence of certain spokespeople, who can pull others along. Despite the fact that one of the teachers recognises a commodification of education, implying that students expect education to be entertaining and fun, which misleads them in terms of critical thinking, the teachers acknowledge the potential for change on part of the students. Eventually, the critical stance of students towards education would have helped to change the program in the past, while especially the idea of student-led education at CEMUS invites students to act as course coordinators and change agents in co-creating their own learning environment.
Table 5: Summary: Didactic Contracts – Teachers Sweden

<table>
<thead>
<tr>
<th>Goal of environmental education</th>
<th>Main method of teaching</th>
<th>Planning and democracy</th>
<th>Role of students</th>
</tr>
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<tbody>
<tr>
<td>T1 Enabling students “to create new information” and “improve the world” Students acquiring the skill of “systems thinking” and the ability to “be critical”, while considering “different conflicting perspectives” (ESD)</td>
<td>Also CEMUS courses have “a lot of facts transmitted in a general way of lectures” Alternative formats are “seminars”, where literature is critically discussed “from different perspectives” and “workshops”, providing space for creativity “I think I failed more often that I succeeded with facilitating a good seminar discussion” (fact-based – ESD)</td>
<td>Idea is to create “a space for students to learn together” The role of the teacher is to “facilitate [a] participatory learning environment”, while students work with real cases and have the opportunity to chose “their own problems” (ESD) In course-own “didactical contracts” basic rules for the joint collaboration were “co-created by everyone”</td>
<td>In CEMUS courses, students are invited to assume “a course coordinator role”, they ask for “student participation” and offer the possibility to have an impact on “themes” and course formats Students are not only active in “shaping the learning itself”, also the “degree of critical thinking has been quite high” Students as change agents in “co-creating the program” (ESD)</td>
</tr>
<tr>
<td>T2 Students learning about “different kinds of understanding knowledge and knowledge production” to acquire the ability to think critically: “Hopefully, through the learning process the students will actually take responsibility, they will become more critical, they will become more independent” (ESD)</td>
<td>Rooted in “a pedagogy, where project work and group work is combined at all levels of education”. With these method “much of the responsibility is given to the students themselves” Concepts are presented in lecture-like ways, before they are “critically reflected on” (fact-based – ESD)</td>
<td>Whole program is “involving the students more in the actual planning” More “top-down” at SLU than UU Personal approach to the “learning process” as that of a “common project”, where the students have “the primary responsibility” and the teacher assumes the role of a “supervisor, facilitating a peer-learning process.” (normative – ESD)</td>
<td>Depends on the phase of the course: After introductory lectures, students “start navigating themselves” Aim is to “develop a culture of critical reflection”, which “takes time”; “some are more active than others” (ESD) Commodification: Students “act like consumers”, expecting education to be “about entertainment”</td>
</tr>
<tr>
<td>T3 The “most important thing” for students is to acquire the ability “to see problems from different angles” and “the capacity to communicate and communicate across borders” (ESD)</td>
<td>There are two main methods in that course: “lectures” and “computer exercises” While the lectures focus “on the theory to be learned”, the exercises are more focused on “communication and discussion” (fact-based – normative)</td>
<td>The content “is more or less given”, even though “the examples can be shifting”, according to the countries that are “represented in the group” (fact-based)</td>
<td>Course relies on “feedback from the students” “Critical thinking” required (ESD) “Sometimes students do engage in dialogue, but many times they don’t” due to the course format and the individual “culture of how frank you are”, which depends on “where you come from” (failed ESD) In the past, the critical behaviour of students “resulted in change”</td>
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</table>
8.2.2.2 Students

Main method of teaching

With regards to the ‘teaching methods’ applied in the Master program of ‘Sustainable Development’ at Uppsala University and SLU, the first student (S1) states that “it varies between the courses”. In general, S1 is of the impression that students “don’t listen to lectures so much”, but have “more of a discussion going on”. Especially the CEMUS courses, where the teacher assumes the role to “facilitate dialogue and discussion”, instead of holding a “monologue” in front of the class, are by S1 interpreted as being “very open”. However, in his personal opinion, the end goal of classes should be “gaining knowledge” and “not just having a nice discussion and learning how to listen”. On the same note, he claims:

“Discussions, if genuine and prepared and where all sides have something to bring, can be much more effective in creating lasting knowledge than standard lectures [...], while] an intercultural context can be vital in providing real-world examples and experiences to the discussion”.

Whereas S1’s own approach towards the ‘main method of teaching’ mainly corresponds to the idea of (critical) discussions based on alternative perspectives (ESD tradition), the format of fact-based lectures, which is, according to S1, “still based on an industrial model which was made to create workers, not thinkers”, only plays no more than a marginal role.

Compared to her Bachelor studies, the second student (S2) describes the courses of the Master program in Uppsala as “more interactive and more welcoming”. Even though she emphasises that “some courses were easier to talk in than others”, and the “discussions” could have been more content-oriented in certain sessions, S2 appreciates the fact that “it was very seldom just lectures”. Furthermore, she claims that students should “interact more with other students and with the lecturers. They should not just sit and read”. While conventional lectures, complying with the fact-based tradition, are still part of the methodical repertoire, S2 is states that the courses of the program generally offered a lot of opportunities to discuss and “express your views”, even “if you didn’t really agree on certain things”. This concept of discussions based on different perspectives rather matches the ‘main method of teaching’ of the pluralistic tradition of ESD (see Table 1).

The third student (S3), on the other hand, perceives “a lot of differences” between teaching methods applied in the courses at CEMUS and SLU. According to S3, the CEMUS courses would be “very oriented on discussions in groups”, and leave it to the students to “keep the discussion going”, whereas the courses at SLU would be “much more the old way”, where “the teacher stands in front of the class and tells us things and then we are supposed to ask questions and have a discussion in that way”. However, S3 emphasises the benefits of both lecture-like classes, “focussing on theory and methods” in order to present “something completely new”, and the format of discussions, where the diversity of the class respectively “different ideas” and “starting points” regarding the work with sustainability issues come into play. Thus, the statements of S3 indicate that the ‘methods of teaching’, varying between a fact-based tradition (lectures) and ESD (discussions), are not only applied in the program, but are also well appreciated.
Planning and democracy

In terms of organizing the learning processes in didactic situations and the relationship between teachers and students in this regard, S1 believes that “it should be up to the teacher to decide the topics” in order to provide “a framework for the lecture”. At the same time, S1 expects the teacher to act as “coach” or “mentor”. Eventually, the students would need “somebody, who is facilitating the discussion” so that they “can come up with the solutions themselves”. While this mostly corresponds to the conception of the ESD tradition that students plan under the teacher’s supervision, S1 emphasises that “this form of teaching actually places a lot of demand on teachers. It requires a very high standard of teachers”. From his perspective, it is especially the CEMUS courses, that require students to “involve more with the topic” and “bring in own ideas”. In this context, S1 describes an example, where the students were expected “to facilitate the discussion” by themselves, while the teacher’s guidance “has been lacking”, and states that “in general people were quite unhappy with that form of lecture. Maybe we both overestimated each others capacities”.

According to S2, the impact of students on the general planning of learning processes, such as the selection and treatment of topics, “depends on the course” and what “learning objectives” should be achieved. In general, however, S2 states that “it is a good thing if students can be more engaged in choosing what they should discuss in class”. From her perspective, it is even a definite “must for a Masters degree”, as students need specify their own “little area” the field. “And that can also be done through forming the courses to some extend”. However, in the interpretation of S2, the involvement of students in the planning of courses is not only beneficial for the students, but also for the teacher and “the whole program as well”. While she recognises that the teacher in one of the CEMUS courses, “had tried to make changes” and planned lectures based on the suggestions of students, the ‘planning and democracy’ described by S2 rather complies with the normative tradition in EE, where teachers and students organise and plan learning processes together.

From the perspective of S3, the courses in the ‘Sustainable Development’ Master at Uppsala University and SLU are generally “kind of open” for students to have an impact the selection and development of topics. Yet, while some teachers would adapt “their lectures to the topics that are brought up by the students”, others are perceived to be “really narrow” in this regard. Thus, in accordance with the statements of S3, the actual concept of ‘planning and democracy’ in didactic situations differs from case to case, but can mostly be assigned to the normative tradition in EE. However, she points out that it needs to be communicated if a course is openly structured and relies on the input from the students, as the expectation of “a regular course” would be that students “are supposed to get information by the teacher”, rather indicating a fact-based orientation. Last but not least, S3 indicates that the regular form of course evaluations “in the end” of the semester is problematic when it comes to suggesting changes in the course structure, because the students “won’t get any benefit from that”. Instead, S3 says:

“If they really want the students to get engaged and into the planning of the lectures, they should post some information before the course starts and ask: what would you like us to talk about”.


**Role of students**

With respect to the ‘role of students’ in the educative process of the Swedish Master program, S1 refers to the overarching objective of learning and claims that, in order to ensure that students “walk away from the lecture with a net benefit of knowledge”, all students need to “have something to bring to the table”. Furthermore, S1 argues that for the students “to have an impact on knowledge creation in class” it requires not only “a common set of background knowledge” on part of the group, but also the individual motivation “to participate”. In the context of the ‘Sustainable Development’ program, S1 adds that “everybody needs to be confident in English and in speaking up, so that their knowledge is shared with the rest of the group.” Whereas the general idea of students’ active participation in the didactic situation would correspond to the normative tradition in EE, S1 observes a partly unsatisfactory implementation:

“There was often a lack of willingness to discuss or engage in debate, and when debates did take place it was on very shallow subjects like ‘humans versus animals, which do you like best?’ In general, we had a lot of interesting discussion in my class, but they happened outside of the classroom.”

From the perspective of S2, on the other hand, all teachers of the Master program “strive for more activity of the students”. Even though she describes herself as a person, who is “not really talkative” in class, S2 would generally appreciate, if the students can have an “impact on the content”. In her opinion, it would even help the teachers “to just be open” and “discuss with the students”. Besides an active participation, S2 also comments on the critical behaviour of her fellow students: “If enough students were expressing that they wanted something to be changed”, the course coordinators “would try and do something about it”. Thus, according to the statements of S2, the role of students in didactic situations of the program can be interpreted as active and critical, which complies with the tradition of ESD, while “to really be a change agent” within the program, one needs the ability “to gather people”.

According to S3, the aim of the Master program in ‘Sustainable Development’ is to help students become “facilitators and bridges between academic groups”. Therefore, she requires “more hands on how to create discussions in a group and how to be the person who is in charge and how to direct discussions in a good way”. Furthermore, S3 notes that Master students already have a certain “knowledge” they can add to the courses, while the teachers “often recognise that students are able to teach them something” as well. From her perspective, especially the CEMUS courses provided students the opportunity “to really have an impact” on the didactic situations in class. Yet, the statements of S3 only indicate the general idea of active student participation in line with the normative tradition in EE and do not directly touch upon the critical behaviour as fundamental requirement for students to act as true change agents. Nevertheless, S3 emphasises the crucial role of her fellow students in her personal learning process:

“I think the class of the program is really nice. It opens up my perspectives and I think the fellow students teach me more than maybe the program in itself. [However.] if people are having a negative idea about it, that will affect me as well.”
**Summary**

In summary, it can be said that the didactic contracts verbalised by the Swedish students show several similarities among each other and indicate a combination of different educational traditions visible in the didactic situations of the Master program. Regarding the ‘main method of teaching’ applied in class, the students emphasise that the approaches differ from courses to course and between CEMUS and SLU. On the one hand, the students recognise that especially CEMUS courses provide space for open discussions, where they can express their personal perspectives, corresponding to the main teaching method in the tradition of ESD. The format of fact-based lectures, on the other hand, which is perceived to play a minor role in the methodical repertoire of the program, is mainly associated with courses at SLU. However, the fact that the applied teaching methods vary between lectures and discussions is actually appreciated by the students as both format would have their benefits. Whereas lectures may help to introduce new topics and ideas, the concept of critical discussions is seen to be potentially more effective in terms of learning, but dependent on an adequate facilitation through the teacher.

Also with respect to ‘planning and democracy’ and the actual influence of students on the organisation of didactic situations through the selection of contents and course formats, the students note that the approaches differ from case to case and depend on the concrete learning objectives. While the idea of students’ active participation in organising didactic situations is perceived to be a must for a Master program, as it would benefit both students and the program, most courses would actually leave space for students to have an impact. Overall, the majority of statements on the ‘planning and democracy’ indicate a concept of joint planning processes, mainly corresponding to the normative tradition in EE (see Table 1). However, one student explicitly requires the teacher to set only a rough framework and facilitate the discussions in class, so that students can come up with their own solutions. Whereas this concept rather complies with the ESD tradition, where students plan under the teacher’s supervision, it also stands a demanding way of teaching, which has been tried out in some of the CEMUS courses, where it failed occasionally. Eventually, according to the students, such an open concept, that relies on the input of students, should also be communicated as such, as students would assume that regular courses are about receiving information from the teacher.

Concerning the ‘role of students’, it is mentioned that most teachers ask for active participation of students. Also in their own interpretation, students need to have the willingness to participate in order to contribute constructively to the general process of knowledge creation in class, which requires the skill to communicate and share their ideas and concerns. Even though students are already perceived to have the capability and knowledge to help developing the entire program, they ask for more hands on how to be the person in charge and how to facilitate a good discussion. Hence, the statements on their actual role in the educative process rather correspond to the conception of active behaviour in line with the tradition of normative EE. However, while the interviewees partly recognise a lack of critical behaviour on part of their fellow students in class, they still emphasise the crucial role of their colleagues for the general learning process. Eventually, students are not only perceived to act as teachers themselves. The behaviour of others is also seen to have an impact on the personal conduct in class. Eventually, it appears that, if enough people got together and asked for change, their voices were heard, which leads to the conception that one needs to be able to gather people in order to act as a true change agent in the didactic situation.
<table>
<thead>
<tr>
<th></th>
<th>Main method of teaching</th>
<th>Planning and democracy</th>
<th>Role of students</th>
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<tr>
<td><strong>S1</strong></td>
<td>The educational approach “varies between the courses” Not so much “lectures”; more “discussion”, especially in CEMUS courses “Discussion, if genuine and prepared and where all sides have something to bring, can be much more effective in creating lasting knowledge than standard lectures” <em>(fact-based – ESD)</em></td>
<td>Especially CEMUS courses required student to “involve more with the topic” and bring in own ideas” The teacher is expected “facilitate the discussion” so that students “can come up with the solutions themselves” This form of teaching “places a lot of demand on teachers. It requires a very high standard of teachers” <em>(ESD)</em></td>
<td>Students need to be “confident in English and speaking up” to share knowledge “To have an impact on knowledge creation in class” the students need “a common set of background knowledge” on part of the group and the individual motivation “to participate” “There was often a lack of willingness to discuss or engage in debate, and when debates did take place it was on very shallow subjects” <em>(normative)</em></td>
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<td><strong>S2</strong></td>
<td>“Very seldom just lectures” a lot of opportunities to discuss and “express your views” “Some courses were easier to talk in than others” Students should “interact with other students and the lecturers. They should not just sit and read” <em>(fact-based – ESD)</em></td>
<td>“Depend on the course” and the set “learning objectives” In one of the CEMUS courses the teacher “tried to make changes” according to students’ suggestions It is a “must for a Masters degree” that students are “engaged in choosing what they should discuss in class” Involvement of students in the planning of courses is beneficial for “the whole program” <em>(normative)</em></td>
<td>Teachers ask for “activity of the students” Students should have an “impact on the content” “If enough students were expressing that they wanted something to be changed”, the course coordinators would take action <em>(ESD)</em> “To really be a change agent” within the program, one needs to “gather people”</td>
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<tr>
<td><strong>S3</strong></td>
<td>The teaching methods applied in the courses at CEMUS and SLU show “a lot of differences” CEMUS courses are “very oriented on discussions in groups”, whereas in SLU courses are “much more the old way”, meaning lectures and subsequent discussion Benefits of both lecture-like classes to present “something completely new” and discussion, where “different ideas” and “starting points” come into play <em>(fact-based – ESD)</em></td>
<td>Depends on the teacher: some “adapt their lectures to the topics that are brought up by the students”, while others are “really narrow” The courses are generally “kind of open” for students to have an impact on the planning of courses Open course concepts should be communicated as such. In “a regular course” students expect “to get information by the teacher” <em>(fact-based - normative)</em> “If they want the students to get engaged and into the planning of the lectures, they should post some information before the course and ask: what would you like us to talk about”</td>
<td>As future “facilitators” students need to learn “how to create discussions in a group and how to be the person who is in charge” Students can contribute with their “knowledge” Especially CEMUS courses provided the opportunity “to really have an impact” <em>(normative)</em> “I think the fellow students teach me more than maybe the program itself. [However,] if people are having a negative idea about it, that will affect me as well”</td>
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Table 6: Summary: Didactic Contracts – Students Sweden
8.2.3 Comparison of Didactic Contracts

The presented findings from the interviews with Teachers and Students from the Leuphana University in Lüneburg (Germany) and Uppsala University / SLU (Sweden) help to answer the second research question of:

**RQ2: What are the didactic contracts in HESD in Germany and Sweden and how do they conceive of students as change agents?**

<table>
<thead>
<tr>
<th>Comparison: Didactic Contracts in Germany and Sweden</th>
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<tr>
<td><strong>Goal of environmental education</strong></td>
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<td><strong>Teachers Germany</strong></td>
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<td>T1</td>
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<td><strong>Students Germany</strong></td>
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<td><strong>Students Sweden</strong></td>
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Table 7: Comparison: Didactic Contracts in Germany and Sweden (based on Table 3,4,5 & 6)

The didactic contracts identified in the interviews with students and teachers of the two considered Master programs show similarities and differences and indicate the existence and relevance of elements complying with different selective traditions in EE. In both countries, the organisation of didactic situations differs between phases and courses of the programs and relies on elements from distinct norms.

In both programs students are required to work in inter- and transdisciplinary settings, implying that they have to find their own niche in the field, bringing with them their individual backgrounds and perspectives. However, while “critical thinking” and the creation of “solutions” (Germany) or “new information” (Sweden) are largely in alignment, other learning objectives differ slightly. Whereas one of the teachers from Lüneburg explicitly emphasises the need for creating a “common knowledge base” in the beginning of the course, one of the focal points in Uppsala is the idea of “systems thinking” and approaching problems from different angles.

Furthermore, the two Master programs each apply a variety of teaching methods, depending on the topic, course format and phase of the program. On the part of the German students, it is mentioned that the pedagogical approach changes from teacher to teacher, more so than the teachers perceive it. Yet, in both cases, the applied methods vary between classic lectures and group work (projects) as well as workshops and seminars, that offer the opportunity to discuss problems from standpoints.
While, short lecture-like introductions, group work and “transdisciplinary projects” seem to be the red thread in the entire program at the Leuphana in Lüneburg, the students in Uppsala perceive differences between discussion-based CEMUS courses (Uppsala University) and lecture based courses at SLU. Although, one of the teachers from SLU emphasises that with his methods “much of the responsibility is given to the students themselves”. Yet, in general, the students appreciate the benefits of different methods and formats of teaching, ranging from fact-based lectures to group work, projects and open discussion, in order to present new topics and create a common knowledge base, opening discussions based on a plurality of perspectives. Teachers from both universities, however, formulate certain difficulties in adequately facilitating such participative discussions, which is confirmed by one of the Swedish students, who adds that this form of learning “places a lot of demand on teachers”.

In terms of organising the didactic situations, the ‘Sustainable Development’ program in Uppsala involves students quite a lot in the planning process, which is much appreciated by the students as well. Only in one of the mentioned SLU courses the contents are already pre-set. The two other teachers perceive the entire process of learning as a common project and assume the role of a supervisor, facilitating “a participatory learning environment” and “peer-based learning process”, where students take responsibility and can come up with their own topics. This is also recognised by the Swedish students, who note that especially the CEMUS courses require them to “involve more with the topic” and “bring in own ideas”. While not all teachers would adapt to students’ suggestions, the courses are generally perceived to be open for students to have an impact on the planning, which is seen to have benefits for the whole program.

In the ‘Sustainability Science’ Master in Lüneburg, on the other hand, only one of the identified courses follows a “self-organized approach of learning”, with a varying degree of guidance by the teacher. According to the other two teachers, the planning of courses rather depends on the research interest of the teacher himself and affected by structural conditions like the size of the class. While especially bigger lectures need to be “centrally planned”, smaller settings would allow “to adapt to the group”. Even though the students have the impression that all teachers left at least some space for them to contribute and “co-create”, they recognise that the topics are “to a large extent already specified”.

What is interesting to note in terms of the relationship between teachers and students regarding the organisations of learning processes is that, in both cases, the idea of fully independent and student-led planning is met with a certain degree of dissatisfaction on part of the students. Whereas in Germany the teacher is asked to provide a certain degree of “supervision” and “some key points” to “create ideas”, in Sweden the teacher is required to “facilitate the discussion” so that students “can come up with the solutions themselves”. Eventually, the role of the teacher also reflects the expected agency from the students.

As stated above, critical thinking plays a big role in the didactic contracts, as it is expected and encouraged by the teachers of both Master programs, fostering the ability of the student to question and address problems, hence acting as change agents. However, while most students are seen to be active, open and critical, teachers from both countries recognised a “commodification” of education. Some of the students are seen to act as consumers, asking for entertainment rather than focusing on the development of the self, according to the concept of Bildung, which altered their critical thinking. Furthermore, one of the German teachers notices a dependent relationship between students and teachers in terms of grading, which may also hinder critical thinking. In this context, it is worthwhile mentioning that some of the CEMUS courses in Uppsala were until recently not graded but only evaluated as ‘pass’ or ‘fail’, which is now called into question again.
However, according to the Swedish teachers, the degree to which students take a critical stance in class not only depends on phase and structure of the courses, but also on the personality traits of the individual, such as their cultural background. This is confirmed by students from both programs, emphasising that some people are just “not that type of person” (Germany) or need to be “confident in English and speaking up” (Sweden).

While from the perspective of Swedish students, their lack of critical behaviour in class is mainly due to a “lack of willingness to discuss” on part of the students, the German students blame it on both their fellow students and the teachers. Whereas only few students would be able “to think out of the box” and dare to “try things out”, some teachers do not ask students to ask “critical questions” and hinder them in fulfilling their “great potential” to bring in “different perspectives”. One of the German student adds that her fellow students would “not provide much” feedback and would “disappear” in case their expectations are not met instead of instigating change. In contrast, one of the students from Uppsala explicitly states that “if enough students were expressing that they wanted something to be changed”, the courses coordinators would take action and do something about it. One of her fellow students even asks for more empowerment and requires more hands on “how to create discussions in a group and how to be the person in charge”. From her perspective, especially the CEMUS courses leave the space for students to plan courses, have an impact on the content or creation of assignments and thus shape their learning environment. Finally, also the teachers from Uppsala acknowledge the general potential of students as change agents, as they “co-created” the entire program.

8.3 Relation between Educational Traditions and Didactic Contracts

Based on the findings regarding educational traditions and didactic contracts in HESD in Germany and Sweden, it is possible to approach the third research question of:

**RQ3: How do the identified didactic contracts relate to the educational traditions?**

| Comparison: Educational Traditions and Didactic Contracts in Germany and Sweden |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                    | Germany       | Students      | Experts       | Teachers      | Students      |
| Goal of environmental education    | ESD           | -             | ESD           | -             | -             |
|                                    | fact-based    | normative -   | fact-based    | normative -   | normative -   |
|                                   | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                    | fact-based    | fact-based -  | fact-based    | fact-based -  | fact-based -  |
|                                   | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                   | ESD (failed)  | normative -   | fact-based    | fact-based    | fact-based    |
|                                   | ESD (failed)  | ESD           | ESD           | ESD           | ESD           |
|                                    | normative -   | normative -   | normative -   | normative -   | normative -   |
|                                   | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                   | fact-based    | fact-based -  | fact-based    | fact-based    | fact-based    |
|                                   | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                   | fact-based    | fact-based -  | fact-based    | fact-based    | fact-based    |
|                                   | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                    | normative     | normative     | normative     | normative     | normative     |
|                                    | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                    | fact-based    | fact-based    | fact-based    | fact-based    | fact-based    |
|                                    | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                    | normative     | normative     | normative     | normative     | normative     |
|                                    | ESD           | ESD           | ESD           | ESD           | ESD           |
|                                    | commodification | normative | commodification | normative | Table 8: Comparison: Educational Traditions and Didactic Contracts in Germany and Sweden (based on Table 2 & 7)  |
As already shown in the comparison of educational traditions (Section 8.1.3, p. 35), the statements of experts from UNESCO and SWEDESD indicate that the current conceptions of HESD in Germany and Sweden, mainly correspond to the selective tradition of ESD. In particular, with respect to the analytical categories of ‘goal of environmental education’ and ‘role of student’, the experts’ interpretations comply with the pluralistic approach. Yet, while they were not asked any specific questions concerning the ‘main method of teaching’ in class, their positions regarding ‘planning and democracy’ or the relationship between teachers and students in the organisation of didactic situations rather fall between the normative tradition in EE and ESD.

The empirical findings derived from the interviews with teachers and students, however, render visible that their expectations and interpretations of didactic situations (didactic contracts) in the investigated Master programs do not fully match the traditions suggested by the experts. Whereas the educational goals formulated by the teachers largely correspond to the pluralistic tradition of ESD, the methods applied in the different courses range from fact-based lectures through group and project work to open and critical discussions based on different perspectives. This seems not only necessary to do justice to the different requirements of courses, but is also appreciated by the students.

In terms of ‘planning and democracy’, the formulations of experts fall between a normative tradition and ESD, which is only partly reflected in the empirical data on didactic contracts. As in the case of applied methods, the formats of organising learning processes in the two study programs is quite diverse and varies between courses planned by the teacher (fact-based), jointly planned courses (normative) and courses where the students plan under teacher supervision (ESD). In fact, the results have shown that the students studying the ‘Sustainable Development’ Master in Uppsala are more involved in the actual planning process of courses and have a stronger impact on the selection and treatment of topics in class – especially in the CEMUS courses.

The experts’ idea that students play an active and critical role in HESD, corresponding to the educational tradition of ESD, on the other hand, is largely confirmed by teachers from both countries. Although they recognise that the degree of critical behaviour differs from student to student. The students, however, perceive a lack of critical behaviour on their own part, that is not only to blame on themselves, but, especially in the German case, also due to the pedagogical approach of some teachers. Finally, the Swedish students show more willingness to take action for change and have a greater impact on the development of the program itself. This trend, in turn, has already been indicated by the Swedish expert, asking students to be even more critical in order to initiate change in HESD pointing towards a slightly different conception of students as critical agents of change.

After all, it can be said that the educational tradition(s) formulated by the experts are not completely able to determine the didactic contracts identified, just like the didactic contracts of teachers and students partially differ, which may cause clashes due to conflicting expectations and interpretations of didactic situations.
9 Discussion
The final section of this thesis consists of two parts: the first accounts for the results and show how this paper has contributed to closing the identified gap in previous research; the second introduces a discussion about the limits of the thesis and recommends future research.

9.1 Conclusion
The evaluation report on the UNDESD explicitly stresses the necessity to involve students in the process of transforming higher education in order to realise a whole-institution approach to create an education system that prepares learners to contribute to a more sustainable future. Recent research on the implementation of ESD, however, largely ignores the role of students as so-called agents of change. Therefore, this thesis was designed to gain knowledge about the role of students as change agents in HESD in Germany and Sweden as well as aimed to investigate if and how active and critical participation on part of the students is seen to contribute to changing their own learning environments – here represented by didactic situations in sustainability-related study programs. Actually, the idea of experience-based learning suggests that to act as future change agents, students have to “develop a sense of agency through the experience of being able to accomplish change” (Heiskanen et al., 2016, p. 218)

The empirical findings from investigating and comparing how experts, teachers and students from both countries perceive the role of students in the organisation and planning of learning processes show similarities and discrepancies both between suggested educational traditions and identified didactic contracts as well as the two considered Master programs in Lüneburg and Uppsala.

The experts’ statements indicate a general orientation of UNESCO and SWEDES towards a pluralistic tradition of ESD, implying that more learner-centred approaches to education should be applied and students are expected to play an active and critical role in class, helping to transform their own learning environment. According to the didactic contracts formulated by teachers and students, on the other hand, this is can only partially be confirmed. Whereas most teachers claim to recognise the general capacity of students to act as change agents, it appears that the degree to which a student acts as a true change agent depends on his or her individual personality traits and communication skills. However, while students from both countries admit own shortcomings in terms of critical behaviour, the German students, in particular, point out that there are also certain didactic approaches applied by the teachers that hinder them in developing their full potential as change agents.

Despite the diversity of teaching methods and course formats identified in both cases, the presented results reveal that the ‘Sustainable Development’ Master in Uppsala involves students more in the actual planning of didactic situations. Especially the CEMUS courses of the program engage students in the transformation of their own learning environment, recognizing their capacity as change agents, which is by all actors perceived as valuable for the entire program. The courses of the ‘Sustainability Science’ Master at the Leuphana University in Lüneburg, on the other hand, only provide limited possibilities for the students to have an impact on the selection of topics and shaping their own learning, though the teachers emphasise the importance of critical thinking on part of the students. This institutional difference is also reflected in the students’ behaviour. Whereas students in Germany are perceived to disappear and stay away from courses, when their expectations are not met, Swedish students rather get together, showed shared commitment and instigate change.
In this context, it might be illustrative to refer to a note of one of the Swedish lecturers: that creating a critical learning culture takes time. Since its inception in the early 1990s, the student-initiated university centre CEMUS, which plays a crucial role in the Master program in Uppsala, provides space for student-led higher education and is build on a bottom-up approach promoting critical thinking. Yet, the shortening of study programs in the course of the ‘Bologna Reform’, provide students with shorter horizons to develop and incorporate such a critical learning culture.

Regarding the concepts of SD and sustainability, this thesis on (H)ESD further shifts the focus on the intergenerational aspect of personal development. Reflecting on their own role and in the awareness of their great potential, students from both countries emphasise that they rely on guidance from the teacher. Overstrained with fully organising their own learning themselves, the students explicitly require the teachers to act as a supervisors, who facilitate their learning processes and help them to develop their full potential as change agents, not only in the educational context. Moreover, gaining the experience of accomplishing change in their learning environments may be expected to empower students to instigate change also in regards to environmental and developmental issues outside of the university, as an integrated concept that corresponds to the tradition of ESD that enables a new approach to life-long and sustainable learning.

The fact that students are perceived to also be dependent on the teacher in terms of personal assessment and grading, thus deciding on their future chances on the labour market, has partly been overcome and counteracted by CEMUS courses that are graded with ‘pass’ or ‘fail’ only. Grading in that way could even be interpreted as an attempt to introduce and allow a new culture of failure, exceptional in times of a rather performance-oriented society.

However, in the end, it can be said that students are generally seen to play a crucial role as agents in transforming higher education, not only by mutually motivating each other and establishing a constructive peer-learning environment. Finally, it has been mentioned several times that the diversity of cultural and academic backgrounds of students represent one of the greatest values, especially in the program in Uppsala, where people from all continents are studying together regularly. This corresponds to the idea of strengthening intercultural dialogue, mentioned by the German expert as part of UNESCO’s educational objectives, as intercultural learning environments enhance the peer-learning by opening up perspectives and strengthening tolerance of ambiguity. Yet, also Leuphana University took action in this regard and recently established a ‘Global Sustainability Science’ Master program in cooperation with the Arizona State University (ASU).

9.2 Critical Reflection/Outlook

Taken together, it is worthwhile noting that the present study has several limitations that are mostly due to time and space constraints given in a Master thesis. Firstly, the research focuses merely on selected study programs in ‘Sustainability Science’ and ‘Sustainable development’. A comparison of other subjects, that are asked also to implement ESD in their curricula, would be interesting and highly relevant but falls beyond the scope of this paper. The same applies for HESD in other countries, where socio-historic conditions led to more drastic differences in educational traditions or forms of teaching and learning.

Furthermore, qualitative research often deals with smaller number of cases and samples that are not necessarily representative, but fulfill specific selection criteria. To ensure representative
data and a larger number of cases, more interviews have been conducted but were not integrated into the analysis, as the data preparation would have been too extensive.

Other methods of data collection, such as group discussions or participatory observations have initially been considered but were not possible to realise due to organisational reasons.

Additionally, the applied analytical framework – based on selected categories of educational traditions introduced by Sandell et al. (2005) – turned out to be rather vague in displaying the differences between the identified didactic contracts among teachers and students. Particularly, in terms of the ‘role of students’, where the results, according to the categorisation, indicate strong similarities between German and Swedish students, while a closer look at the formulations reveals that their behaviour differs considerably. Moreover, it was difficult to distinguish between statements regarding the category of ‘planning and democracy’. It was not always clear if articulations rather match the idea of joint planning processes between teacher and students (normative EE) or if students were considered to be planning under supervision of the teacher (pluralistic EE/ESD). Therefore, a specification of the said categories in the framework would be required for future research.

Nonetheless, the findings of the analysis can be seen to be relevant to broader formations within educational settings in Sweden and Germany, as it helps to reflects the expectations and interpretations of current educational approaches, formulated by both expert, teachers and students. The comparative character of this study and its focus on current learning culture in relation to historically grown traditions can further be considered as meaningful for other academic areas, such as intercultural studies.

An initial goal of this thesis was to investigate clashes of didactic contracts, caused by differences in expectations of teachers and students towards didactic situations that require a spontaneous decision of how to proceed in the situation, opening up the actual possibility for change. Eventually, such clashes of didactic contracts are more likely to occur between people from different cultural background and educational socialisation. However, while this objective remained unattained, as the given timeframe made it impossible, this paper has set the stage for future work and research in this regard.

Last but not least, in relation to the applied discourse analytical outlook, I have to state that, writing this thesis, I myself felt determined if not limited by the existing discourse and terminology used in the specific domain of ESD. Yet, I hope that I was able contribute in an innovative way. I have personally gained some new knowledge through an inspiring learning process along this work and I am more than ever convinced that

“Education should be organized in ways that all involved in the educative process have the chance to experience themselves as participants and agents in a diverse and pluralistic as well as open and growing democratic community of learners.”

(Garrison et al. 2012, p. 18)
Acknowledgements

It should not go unmentioned that this thesis would not have been possible without the support of others. It is through the assistance, encouragement and wisdom of many people that this thesis in its present form became possible.

First of all, I would like to thank my supervisor Stefan Bengtsson for the encouragement, intellectual challenge and genuine support during my work and making this research one of the greatest learning experiences of my academic career so far. Furthermore, I would like to express my gratitude to my evaluator Eva Friman for the smooth cooperation.

In addition, this thesis would have not been what it is without the support and encouragement of my friends and fellow students from the MSD program at Uppsala University, who made the past two years an unforgettable and enriching experience. My special thanks, in the context of this particular work, go to Laura Siepmann and Pedro Falcão for patiently helping me structuring my thoughts around the research and providing intellectual, mental as well as technical support. Further thanks go to my friends and colleagues Björn, Daniela, Danny, Frode, Jesse, Kaely, Karo, Mel, Sabrina, Serena, Sophia, Stefan and all the others, for the countless inspiring talks and hours in the libraries and backyards of Uppsala.

Last but not least, I would like to thank my wonderful parents Hella und Uli for their love, constant support and encouragement to choose unconventional ways to go in my life. I am very happy to be your son and deeply grateful for the opportunity to enjoy this form of education.

Uppsala, May 2016

Jan-Ole Brandt
References


Annex:

Annex I:

Interview guideline – Representatives of UNESCO/SWEDESD

Advisors for the national implementation of ESD and the GAP in Germany/Sweden:

Semi-structured interviews:
I am interested in the (social) conditions for future improvement of education for sustainable development (ESD) in general as well as the process of implementing it within Germany’s higher education sector. Therefore, I aim to capture general discourses and traditions as part of a discussion of ESD and GAP in the sense of broad educational narratives. Thus, in the questions I strive to move to the broader conceptions of education and the understanding of the role of ESD for social change.

[Key Theme 1: The role of (higher) education to initiate societal change]

• From the perspective of UNESCO, what is the overall objective of formal education and higher education in particular?
  o What is the aim of formal education in terms of personal development on part of learners?
  o How can formal education contribute to social change?

• Where do you see the general benefits of the DESD and GAP in this regard?

• Do you see ESD in Germany today as being linked to certain ‘educational traditions’ (ways of teaching/learning and scientific ideologies) or national developments in the past?
  o To what extend do formal education and ESD in Germany reproduce cultural values and norms existent within the education system?

[Key Theme 2: Conditions for future improvement of ESD on the level of higher education]

• How would you assess the current state of the process of implementing ESD in the German education system – higher education in particular?
  o What have been drivers and barriers for the implementation process in the past?

• From the perspective of UNESCO, what are the aims for the future?
  o What would need to be done to achieve that – What are the next steps within the GAP in Germany?
  o Where do you see problems and potential for the future?
[Key Theme 3: The role of students within the process of implementing ESD in the education system]

- In documents of UNESCO one can frequently find the idea of active stakeholder involvement being crucial for the successful implementation of ESD. Could you elaborate on that and how your organization addresses this aspect in the field of higher education?

- From the perspective of SWEDESD, what role could students play in the process of implementing ESD more effectively in the education system and higher education in particular?

- How important are learner-centered approaches of in-class education in the field of Sustainability/Sustainable Development?
Annex II:

Interview guideline – Teachers

Active educational staff of the Master Programmes in ‘Sustainability Science’ (Leuphana Lüneburg) and ‘Sustainable Development’ (Uppsala Universitet/SLU):

Semi-structured interviews:
Drawing on key themes whilst prompting and probing on interesting points that I think are worth developing.

I am interested in the educational tradition and methods applied in-class as well as the perception regarding students as active participants (change agents) in knowledge creation processes and the didactic situations in class (didactic contracts). Therefore, I need to consider all levels of the didactic contract (incl. change) within the separate key themes and try to lead the persons interviewed to account for concrete didactic situations where they perceived clashes of traditions and expectations.

[Key Theme 1: The general educational tradition and conditions for change]

[Key Theme 2: How are didactic situations currently organized?]

[Key Theme 3: How should didactic situation be organized?]

- **KT 1**: What skills or capabilities should students acquire by studying the Master Programme in ‘Sustainable Development’ / ‘Sustainability Science’? (educational tradition)

- **KT 1**: Could you roughly describe your teaching style and educational approach? (educational tradition)

- **KT 2**: What does that imply in terms of the didactic situation in class?

- **KT 1**: What kind of educational traditions influence you in perceiving education? (educational tradition)

- **KT 1**: (In case he/she has an international background:) How has living/teaching abroad influenced you in this regard? (educational tradition)

- **KT 1**: (In case he/she has intercultural experience:) How has teaching in intercultural contexts (working with international students) influenced you in perceiving education? (educational tradition)

- **KT 2**: How would you actually describe your relation to your students in the didactic situations in class? (teacher – student)

- **KT 2/3**: How do you expect your students to behave towards you as a teacher in class? (students – teacher)
• **KT2/3:** What conduct do you expect from students towards their fellow students in class? (student – students)

• **KT 2:** How is the content to be taught in class selected? (teacher – content)

• **KT 2:** To what extend do students have an impact on the contents taught in class? Why? (students – content)

• **KT 3:** In what form should students engage with the contents presented in class? Do you explicitly ask them to be critical towards the content? (students – content)

• **KT 3:** Where do you see development potential on part of the students, in terms of
  o active and critical participation in class?
  o engaging with respective topics and contents?
  o engaging with fellow students and teaching staff?
  (students – content - teacher)

• **KT 2:** Can you remember concrete situations, where the form of how students contributed to class surprised you, or where your expectations of the didactic situation clashed with the expectations of students? (Conflict situations?)
  (clash of traditions and expectations)

• **KT 1:** From your experience as a teacher, how has the learning culture changed say in the past 10 years - especially in terms of students being more critical in class? (What might be reasons for that?) (educational traditions)
Annex III:

Interview guideline – Students

Students of the Master Programmes in ‘Sustainability Science’ (Leuphana Lüneburg) and ‘Sustainable Development’ (Uppsala Universitet/SLU):

Semi-structured interviews:
*Drawing on key themes whilst prompting and probing on interesting points that I think are worth developing.*

I am interested in the perception of the educational approach and methods applied by the teacher in-class as well as the role of students as agents of change in knowledge creation processes (didactic contracts) and educational transformation processes. I am trying to identify traditions and their associated methods and conceptions of how the didactic situation is to be arranged to these traditions. Thus I am trying to see what preferences for specific traditions teachers and students have, while enabling the discussion of different traditions and the potential for change.

[Key Theme 1: *How are didactic situations currently organized?*]

[Key Theme 2: *How should didactic situation be organized?*]

[Key Theme 3: *Clash of educational traditions and potential for change*]

- **KT 1**: How would you describe the educational approaches (didactic contract) – respectively how learning and teaching is organized in class – within your programme, do you see any differences compared to your Bachelor or previous studies? (how is teaching and learning organized)

- **KT 1/2**: Are you generally satisfied with how learning and teaching is organized in the programme and why so? (general didactic situation)

- **KT 2**: What would you change about the current learning and teaching situation in class, if you could? (change)

- **KT 1**: How would you describe your relation to your fellow students in class? (student – students)

- **KT 2**: To what extend does that situation meet your expectations? (student – students)

- **KT 1**: How would you describe your personal relation to your teachers in class? (student – teacher)

- **KT 2**: To what extend does that meet your expectations of a university teacher in this field? (student – teacher)

- **KT 1**: How would you describe your relation to your teachers in class in terms of the selection and treatment of contents taught in class (student – teacher)
• **KT 2:** To what extent does that meet your expectations? (teacher – content)

• **KT 1/3:** In what sense do you as a student have an impact on topics and how they are treated in class (knowledge creation)? (student – content/expertise)

• **KT 2:** Do you believe that students should play a more important role in terms of selecting and developing topics? What would be the benefit? (student – content-change)

• **KT 1:** What competences do you perceive to be needed to act as a change agent within the educational situations of your courses within the Programme? (competences for change agency)

• **KT 3:** Do you remember a situation, where the teacher’s expectations of your contribution in class clashed with your own? (Conflict situations?) What happened? (clashing of roles and traditions)

• **KT 3:** (In case you lived/studied abroad or have intercultural experience:) How has that changed your way of learning and perceiving education? (interculturality)
**Annex IV – Paraphrasing:**

**Expert from the German UNESCO Department for ESD:**

<table>
<thead>
<tr>
<th>Prime Examples / Core Statements</th>
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<td><strong>Code: “General educational tradition / didactic contract”</strong></td>
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<tr>
<td>“And when we talk about ESD in Germany, [environmental education, development education and peace education] are the three pillars that need to come together and are coming together under a new umbrella. (…) But I think that is exactly what is happening in Germany as well. That these several strands of education that have been there before and are still running as well, are being more an more developed into what we call ESD.”</td>
<td>I think one strong focus is on environmental education that has been very dominant and very much a focus in education in Germany right from the 60s and 70s. And then, of course, there is also a big part that’s is called development education or global learning we call it in Germany, which focuses on the global impact of colonialism, of the third world issues et cetera, looking at the rich North and the poor South et cetera. So those kind of issues that were being addressed in development education. And, again, that had a very strong focus. And the one, of course, is peace education, which started in the 70s as well and talks about how to promote peace through education. And when we talk about ESD in Germany, these are the three pillars that need to come together and are coming together under a new umbrella. (…) But I think that is exactly what is happening in Germany as well. That these several strands of education that have been there before and are still running as well, are being more an more developed into what we call ESD.</td>
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<td>“[W]e need to convince that ESD is an important part of quality education that needs to be addressed, if we want to be able to survive on this planet. Let’s put it bluntly like that.”</td>
<td>[W]e need education and we need quality education. And as also formal education and higher education, of course, in particular come into it, because formal education needs to change in the sense that, if we say that the world is changing then education must change as well.</td>
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<td>“That everyone has the opportunity, not just to go to school, but to (…) take with them that ability, those competences and skills needed to be acting as global citizens.”</td>
<td>[W]e can always go back to the Delors Report and recall the four pillars of learning, which are still the fundamental principal of what UNESCO is aiming for. (…) that is the learning to know, learning to do, learning to be and learning to live together. And, of course, that needs to incorporate the perspective of a global ecology and also an intergenerational ecology.</td>
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<td>When we look back at what actually the dimensions or the definition of ESD is, that is not just about learning content. Of course, that is a main source and a main pillar, but that is only one part of it. There is also the pedagogy and the learning environments, how we change those and adapt them to a more sustainable outlook, let’s say, and the learning outcomes are much in the focus. You mentioned already the competencies and the skills that are coming into play. So that everyone has the opportunity, not just to go to school, but to, when they actually are in school or some form of formal education, that they take with them that ability, those competences and skills needed to be acting as global citizens.</td>
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<td>“ESD (…) is not just about learning content. (…) There is also the pedagogy and the learning environments, how we change those and adapt them to a more sustainable outlook, let’s say, and the learning outcomes are much in the focus.”</td>
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<td>“If we do teach ESD, the big question, of course, is always how the actual behavior patterns change afterwards. (…) But then it depends on the education of the teacher and how they are</td>
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prepared for teaching ESD and their personal commitment of course as well.”

If we do teach ESD, the big question, of course, is always how the actual behavior patterns change afterwards. And, again, that sort of impact of ESD in teaching still needs to be evaluated. (…) But then it depends on the education of the teachers and how they are prepared for teaching ESD and their personal commitment of course as well.

We need to convince that ESD is an important part of quality education that needs to be addressed, if we want to be able to survive on this planet. Let’s put it bluntly like that.

**Code: “Planning and democracy”**

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<th>“And, I think, that is the general thing for ESD, that it is a good compromise between top-down and bottom-up. Because we need the best practice and the motivation, but we also need the policy.”</th>
<th>I think that is very much a main objective of what ESD is looking for in its implementation. It is a learner-centered focus. In Germany we talk about ‘Bildungslandschaften’ as well, which is the idea of bringing together the education opportunities of a certain place of a community and then reach to the student to see where it could best fulfill its potential.</th>
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<td>“I think that is very much a main objective of what ESD is looking for in its implementation. It is a learner-centered focus. In Germany we talk about ‘Bildungslandschaften’ as well, which is the idea of bringing together the education opportunities of a certain place of a community and then reach to the student to see where it could best fulfill its potential.”</td>
<td>In Germany we have quite a large number of this sort of networks and activities. And one has recently just been awarded by UNESCO with this first ESD price, which is ‘rootability’, who are placing green offices in universities, where students and teaching staff come together, just to mention one example.</td>
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<td>“[C]hanging the focus from the system to the student itself, to the learner itself. And I think that also needs to be adapted to the teacher-student relationship, which is also something that is at the heart of ESD, addressing the kind of how we teach.”</td>
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<td>“That is more on an eye-to-eye level. It is no longer the image that a teacher would be able to have all the information that is necessary to formulate a decision of a certain action that I want to take or certain issue that we are discussing in class. So, it is a coach, it is someone who would change the methods of teaching skills and the competences as we call them here in Germany.”</td>
<td>That is more on an eye-to-eye level. It is no longer the image that a teacher would be able to have all the information that is necessary to formulate a decision of a certain action that I want to take or certain issue that we are discussing in class. So, it is a coach, it is someone who would change the methods of teaching skills and the competences as we call them here in Germany. As well there is the concept of ‘Gestaltungskompetenz’, which might be worthwhile as well for you to look into.</td>
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<td>[C]hanging the focus from the system to the student itself, to the learner itself. And I think that also needs to be adapted to the teacher-student relationship, which is also something that is at the heart of ESD, addressing the kind of how we teach. Because right at the beginning about how changing learning environments and changing pedagogy to a much more of an eye-to-eye approach in project work. Because information is available and very easily available through a digital and online methods that we have at hand nowadays. But that also needs to change and be addressed, what other skills are needed to evaluate all the information I have and I think that is where the teacher then comes in, in a role of coaching and discussing, debating, but I might be a different role that a teacher will play in the future.</td>
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**Code: “Role of students”**

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<th>“[T]he big and large number of student activities should be mentioned as well. Because, I think, there is a large number of change agents, how they are called these days, who are really bringing things forwards, who are starting their own projects, that is cool, they are bringing things together, they are starting networks. In Germany we have quite a large number of this sort of networks and activities.”</th>
<th>And, of course, the big and large number of student activities should be mentioned as well. Because, I think, there is a large number of change agents, how they are called these days, who are really bringing things forwards, who are starting their own projects, that is cool, they are bringing things together, they are starting networks. In Germany we have quite a large number of this sort of networks and activities. (…) I think the power of the student groups here as well will bring things forward in the end as well.</th>
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“And, of course, students, because it is the generation that is the most affected – as the youth as they are collectively called – has a very important role to play. But from what I see here in Germany there is already a large group that has come forward, who is willing to participate, willing to come forward, to step up, to take up responsibility, to bring forward their own workspace at their universities.”

“But, of course there is always room to improve.”

Some particular universities, like Lüneburg, make their way and use sustainability as their unique factor, which is something that is very valuable.”

The formal education system in Germany is going through a process of change at the moment, apart from ESD, which means that it is also addressing the issue of how are student being taught from an early age to until they are able enter university.”

And, of course, students, because it is the generation that is the most affected – as the youth as they are collectively called – has a very important role to play. But from what I see here in Germany, there is already a large group that has come forward, who is willing to participate, willing to come forward, to step up, to take up responsibility, to bring forward their own workspace at their universities, at their workplaces as well as all the students in vocational training. So, yes, it can be scaled up, of course and the pressure could be even more, I think, on the leadership of universities, for example, to bring this forward, but lots of other issues are then coming into play.

I think youth is featured and is part of it and is able to participate in the process in a responsible way. But, of course there is always room to improve, always room to find more resources also to use the opportunity to carry on their ideas and carry on their projects and take them further.

Some particular universities, like Lüneburg, make their way and use sustainability as their unique factor, which is something that is very valuable.

But in the end we have to realize that from about 15000 courses of study that can be taken up in higher education in Germany, there are about only 400 that are really taking a focus on sustainable development.

Now, the council of SD has just recently started a project on adapting the reporting of companies on SD. Adopting this kind of reporting system to higher education institutions, that would be an interesting process. And we hope that through that, of course, we can raise more the issue of SD.

The formal education system in Germany is going through a process of change at the moment, apart from ESD, which means that it is also addressing the issue of how are student being taught from an early age to until they are able enter university. So, there are efforts at the moment of course to kind of change the system away from having the strict, let's say divided systems into Gymnasium, Realschule and Hauptschule.
Experts from SWEDESD:

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<td>E1: “We don’t build the SWEDESD work on a specific theory or specific theoretical traditions.”</td>
<td>E1: As a centre at the university, we have a continuous discussion both on the concept of ESD, we don’t have one definition that all follow, and on what exactly should be achieved.”</td>
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<td>E2: “[T]he Swedes have worked a lot with actual learning processes and micro studies in the classroom. We are looking at ecological literacy in school. And this, of course, rubs off. And it is important that this is the case as well, because the challenges look different in different regions, in different local municipalities.”</td>
<td>E2: So what I think is that first this difference that you are talking about is clear when you look at the research on ESD throughout the decade. For example, the Danes work a lot with action competence, the Swedes have worked a lot with actual learning processes and micro studies in the classroom. We are looking at ecological literacy in school. And this, of course, rubs off. And it is important that this is the case as well, because the challenges look different in different regions, in different local municipalities. So, as far as scaling goes, we don’t have a set definition of it. If we have a set definition of it, it is that we have a critical approach to it. And it is not at all the case that we have that kind of laissez-faire, and anything goes, do whatever you like approach. Rather the opposite, that we think it is really important that the idea of ESD in the scaling context has to be developed, based on the concrete challenges that people are facing in certain places.</td>
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<td>E1: “As a centre at the university, we have a continuous discussion both on the concept of ESD, we don’t have one definition that all follow, and on what exactly should be achieved.”</td>
<td>E1: But what we have decided for here is that we aim for some kind of social change. And also what the Danes have been doing, as you said David action competence. I mean, what does SWEDESD aim for in its works with ESD and the GAP is not one definition or one specific thing, but what we have in common, I think, is rather to facilitate social change. (…) but we are not defining exactly how different levels in the formal education system are supposed to work with it.”</td>
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<td>E1: In higher education, you cannot make a very big change by changing the law, you can do it by giving the university a lot of opportunities to apply for money, for specific projects, but they would be interpreted in many different ways, and not necessarily in relation to really profound social transformation.</td>
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<td>SWEDESD itself has the approach of collaborative projects</td>
<td>E2: Yes, that was collaborative joint project with Vietnamese partners, and co-led by Vietnam and Sweden</td>
</tr>
<tr>
<td>E1: “And, of course, democracy and participation and things like that are very important.”</td>
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</table>
E1: “It [student-centered education] is a topic. Mainly, I think, because several of us have been (...) involved in CEMUS.”

E1: “They [the students] could play a great role. I mean, if we start with that there exists such a thing as CEMUS at Uppsala University. In the beginning it was totally student-influenced that it at all came into being.”

But when they formed the official delegation that went to Nagoya, where the GAP was launched, “students were not even thought of.” (E1)

E1: “So, if students would demand and want more of SD and ESD, that would make a huge difference. Not only individual students, but if they got together and worked student union wise also that would make a super big difference. (...) I don’t think they know that it would be possible to demand it to the extend that we would. In that case, of course, the faculty society would react on that, I am sure. I think it should be much stronger.

E1: “[T]o build on that [CEMUS idea] and other forms of student-led initiatives is one part of that SWEDESD academy. And then it will not be at CEMUS, but it will be for students who are going to be teachers, so that they can be inspired by that.”

E1: They could play a great role. I mean, if we start with that there exists such a thing as CEMUS at Uppsala University. In the beginning it was totally student-influenced that it at all came into being. But the funny or rather tragic thing is that when the official delegation went to Nagoya, when the GAP was going to be launched, and the decade close, so to speak, and Ingrid was part of an international youth group, but in the setting up and the forming of the official delegation students were not even thought of. But at least we got some student influence in the group

E1: If we talk about higher education, students are less stuck in their identities struggles, while the faculty people are more stuck in their roles than students. So, if students would demand and want more of SD and ESD, that would make a huge difference. Not only individual students, but if they got together and worked student union wise also that would make a super big difference. Yes, to some extend [that is the case already], but not all over, no. And students here, if ESD is what the faculty of education does, I mean the E in the ESD, I don’t think they know that it would be possible to demand it to the extend that we would. In that case, of course, the faculty society would react on that, I am sure. I think it should be much stronger.

E1: And I don’t think it would be fair to say to steal the CEMUS idea, but to build on that and other forms of student-led initiatives is one part of that SWEDESD academy. And then it will not be at CEMUS, but it will be for students who are going to be teachers, so that they can be inspired by that, when they have their students and pupils. So, yes, it is a vivid concept in the SWEDESD work, but it is not the only concept, of course.

E1: “[H]ow we had to fight for it [the program of Sustainable Development]. And that is not in itself an ESD program. It is an educational program on sustainable development. And, in my view, the weakest part might be the reflection on how learning occurs and meaning making and change, at least as an educational process. I don’t think that is by the teachers in the program very reflected on.”

E1: “And what we also do, I mean can have his own view on ESD and SD and I can have mine, has hers, but what we do as SWEDESD is that we facilitate and lead the process with a lot of actors.

E1: Yes, maybe. I mean we are not positivists. Otherwise, I couldn’t have answered what I answered in the first place. So yes, constructivist context maybe post-normal, but in the actual practical work. Rather in the critical discussion that we have going on in research.

E1: I don’t know if you know, but the program that you study, how we had to fight for it. And that is not in itself an ESD program. It is an educational program on sustainable development. And, in my view, the weakest part might be the reflection on how learning occurs and meaning making and change, at least as an educational process. I don’t think that is by the teachers in the program very reflected on.

E1: And, of course, this program had its problems, especially in the beginning. But that was also because CEMUS and us, when we came in with a very critical post-normal view of development and sustainable development. (...) we had to pair up with a much more business as usual SD clue that was decided upon from the two vice chancellors we had, so

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**Code: “Role of students”**

E1: “They [the students] could play a great role. I mean, if we start with that there exists such a thing as CEMUS at Uppsala University. In the beginning it was totally student-influenced that it at all came into being.”

But when they formed the official delegation that went to Nagoya, where the GAP was launched, “students were not even thought of.” (E1)

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**Code: “other”**

E1: “And what we also do, I mean can have his own view on ESD and SD and I can have mine, has hers, but what we do as SWEDESD is that we facilitate and lead the process with a lot of actors.

E1: Yes, maybe. I mean we are not positivists. Otherwise, I couldn’t have answered what I answered in the first place. So yes, constructivist context maybe post-normal, but in the actual practical work. Rather in the critical discussion that we have going on in research.
**E1:** “If you apply to have a research project connected to a master program like yours, it is very seldom very easy to get because it is transdisciplinary and it falls between chairs. I mean, the structures are not set for transdisciplinary science.”

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**E1:** So, getting people to working transdisciplinary at all is hard. What is good for your career, is not necessarily transdisciplinary things, courses or research, and if you apply to have a research project connected to a master program like yours, it is very seldom very easy to get because it is transdisciplinary and it falls between chairs. I mean, the structures are not set for transdisciplinary science.

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**E1:** CEMUS, such a very radical place, you could say, it has its problems also and so on, but I mean it is a radical place at a super traditional university.

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**E1:** We do what we can to direct it, of course, in a social change direction, but it has to be flexible in relation to the actors. It is hard sometimes. But I think this is the way that will be most successful also in terms of peoples own chance to find meaning making in this.
Teachers Germany:

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<td><strong>T1:</strong> I tried now in this interview to share with you a bit of my teaching philosophy and my idea of what a teacher – pupil relation can and should be. And I find it very, very difficult to create this trustful joint environment, because we do have the problem to be in a double role. To be in the role, as in this case, of a co-researcher, supporting them in the research and, on the other hand, we have to grade people. So this system and the way students are socialized in this system is absolutely contradictory to the teaching philosophy. And this is something where I sometimes get a bit desperate when, even after half a year of confidentially working together, people fall back into old patterns of hierarchical thinking and mistrust or at least skepticism that is based on a more systems inherent aspects.</td>
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<td><strong>T3:</strong> “[I expect] basic things like reliability, active contribution, commitment, engagement and responsibility. (…) What we did in higher semesters is to talk about our expectations of the cooperation in the seminar.” (translated by author)</td>
<td><strong>T3:</strong> Von daher so grundlegende Sachen, wie Zuverlässigkeit, sich aktiv einzubringen, Verbindlichkeit, Engagement, Sachen auch zu übernehmen. Also diese Grundvoraussetzung, das ist schon schwierig. Was ich oft in Seminaren mache, ist das ich am Anfang sozusagen so eine Art Lehr-Lern-Vertrag mit denen mache. Also das ist nicht das Wort, was ich benutze, aber gerade im ersten Semester konfrontieren wir die teilweise schon in der ersten Sitzung.</td>
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<tr>
<td>“Regarding explorative learning, I believe that criticism and feedback are quite important.” (translated by author)</td>
<td><strong>T3:</strong> Aber sonst haben wir ja auch in höheren Semestern das schon gemacht, dass wir einfach sozusagen die Erwartungen an die Zusammenarbeit im Seminars besprochen haben. Feedback und Kritik ist immer eine wichtige Sache. Da machen wir auch immer Regeln für. Und wo auch unsere Unterstützungsangebote liegen, womit sie rechnen können und die sie auch gerne in Anspruch nehmen dürfen, wo unsererseits aber auch unsere Erwartungen sind. Und das sind so Sachen, die ich am Anfang schon mal kommunizierte, aber vielleicht nochmal stärker im Bezug auf dieses forschende Lernen, da ist glaub ich dieses Kritik- und Feedback geben schon wichtig. Dass wir wirklich, was ich eben auch versucht hatte, dieses auf Augenhöhe ein bisschen, das ist ja nicht so. Ich bin ja der Lehrende und sie sind die Lernenden. Also die Studierenden. Also wir sind ja in einem Abhängigkeitsverhältnis, das sollte man schon nicht ausblenden. Aber wenn wir jetzt eben wirklich über Sachfragen sprechen, ihre Forschung, dass man da wirklich zu einem kollegialen Austausch kommt.</td>
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<td>Trying to reach an eye-to-eye level, “[But] it is not like that. I am still the teacher and they are the learners, the students. We are still in a relationship of dependence. One should not blind that out. But when we talk about factual issues like their research, that we come to a collegial exchange.” (translated by author)</td>
<td><strong>T3:</strong> [Im Grunde führt ja das gesamte didaktische Drängen daraufhin, die Stärkung zwischen Lernen und Inhalt herbeizuführen. Ich möchte, dass sie in eine forschende Auseinandersetzung damit kommen und in eine fragende und wissenschaftlich kritisierende und so weiter. Und das weniger wichtig sein sollte, wie ich mit dem Inhalt in Verbindung stehe oder was ich von ihnen möchte. Das ist schon sozusagen das Drängen in die Stärkung dieser Achse. Gleichwohl gibt es die anderen Verbindungen eben auch. Und die sind wahrscheinlich notenrelevant und daher müssen Studierende immer beide Wege gehen, aber das ist vielleicht auch nicht auflösbar das Dilemma.</td>
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**T3:** I tried now in this interview to share with you a bit of my teaching philosophy and my idea of what a teacher – pupil relation can and should be. And I find it very, very difficult to create this trustful joint environment, because we do have the problem to be in a double role. To be in the role, as in this case, of a co-researcher, supporting them in the research and, on the other hand, we have to grade people. So this system and the way students are socialized in this system is absolutely contradictory to the teaching philosophy. And this is something where I sometimes get a bit desperate when, even after half a year of confidentially working together, people fall back into old patterns of hierarchical thinking and mistrust or at least skepticism that is based on a more systems inherent aspects.

**T3:** “[I expect] basic things like reliability, active contribution, commitment, engagement and responsibility. (…) What we did in higher semesters is to talk about our expectations of the cooperation in the seminar.” (translated by author)
**Code: “Goal of environmental education” (on part of the student)**

<table>
<thead>
<tr>
<th>T1:</th>
<th>T1: First of all, they have to deal with plurality on many different levels. Plurality of disciplinary backgrounds and according thought styles and research techniques. When working in teams with colleagues, but also when facing different teachers. Plurality also in the sense of dealing with a huge variety of different aspects that are linked to sustainability and therefore content of the Masters program, which, in consequence, leads to the necessity to develop one’s own professional profile and identity. Because, probably, sustainability science as such is not yet a long term established topos and logos in the landscape of knowledge. So, I do perceive that students not only have to be very independent by creating their own professional profiles, but also identities.</th>
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<td>T2:</td>
<td>T2: It refers more to their own position in the landscape of knowledge and in the landscape of professions. You and I we both identify with a particular subject or field or discipline. And we are also identified by others. So, a student studying in our Master program of Sustainability Science has to work independently and develop the profile that can be perceived as a specific profile by others, which is particularly important when they move into the labour market for example. But it is also important when it comes to work in inter- or transdisciplinary teams. When it comes to identify boundaries between representatives of different knowledge fields, boundaries, overlaps, incommensurabilities and so on. And for themselves it is, according to my experience, a very important aspect to belong to. The belonging as part of the professional profile is developed during the studies usually. It can shift, but, as mentioned before, sustainability science is still a very young field and it is very heterogeneous.</td>
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<td>“[P]eople come from a diverse background and often focus on sustainability science, because they pick that study program, but, of course, they still need to learn how our understanding, our definition, because I feel there is not the definition of sustainability science, but its how you operationalize it and in which context you need to use it, then it becomes a bit more tangible. So, and this is one of these things that students obviously need to learn. So, they need to understand how they define what is sustainability science, how they locate themselves in terms of let’s say the disciplinary grain, how they are then able to work based on the so-called soft skills, so based on the methodological expertise, how to work towards solutions. So, for me personally, and I feel that it is also embedded in our study program. (…) it is, of course, having a strongly solution-oriented agenda. You can still talk about this problem-oriented stuff, but ultimately, what we want to create is, we want to create people that are able to create solutions.”</td>
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create people that are able to create solutions.

T2: I mean teaching them to communicate and work in a structured way and collaborate is an important goal.

T3: Im Master habe ich im Bereich Forschungskommunikation mal was mitgemacht. Da gibt es ein Modul, Kommunikation von Forschungsergebnissen heißt das. Die Idee war da sozusagen, dass man gerade im Bereich Nachhaltigkeitswissenschaft ja eben auch sehr stark die Kommunikation mit nicht-wissenschaftlichen Akteuren pflegt und die Studierenden im Rahmen eines solchen Moduls auch auf diese Aufgabe vorzubereiten und die Aufgabe auch wissenschaftlich zu reflektieren.

T3: Aber auf Ihre Frage hin gewendet ist glaube ich dadurch das Ziel, erstmal eine gemeinsame Wissensgrundlage über diese Idee der Nachhaltigkeit und Konzepte der Nachhaltigen Entwicklung zu schaffen. Eine Verständigung darüber in Gang zu setzen und verschiedene Ansätze aufzuzeigen, so dass dann sozusagen eine Orientierung da ist bei den Studierenden, was das Feld betrifft. Welche Extrem-Pole es vielleicht gibt, welche vermittelnden Konzepte, auch wo Spannungen bestehen. Ich glaube das ist eine wesentliche Anstrennung, gerade im ersten Semester.

T3: Also die Fähigkeit, überhaupt wissenschaftliche, nicht nur Ergebnisse, sondern auch die Entstehung von solchen Ergebnissen kommunizieren zu können. Und auch die Unsicherheiten, die damit verbunden sind.

**Code: “Main method of teaching”**

**T1:**
“Transdisciplinary, research-based learning that deals with case studies. Besides introductory lectures, that are classical lectures, we have a series of different formats of group work, which is particularly in the first phase based on certain guidelines.”

“They learn to understand these problems and they would elaborate different perspectives on the phenomenon, which refers to the plurality in the group. And they would elaborate or explore where the different perspectives can be integrated. Either on a theoretical level or on a methodological level.”

**T2:**
“[I]f I have a lecture like that (…), it has to be very entertaining. One and a half hours of that is probably the most challenging course that one can teach. (…) But with the...”
average and usual courses that I do, you really are in a small groups, you are very adaptable. You can also see that you take the different skills and challenges of the individuals somewhat into the whole picture and then you move forward. And I mean this is how I do research, so this is how I do teaching.”

“I very much have a philosophy that you need to learn things by doing. I do not believe so much in these full frontal lobotomies. Although, sometimes it might be necessary that you communicate certain things in a way so that people are actually able to, first, gain knowledge (…), it is very much hands on. It is very much embedding the students also into the research.”

“I think, ultimately, there are brains that can theorize very much. And they would be able to take one and a half hours of pure information, but it is not super beneficial. And most of the brains do not work in that way, in my experience.”

knowledge. But usually, I feel, the best thing is, you can motivate people, you can show people that certain things are important and fun, and try to engage them in that way and then they need to find their best individual way in how they approach gaining knowledge in this specific branch. So, it is very much hands on. It is very much embedding the students also into the research.

T2: And I feel the brain just has this very short window of opportunity where it is open to absorb new things. So, it has to be really minor things, like one or two or three that you want to transport per slot. It can’t be this overwhelming and then this and then this and then that. And that is why it is also better to have them tinker at these things, in order to understand them really. Because I think, ultimately, there are brains that can theorize very much. And they would be able to take one and a half hours of pure information, but it is not super beneficial. And most of the brains do not work in that way, in my experience. So it is better to have people engaged and to see that they can really see the benefit in the whole thing. Then they get the energy to go through with it. And then, hopefully, they learn something out of it.

T2: And with my lecture – I have to add – we also have tutorials, which are in smaller groups, so there will be ample possibility for this kind of environment, but then I really have to see, if I have a lecture like that I cannot change and that I is going to be tricky, it has to be very entertaining. One and a half hours that is probably the most challenging course that one can teach. I mean, I am not aware of anyone who didn’t hate that. lecture and I really want to make that different now. And I am really wondering how it is going to end. But with the average and usual courses that I do, you really are in a small groups, you are very adaptable. You can also see that you take the different skills and challenges of the individuals somewhat into the whole picture and then you move forward. And I mean this is how I do research, so this is how I do teaching.

T2: And I think the important skill that you then have to find as a teacher is, you have to find this – in statistics we would call this the broken stick model – you have to find that point, where you don’t gain any knowledge. And then you have to somehow stir forward without tipping anyone’s toes. Because we had in the one review course we had this discussion on how we define sustainability and after a day we didn’t reach any conclusion. And now, whenever want to make a joke in this kind of setting, I just say: so why don’t we talk about our definition of sustainability again. Because you know it is never going to bring it to any goal. It doesn’t matter, you know? So, it is a nice exercise, but the goal is not to get a definition. And this is what people also have to learn, you know. They have to learn when to let go, because research and, I feel, probably life is also identifying the point when you know it is not going to move on.

T3: Transdisciplinary projects are certainly a big and prominent topic in the Master program. That is a bit of a red thread in the philosophy. (...) Transdisciplinary research (...) as a new and alternative research mode to the classic disciplinary approach. To not only to convey that in teaching, but also make students experience that in projects (...) is not always so easy.”

(translation by author)
“I am very much shaped by the idea of explorative learning.” (translated by author)

“It takes some time to stimulate a discussion based on the reading of studies.” (translated by author)

T1: The module consists of several very different ways of working. It is based on a very self-organized approach to learning.

In the first phase of the project it “is still quite strongly guided. But then it moves on to more and more having the role of a supervisor. And the distribution of tasks and roles between teachers and students are more and more negotiated and divided in ways that distribute the learning and the teaching part not to the teacher and the student, but being a more integrated concept, where students like teachers learn and teach.”

 “[M]y teaching philosophy is entirely based on the idea that it is a joint endeavor. And sometimes, of course, you are in danger to lose the spirit and sense when you are under pressure, when you have hundreds of students, when you aren’t able anymore to relate personally to each of them.”

“And the crucial thing is considering it to be different and, yes, considering also the teacher to have more knowledge that he or she gained before. But not making the situation a hierarchical one, due to the more of knowledge, but a different one.”

T1: And the crucial thing is considering it to be different and, yes, considering also the teacher to have more knowledge that he or she gained before. But not making the situation a hierarchical one, due to the more of knowledge, but a different one.

T3: Also I am very much shaped by the idea of explorative learning. And what I think that was tremendously important for me and for the formation of my own understanding of what a relationship between, in a traditional system, a teacher and a pupil or a lecturer and a student would be. (…) [M]y teaching philosophy is entirely based on the idea that it is a joint endeavor. And sometimes, of course, you are in danger to lose the spirit and sense when you are under pressure, when you have hundreds of students, when you aren’t able anymore to relate personally to each of them.

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what we have talked about already the resources that are in the students, in the multitude that has to be explored to see which questions can be tackled with the expertise that is in the students group. So, these are different sources that form the content.

T2: [A]s democracy is build on the consciousness and awareness of the citizens then the study program needs to be build on the consciousness and awareness of the students.

T2: [Y]ou have to see that you orchestrate in balance with the diversity of the group, so that everybody has the maximum gain out of that. (…) I mean these whole exercises with students are also for me to learn, so I don’t see my role exclusively as a teacher. (…) And I also feel that I want to create an environment where they can also learn from me. (…) I will try to have a joint learning process. (…) I think for me this is very beneficial as a citizen, as a teacher and as a learning person.”

“[B]ut there are certain simple things that I want them to know and I really sit down and draw them down. I prepare now a lecture completely new and this lecture I did for the first time in backcasting. So, first, I wrote down the goals that I want them to achieve.”

The impact of students on the content, however, depends. A lecture in...... for 160 people, “needs to be super centrally planned. Everything needs to be set up. (…) Because, how do you adapt to 160 people? (…) But the setting that I like the most is that I actually prefer and I still work.”

T2: So, I think for me it is very important that I don’t like hierarchies, based on their timeline and based on the things that they experienced, they just have a different level of experience. But it doesn’t necessarily put them into a higher or lower position. So, that is why I quite often don’t like it to have this extreme distance to students. So, I am usually on a first name basis, which I feel in Scandinavian and English-speaking countries is also often the case. And I still feel that people have a very strong respect for me and recognise, for instance, my time constraints or other things.”

“T2: [Y]ou have to see that you orchestrate in balance with the diversity of the group, so that everybody has the maximum gain out of that. But this needs to be embedded into the whole thing. (…) I constantly try to alter my understanding and enhance it and I am learning very much in this regard. I mean these whole exercises with students are also for me to learn, so I don’t see my role exclusively as a teacher. (…) And I also feel that I want to create an environment where they can also learn from me. So it is very funny, because the other study program in Uppsala has the word ‘development’ in it right? And many people would criticize this word. I know it is coming from an honest goal and from a decent understanding in that case. But, I mean, development many people would criticize because I would try and develop international students but I will try to have a joint learning process. And, I think for me this is very beneficial as a citizen, as a teacher and as a learning person.

T2: So, I want them to pay attention. And I want them to think independently. I mean, I present them a certain model of my reality and I expect them to challenge that. And there are certain challenges that are reoccurring and that will always be the same. And think these are certain stages that you go through. I still go through certain stages that probably other people can also predict, but basically it is not a game. It is a joint learning process. I learn, they learn. And in order to have that as an ideal situation, I really need to invest resources, they need to invest resources. I feel that is the most important thing. (…) I think experience is more important than knowledge and this is why, of course, experience is impossible without any knowledge, but there are certain simple things that I want them to know and I really sit down and draw them down. I prepare now a lecture completely new and this lecture I did for the first time in backcasting. So, first, I wrote down the goals that I want them to achieve. This is usually the first thing that I do. And in this case, I made it even different. I drew the exam that they have to take in the end and then I make the lecture based on how do they get there.
T2: It depends. I think this is mostly driven in how deeply this is embedded into the study program. And also how the group size is. Take the lecture from next semester, for instance, there is going to be 160 people and maybe also people from the last semester will come back to this. So, of course, this needs to be super centrally planned. Everything needs to be set up. There are tutorials connected to, so there is no way that I am able to adapt. Because how do you adapt to a group of 160 people? So, this has to be somewhat bulletproof. It probably shouldn’t start too hard. But, I should say that it is a lecture on statistics, so it is going to be hard. There is just no way. But the setting that I like the most and that I actually prefer and that I already put to study programs are the settings where you have a group size that is tangible enough, so that you are able to adapt to the group. But in order to do that, you first have to recognise how the group is. I would say 20-30 people can still work. It is maybe not ideal, 30 people, but you also have to think in terms of the university resources. And if you then have people working in smaller groups then they automatically have to adapt right? You have to orchestrate the whole thing. And that is I think a really important thing. And these are courses that we need more. We need less of these full frontal lobotomies.

T2: I don’t know if there is a word for their approaches or if they classify themselves in any way, but there is definitely teachers, thinking of my Latin teacher, for instance, who think very much top down and who are very aware of hierarchies and I am not really sure if this is the best thing.

T3: "[The idea of] explorative learning implies that they are researchers, which raises us to the same level. I don’t see that my primary task is to impart knowledge to the students, but to support them in becoming researchers. I certainly have an advantage, since I am more experienced, older so to speak, but I am doing basically the same as they do. If they come up with a specific research question, I don’t know the answer right away either. (...) I can help them to approach it (...) and that makes it an collegial atmosphere." (translated by author)

Giving advice how to develop a research question.

"There is this internal structure. I provide the rough framework, by saying we do Gender Equality and then I also make didactic decisions." (translated by author)

Once there is an own research interest of the teacher, it is more structured.

“‘There are hybrid forms (…) highly structured ones, like the ‘Gender-Language-Seminar’ and quite open ones, like the ‘Toy-Library-Seminar’. ‘” (translated by author)


T3: Ja ich würde sagen das ist ganz situationsabhängig, ganz unterschiedlich. Zum Beispiel, in Seminaren gebe ich schon eine Anleitung dazu wie man da vorgehen kann, um eine Forschungsfrage zu entwickeln. Die machen das dann erstmal in Gruppen. Ich berate sie dann auch. Also ich gehe rum und stehe für Fragen zur Verfügung und so weiter. Irgendwann mach ich dann Zwischenberichte, dass sie erstmal nur fünf Minuten erzählen, ganz frei, was ihre Forschungsfrage ist. Also das kann ein Setting sein, wo ich dann auch bewusst sozusagen verstören und solche Fragen, wie ich sie eben mal angedeutet hatte: wozu soll das gut sein, was ihr im Methodik-Teil machen wollt? Also, wo wirklich auch von der Rechtfertigung erstmal dann irgendwann vielleicht auch umgeschaltet wird zu einem gemeinsamen Nachdenken: was soll das? Man kann das aber auch ganz gezielt machen.

T3: Also es gibt sozusagen diese Binnenstruktur. Ich mache das große Dach, dass ich sage wir machen und in dem Fall treffe ich auch didaktische


T3: As gibt eben Mischformen, wie das wo sie schon eigene Sachen machen konnten, sehr stark strukturierte, wie das Geschlechter-Seminar und sehr freie, wie das Spielzeug-Bibliothek-Seminar. Also das hängt wirklich auch davon ab, was mein Interesse ist, ob ich mich da auch selber stark einbringen möchte und einen Teil auch selber erforschen möchte mit denen zusammen, der mich interessiert.

T1: Any academic approach should be a critical one. Likewise, I would, of course, ask my students to elaborate a critical view on things. But critical does not mean negative. Critical also contains a certain ability to estimate one’s own possibility to judge.

“Let’s refer to categories we are trying to overcome, but here I indeed do perceive overall differences in nationalities. I only have two deep experiences in this kind of training in and in Germany, but it is a tremendous difference between an learning culture and the German one. I do perceive people here much more open and critical than back in. Whether this is related to our history or not would be a large discussion.”

T1: Let’s refer to categories we are trying to overcome, but here I indeed do perceive overall differences in nationalities. I only have two deep experiences in this kind of training in and in Germany, but it is a tremendous difference between an learning culture and the German one. I do perceive people here much more open and critical than back in. Whether this is related to our history or not would be a large discussion. I do experience people from, what I can share with you now, my teaching experiences, and I find it tremendously difficult to interact the way I would like to interact with students in , where I have been teaching. I also found it quite difficult in , where I...
have been teaching for quite a while. And I found it entirely inspiring, open and critical in

T2: And I also try to tell them that I am passionate about my research and work and that they
should be also passionate. But they should see why they do that, why it is important and how
they can make a difference. Because the problem is quite often that many of these people are
very ambitious. They try to save the planet. And I also try to save the planet. I just do it on a
different timeline. I don’t expect this to happen any day soon. I see myself as part of a very
big movement that will take a very long time and will basically outdate me. And from this
timeline I think it is ok that I say that I am passionate and I have my contribution and they
should see the same.”

“We are a little bit in a more comfortable situation of having quite conscious and often very
well reflected a motivated people.”

“But I feel it is often few people who really challenge your deeply. And it is not necessarily
the best ones. I mean, they often are probably, but it is also often a bit related to the
personality. And some people are just shy. (…) And this is also why I like these smaller
settings a little bit more, because it encourages students more to be critical and discuss
things.”

“I am really quite happy actually with the students, so I recognised
students from previous universities where I was and, I mean, they were also all good
students, but here, as I said, people are particularly motivated. I feel they are rather critical.
The only potential that I would see is not at the end of the students. The potential that I
would see the most, and I would also tell that to their face, is the potential in my fellow
teachers.”

So, for some reason our sense of learning, teaching and our socialization seems to be
strongly dependent on a larger context let’s say, a larger cultural context.
teachers, who are not in that way that they really allow the students this kind of diverse thinking and integrating themselves. And it is because of different pedagogical approaches.

T3: [O]utliers confirm the average, right? But I feel they are very respectful with each other. They have a very good way of communication. They have a good understanding of the diversity of their skills and expectations.

T2:

T3:

T2:


T3: Manchmal ist es so, dass ich aus Neugierde ein Feld aufspanne, dann aber relativ frei den Studierenden anheimstelle dort Fragestellungen zu entwickeln. Manchmal habe ich halb selber ein sehr starkes Forschungsinteresse.

T3: [Il]nerhalb dieses Daches, das ich anbiete gibt es natürlich die Freiheit, dass sie eigene Themen und Interessen einbringen können, aber die bewegen sich innerhalb dieses Rahmens, den ich vorher gesetzt habe. Ganz eigene Projektseminare sind mir nicht bekannt. Also eigene von Studierenden thematisch geforderte und auch angebotene Veranstaltungen gibt, das ist mir so nicht bekannt.

T3: Das haben wir dieses Semester jedenfalls gemacht, dass wir denen einen Katalog geben, (...) „Verhaltensweisen, die man mit Beginn des Studiums sich aneignen sollte und Verhaltensweisen, die man abstellen sollte.“ Sowas wie ich warte bis mich jemand anspricht oder so. Oder: ich will versuchen, nicht weiter aufzufallen, weil ich dann als Streber gelte. Also dass man wirklich so Sachen aus der Schule ablegt und eben in eine neue Phase eintritt. Und das geben wir denen einfach, die sollen sich das erstmal durchlesen und sich dazu mal äußern, was sie daran blöd finden, was sie da gut finden, was sie verstört, was sie auch selber schon gedacht hatten. Also um das überhaupt mal zu thematisieren am Anfang, in welcher Rolle sie jetzt sind. Also das sind ja alles Erstsemester. (...) Ich weiß, dass es im Master, oder ich weiß gar nicht ob das im Master- oder im Promotionsbereich ist, der Kollege Jörn Fischer sowas auch macht, Lektüreseminare, und es da auch immer die Aufgabe gibt, auch kritische Punkte herauszulesen.

T3: Aber was ich schon wahrnehme oder glaub festzustellen ist, dass die Anforderung an Lehrende sich verändert. Und auch das was man sozusagen bekommt. Man kann auch Kundenorientierung sagen oder Kundenblick. Da stelle ich das zum Teil schon fest bei einigen. Ich habe jetzt nie unterrichtet vor den Bachelor- und Master-Zeiten, aber es geht doch sehr häufig, im ersten Semester natürlich noch viel häufiger, weil die Unsicherheit da
vielleicht auch größer ist, aber auch in höheren Semestern doch oft um die Frage, was jetzt genau die Prüfungsleistung ist, die zu erbringen ist, und was dafür nötig ist, was unsere Anforderungen sind, damit man eine gute Note bekommt. Ob wir das gerne so oder so hätten. Und das ist ja überhaupt nicht die Frage, wie wir es gerne hätten, sondern wie es sein sollte, angemessen. Und diese Diskussion empfinde ich schon, dass die doch zu einer Begleiterscheinung geworden ist. Vielleicht immer schon war. Ich kann das nicht beurteilen, ob das früher so war. Die Grundschule ist natürlich kein Vergleichsmaßstab. Aber das trifft man doch regelmäßig an. Diese Art von Unterhaltung führt man doch regelmäßig mit Studierenden. Was ja auch legitim ist. Ich will das auch nicht ausblenden, ich will das auch nicht idealisieren. Wir sind ja keine Kollegen, sie wollen einen guten Abschluss machen und ich bin derjenige, der die Noten verteilt. Also aus der Situation kommen wir nicht heraus, aber ich möchte gute Noten verteilen, dafür, dass sie mich überzeugen, dass das, was sie da tun, Hand und Fuß hat. Nicht dafür, dass sie das tun, wie ich es gerne hätte. Manche fühlen sich dadurch herausgefordert, aber manche fragen eben auch ein drittes und viertes Mal nach.
Teachers Sweden:

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<tr>
<th>Prime Example / Core Statement</th>
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<tr>
<td><strong>Code: “General educational tradition / didactic contract”</strong></td>
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<tr>
<td><strong>T1:</strong> Referring to the three traditions by Sandell et al. (2005): “[I]n some ways I would say that CEMUS has been for many years quite close to the pluralistic tradition. In the sense that we don’t have the defined answers, we bring in different perspectives. (...) [M]ore or less I agree quite a lot with the pluralistic approach, but I also think it has its limits. One limit could be that it looks very good on paper, but it is extremely hard to do in practice. I read some research on the idea that participatory processes may actually reinforce the status quo rather than challenge things as well, since it will lead to dominant voices getting even stronger.”</td>
<td><strong>T1:</strong> Are you familiar with Johan Ohman and Ostman or Sandell, who wrote the Education for Sustainable Development book, identifying three traditions, the fact-based, normative and pluralistic. And, in some ways I would say that CEMUS has been for many years quite close to the pluralistic tradition. In the sense that we don’t have the defined answers, we bring in different perspectives. (...) I would say, more or less I agree quite a lot with the pluralistic approach, but I also think it has its limits. One limit could be that it looks very good on paper, but it is extremely hard to do in practice. I read some research on the idea that participatory processes may actually reinforce the status quo rather than challenge things as well, since it will lead to dominant voices getting even stronger.</td>
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<td><strong>T3:</strong> There are groups that keep to themselves. For instance, “natural and social scientists don’t mix as much as we had hoped I think. So, these structural differences in the class is something I would like, if we could find ways to breakdown these walls and structures.”</td>
<td><strong>T3:</strong> I think that there are groups, I mean the Chinese keep to themselves and people from other countries may keep to themselves and also natural and social scientists don’t mix as much as we had hoped I think. So, these structural differences in the class is something I would like, if we could find ways to breakdown these walls and structures.</td>
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<td><strong>T1:</strong> “I would say, in general, in education for sustainable development, if I may expand it a bit, (...) one critical skill that me and many of my colleagues have been thinking about is the skill to find new information and to create new information. (...) [B]eing able to kind of make your own connections and make your own place in that field is quite important.” “Another skill is, of course, systems thinking (...). And, if I could mention a final thing, I would say it is critical thinking and the ability to also be critical both to what you learn, but also to be able to see kind of different conflicting perspectives.” “I try to create some kind of education that matters not only for the students that take it, but maybe gives them tools that can improve the world in a sense.”</td>
<td><strong>T1:</strong> I would say, in general, in education for sustainable development, if I may expand it a bit, I would say that one critical skill that me and many of my colleagues have been thinking about is the skill to find new information and to create new information, since this is really an emerging field still. And there are lots of different sub-fields in this and I think being able to kind of make your own connections and make your own place in that field is quite important. (...) I would say another skill that we have been working quite a lot with is creativity. In different ways trying to imagine or work with different futures, for example. (...) Another skill is, of course, systems thinking, which connects to the first thing I said, trying to actually get some kind of connection between all theses different trends and all these different subjects. So it could both be systems thinking as an analytical tool, but also like a general mind set on how you could approach the subject. And, if I could mention a final thing, I would say it is critical thinking and the ability to also be critical both to what you learn, but also to be able to see kind of different conflicting perspectives.</td>
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| **T2:** “[T]he notion of change is in a way explicit in the program. I mean people take the program, because they want to create some kind of change, which is also value-based, based on normative ideas about creating a better world, creating a more sustainable world. (...) I mean, if you ask me why do we have a program like Sustainable Development, because there is a need for it. Because there is a social, ecological crisis, which has been recognised for many years. And we need to deal with that. And so far we have not been able to create, on a” | **T2:** [T]he notion of change is in a way explicit in the program. I mean people take the program, because they want to create some kind of change, which is also value-based, based on normative ideas about creating a better world, creating a more sustainable world. And I think we need those kind of programs. We need programs, which are more directly dealing with the issues we talk about from a change perspective. (...) I mean, if you ask me why do we have a program like Sustainable Development, because there is a need for it. Because there is a social, ecological crisis, which has been recognised for many years. And we need
broader scale, the change that is necessary to move forward into a more sustainable direction.”

“Very much critical thinking (...) different kinds of understanding knowledge and knowledge production. (...) So, hopefully, through the learning process, the students will actually take the responsibility, they will become more critical, they will become more independent. That is at least the idea.”

“I am, you can say, also very much embedded in a certain bildning tradition, ‘Bildung’, which is to some extend connected with the Humboldt tradition, which emphasizes Bildung, not just education, but Bildung as also a personal development. Developing empowerment, emancipation and the capacity to take responsibility as citizens and as scholars.”

to deal with that. And so far we have not been able to create, on a broader scale, the change that is necessary to move forward into a more sustainable direction.

T2: Very much critical thinking (...) different kinds of understanding knowledge and knowledge production. You can have the one extreme, which is a positivistic approach, the other extreme is the more phenomenological approach and what are the implications of that? What does that actually mean? How do we understand the world? (...) Method-wise it is the same. Because when we have been through the main theoretical frameworks, like this is what this theory is about, this is what that theory is about, then we move on to the next level, which is the methods.

T2: So, hopefully, through the learning process, the students will actually take the responsibility, they will become more critical, they will become more independent. That is at least the idea.

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T2: That in academia at least in Scandinavia and perhaps Northern Europe the praised Humboldt model, which has been the ideal model for universities in this part of the world, has gradually been replaced by other ideas, by political attacks driven by a combination of hate, new public management and a strong neo-liberal ideology. An argument going around the lines that university needs to be useful to society, meaning that they should give added value in terms of monetary values, meaning that they should base universities roles more to support the economic system, the business and so on. And that has been reflected in all levels of the academic system.

T3: “I think perhaps the most important thing is to be able to see the problems from different angles. To try to get an as complete picture of the situation as possible. Looking at the whole. (...) [F]or me it is quite obvious that we need skills from different areas and you can’t say one particular skill is more important than any other. I think that if I need to pin down one particular it is the capacity to communicate and communicate across borders. I think that is the most important skill.”

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T1: We try to also sometimes, I would say, provide a critical space. I think it is really hard to succeed with seminars. I think I failed more often than I succeeded with facilitating a good seminar discussion.

T1: To try to build on the strengths of the group and not waste the participants’ time with having only lectures.

T1: In the course we have had a discussion workshop, where we introduced different discussion models and we introduced the idea of the bonus hats, where you can have different hats in order to get more roles into the seminar or the seminar discussion, which means that they might become more critical, because you are not only representing yourself then in a seminar discussion, but you also kind of make new contribution to make the discussion better.

T1: I think often the way seminars have been structured at other places too, often we have small group discussions and then whole group discussions. It is more oriented directly to the specific exercises they are doing.

T2: [T]he way that I see it is the idea that it is supposed to fulfil several objectives or meet several objectives. The first and foremost important objective is to give the students an introduction and idea of the existing conceptual landscape related to [...]. How is that understood? What are the implications from different point of view? What are the epistemological dimensions and ontological dimensions of this? And we actually start out criticizing the concept. With the idea and hope that the students would be more able to more critically reflect on how we use the concept.

T2: And then, another idea or objective is to give the students coming with many different backgrounds and introduction, again, not an in depth understanding, but an introduction to different theoretical frameworks.

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T2: I am rooted in a critical tradition. I am myself rooted in a very problem-oriented and problem-based kind of education. I am rooted in a pedagogy, where project work and group work is combined at all levels of education. So, with those tools, much of the responsibility is given to the student themselves.

T3: [W]e have lectures and we have computer exercises. These are the two main types of teaching we have in the course. And the lectures sort of need to be focused on the theory to be learned. And then, in the computer exercises, which I don’t teach myself, but I have assistants doing that, there is much more of communication and discussion. It is more something.

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“[S]omething I should consider for the coming years [is] to have more discussions and less of just pumping facts and theories. But it is also a balance.”

“And I always tried to stick with these two main problem areas. I mean, climate change and biodiversity loss. So I tried to make a lot of my examples and discussion around those.”

T1: I knew that to really find my own role in all this and I realized that the only thing I can do is kind of trying to create a space for the students to learn together and to create new knowledge. So I kind of had to step back, I guess, and not take the formal role of a teacher having the information and transmitting it, but rather trying to create a participatory learning environment. I would say that is probably still my approach to teaching. (…) I think one of the roles of being a teacher in this field is probably trying to facilitate that process rather than transmitting knowledge.”

“[W]ould say that one way that we have been working with has been projects, where we engage our students in working with either cases or real problems that they can work with. Or they can also, in some cases, find their own problems, if it is a larger project.”

“But we also need to work on that participatory space to make sure that it is not only like some kind of anything goes relativism, where everybody can say whatever they like and that is fine, but rather to create some kind of critical pluralism. (…) I think one of the cool things with this Masters program is definitely the broad range of all cultures and also different disciplines that are represented in the student group. And I think that is really a unique opportunity to make some kind of really good participatory, perhaps even interdisciplinary learning processes, where you can really do some cool creation of knowledge.”

“I am also kind of responsible for the learning environment in some sense. So, that means that I might also be responsible for saying the tough things and telling students to be on time and all those things. (But) when we did this didactical contract discussion, those things came up naturally and then students would start bringing those expectations on each other. I was kind of outside that, but maybe I had the role then to observe and enforce those ideas sometimes. But that were rules that were co-created by everyone.”

T3: Next week, we will have the And, after that, we will have a discussion. And, normally, I have this movie early in the course, which helps to open up the discussion better. This time, I couldn’t do it, because I had another teacher coming in at that time. But actually that teacher from social science was and that was really good, because she came in as a social scientist showing how and all these concepts can be used in social science. And quite a lot of students started talking to her, probably because many other students, I think it is about two thirds or more are from social sciences now. This is also something I should consider for the coming years to have more discussions and less of just pumping facts and theories. But it is also a balance. It is a lot of balances here one has to think of.

T3: And I always tried to stick with these two main problem areas. I mean, climate change and biodiversity loss. So I tried to make a lot of my examples and discussion around those.

Code: “Planning and democracy”

T1: I knew that to really find my own role in all this and I realized that the only thing I can do is kind of trying to create a space for the students to learn together and to create new knowledge. So I kind of had to step back, I guess, and not take the formal role of a teacher having the information and transmitting it, but rather trying to create a participatory learning environment. I would say that is probably still my approach to teaching. (…) I think it is also from philosophical grounds really meaningful. And I would say it is also useful in the sense of sustainable development, connecting to the first skill that I said of trying to connect subjects and being able to create knowledge together. I think one of the roles of being a teacher in this field is probably trying to facilitate that process rather than transmitting knowledge. (…)

And our role as course coordinators is usually trying to facilitate the process of bringing those strings and subjects together. I would say that one way that we have been working with has been projects, where we engage our students in working with either cases or real problems that they can work with. Or they can also, in some cases, find their own problems, if it is a larger project.

T1: But we also need to work on that participatory space to make sure that it is not only like some kind of anything goes relativism, where everybody can say whatever they like and that is fine, but rather to create some kind of critical pluralism. (…) I think one of the cool things with this Masters program is definitely the broad range of all cultures and also different disciplines that are represented in the student group. And I think that is really a unique opportunity to make some kind of really good participatory, perhaps even interdisciplinary learning processes, where you can really do some cool creation of knowledge.

T1: I think if I am coordinating a course, I am also kind of responsible for the learning environment in some sense. So, that means that I might also be responsible for saying the tough things and telling students to be on time and all those things, because that also affects the learning for students if some students drop in later or are not prepared for seminars and so forth. So, I kind of try to communicate those expectations. But that is also something that you can do in different ways. When we did this didactical contract discussion, those things came up naturally and then students would start bringing those expectations on each other. I
“I think that is one of our responsibilities as course coordinators and facilitators of the learning environment. We are responsible for the basic frames to be there, so that interesting and great stuff can happen in there.”

T1: That is another thing with the participatory ideal. Do we mean that something is really participatory because we open the door for everyone but only three people go through it and everyone else is silent? So, how do you create an atmosphere, where everyone contributes? And, I think, that is really hard to achieve. And in the same sense then, how do we create an atmosphere, where all students also engage with the subject. (…) But, I think, many students at least do engage with the content and I have this great role that I don’t really need to present much content. We usually get other people to present things and then we can discuss it. But I think they engage quite well with both the content, texts and the lecturers.

T2: I like that it [the Master program] is, (…) involving the students more in the actual planning and gives more responsibility to the students, to some extend.”

T2: Students are supposed to take responsibility for their own learning. You can say we have a common project and the common project is the learning process. We all have to learn. And I am not the primary responsible for the students to learn. They are having the primary responsibility. But it is my responsibility to help and to assist and add what I can with my experience and my knowledge. (…) facilitating a peer-learning process, so that the students learn from each other, which is much more efficient than if they are going to learn from a teacher.”

“It is your responsibility. That also means you make the decision what is interesting to you. I am not going to give you a curriculum you have to memorize. (…) They have the responsibility for their own learning and I am there to support that, most of the students are very very grateful, because many of them have not experienced that relationship before.”

T2: I like that it [the Master Programe] is, at least on a rhetorical level, but also I think to some extend on a slightly deeper level it is involving the students more in the actual planning and gives more responsibility to the students, to some extend.

T2: So, you can say I try to practice a pedagogic, where I respect the competences of the students, I respect the competences of the students, because all these students, they come with different competences.”

“SLU is an agricultural university and it is different from Uppsala University I think. (…) One of the things I have observed here is that it is a more traditional culture of learning that is dominant here. It is a more top down kind of learning, which probably has to do with that this is natural science.”

T2: I think that is one of our responsibilities as course coordinators and facilitators of the learning environment. We are responsible for the basic frames to be there, so that interesting and great stuff can happen in there.

T2: SLU is an agricultural university and it is different from Uppsala University I think. But one of the things I have observed here is that it is a more traditional culture of learning that is dominant here. It is a more top down kind of learning, which probably has to do with that this is natural science. You have to memorize stuff. I mean, that is a part of Chemistry. You need to know all the different elements and stuff like that. You need to memorize that. So this is very scholastic in a way. You can say that you go from primary school and all the way you go there is a red threat in the pedagogy. It is the same kind of: the teacher is here and the
students are very concerned about the rights: you can’t do that. You can’t do so. You need to follow the rules. We have to start on time. We have to finish on time. I mean, all these formal things. (...) And many students are I think focus too much on these rights, because that is what this scholastic study culture is doing to them. But, if you turn it around and you give the students the responsibility and say: I will make mistakes and you will make mistakes too, but that shouldn’t be the issue, the issue should be how we make sure that you learn the most. Then you suddenly create another reflection and some of the students at least take that challenge.”

“[T]here is another tendency, which is extremely predominant here in Sweden. I have not seen it in other countries. And that is what I call the intimisation of the professional relationship. Between the students and also between teachers or supervisors or mentor or however you may phrase it. And that is another thing I am trying to avoid. I am not in favor of developing friendships with students. (...) Because I think that can be a pitfall that you take away the attention from the learning process.”

T2: The main problem here is that the students will adapt to whatever system they are in. So here there are so many rules and regulations to regulate these hierarchies all the time, because whenever there is a problem, we make a new rule. It happens here and it happens everywhere else. And, I mean, rules are rarely enforced, but it gives the student often the understanding of: they are perhaps the lowest in the hierarchies, but at least they do have some rights. So, especially Swedish students are very concerned about the rights: you can’t do that. You can’t do so. You need to follow the rules. We have to start on time. We have to finish on time. I mean, all these formal things, right. And when it comes to any other requirements, there is so much bureaucracy that it is almost impossible to navigate through it. And many students are I think focus too much on these rights, because that is what this scholastic study culture is doing to them. But, if you turn it around and you give the students the responsibility and say: I will make mistakes and you will make mistakes too, but that shouldn’t be the issue, the issue should be how we make sure that you learn the most. Then you suddenly create another reflection and some of the students at least take that challenge.

(...) I am trying to get away from the scholastic thing and more to the ideal like Humboldt and Grundtvig. This combination of the different Bildung traditions. I think that there is another tendency, which is extremely predominant here in Sweden. I have not seen it in other countries. And that is what I call the intimisation of the professional relationship. Between the students and also between teachers or supervisors or mentor or however you may phrase it. And that is another thing I am trying to avoid. I am not in favor of developing friendships with students. I am not in favor of saying we are equal pals or something like that. Because I think that can be a pitfall that you take away the attention from the learning process.

T2: I mean I don’t have a relativistic perspective on learning as such. It is not that I say that everything goes. Being equal as human being is not the same as to say that everyone has the same competences or the same skills. I mean, that is one of the points with education. You want to learn. And I do have something, which I think that the students want to learn. So, I am aware of my own competences and I am also aware of the competences I don’t have. At least I think I know what the students as a minimum need to learn.

T2: I think that the majority of the students, meaning slightly more than half, when they start to understand that I have some expectations as well, while I, at the same time, actually consider them to be grown up human beings, who can make their own decisions, they have the responsibility for their own learning and I am there to support that, most of the students are very very grateful, because many of them have not experienced that relationship before.

T3: “Let’s say it like this: It is a Systems Analysis course, so the theory of systems analysis and the philosophy and the methodology is more or less given. But the examples can be shifting, of course. (...) I mean, I try, as far as possible, to take examples from the different countries, of which I know are represented in the group. And to bring it closer to the students, as far as I can.”

T3: Well, throwing out questions now and then: what do you think? What is your opinion? And, how would you solve this or look at this problem? (…) I mean, I try, as far as possible, to take examples from the different countries, of which I know are represented in the group. And to bring it closer to the students, as far as I can. (…) I mean, I try to get quite close to them, in terms of talking to them individually also. And many students come in the breaks or afterwards or they send e-mails and I discuss things.

T3: Let’s say it like this: It is a Systems Analysis course, so the theory of systems analysis...
“[Or] throwing out questions now and then: what do you think? What is your opinion? And, how would you solve this or look at this problem?”

and the philosophy and the methodology is more or less given. But the examples can be shifting, of course. How you apply this methodology and thinking to particular problems.

T3: [F]or example, for the computer exercise, where we had two students for one computer, that one student would come from social science and one from natural science and often it would be the student from natural science, who could help the other. Because those from engineering and natural science were more familiar with computer exercises. So that was an intended, but it has been difficult to do that, because the minority, lets say one third, is only from natural science background. It is also not always to do this artificial grouping. So I don’t know how to do that, but this is something we should discuss.

T1: [W]e try to kind of lead the students through that process and that, of course, means that students are kind of figuring out what they are doing on their own, but with some kind of facilitation but also perhaps supervision from our side. (…) And the [ ], I would say, was also kind of a crash course in active student participation. I think it is one of the courses, where we left the most responsibility to students.

T1: So, that means that students are still part in shaping the course and kind of putting more weight on one topic than on others. So students are still part of shaping the learning itself. I have also experimented with opening up courses to have a discussion with students so we could actually decide whom to invite and what should be the subjects of the seminars.

T1: [A colleague] and I we had a workshop a month ago basically, where we had two hours with the students and we had taken that one intensive week of the course. It is a course that is split up in two intensive weeks and then some work in between. And at the end of the first week, we invited the students to kind of co-create the second week. So, then they had discussions on what themes they want to discuss and if they wanted lectures or seminars. (…) [T]hat means that students are still part in shaping the course and kind of putting more weight on one topic than on others. So students are still part of shaping the content of the course. IIS course, means that the student group may not run the course a

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"And for me, because I have been working with different courses, the has always been a course I guess where the degree of critical thinking has been quite high."

T2: 
"[T]hey are given some introduction to some major societal theories, they are given an introduction to a variety of methods and when they have this foundation, then they can start navigating themselves. (...) They can choose: well I think this theory is interesting to me, this one is not that interesting, but this one is interesting and I want to go deeper. Or this method is ridiculous, it doesn’t make sense to me, but this method sounds good. I want to dig deeper. And what we have done this year at the is, when the students are doing the project work later during April and May, then they will be offered an opportunity to ask for particular lectures.

[W]e try to develop a culture of critical reflection, because we are critical in our own way of expressing ourselves. (...) That is a culture that the student needs to internalize. And that takes time. We try to involve the students in the reflection, in comments to whatever we say.”

"Some are more active in the classroom than others. Some talk more, but that is a general phenomenon. We see that everywhere. But then, again, I see more and more students participating in the discussions. (...) And they are dedicated. If we take the now, we have approximately 50 who are registered in the course. And I would say 30 of them are active."

"[T]hey [the students] should help and support each other, again, to put learning in the centre. And, I think, to some extend students do help each other, but, again, it depends on their internal relationship. Sometimes I see students protect a weaker student. But I also sometimes get the feeling that there are students that are left outside. So, I mean, there are all kinds of social dynamics, which is not unusual."

"[O]ne of the main challenges we have within the Sustainable Development program, but also all other programs I am teaching or engaged in here at the university, is the broad span among the students. Because you have strong and weak students. You have students, who for years have studied chemistry or worked in a lab or whatever, and then you have those who are more application-oriented like engineers, for example, and then you have those who have a misunderstanding or understand critical thinking as being kind of negative or critical to everything. But critical thinking could perhaps also imply that you take a stance towards something or for something as well.

T1: And for me, because I have been working with different courses, the has always been a course I guess where the degree of critical thinking has been quite high. (...) I think some assignments have been moved from being in the critical dimension into the creative dimension. So, I think, probably as an institution we are giving our students better tools and we are communicating our expectations on how to be critical better than we did 10 years ago. And I think that also the students have been co-creating the program as well.

T2: Like I said before, this is the thing that we are going through here in the, they are given introduction to philosophy of science, they are given some introduction to some major societal theories, they are given an introduction to a variety of methods and when they have this foundation, then they can start navigating themselves. By one to put that into the perspective of their own discipline and their own competences. What do they bring themselves? And how can they utilize that and how can they create a dialectic relationship between what they have learned. They can choose: well I think this theory is interesting to me, this one is not that interesting, but this one is interesting and I want to go deeper. Or this method is ridiculous, it doesn’t make sense to me, but this method sounds good. I want to dig deeper. And what we have done this year at the is, when the students are doing the project work later during April and May, then they will be offered an opportunity to ask for particular lectures. So, if we give them an introduction to survey methods, qualitative and quantitative, I mean that will just be an introduction, and we will say: you can make this kind of interviews, qualitative, semi-structured, you can make focus groups, you can make quantitative questionnaires and what do we need to think about in the broad terms. And when they then say: we would like to make a questionnaire or we would like to know more about qualitative interviews, then we can organize a lecture or seminar on that and go deeper. So they will be given that option during the project work to say to us: we want to know more about this.

T2: [W]e try to develop a culture of critical reflection, because we are critical in our own way of expressing ourselves. And that is a culture I think. That is a culture that the student needs to internalize. And that takes time. We try to involve the students in the reflection, in comments to whatever we say. Yesterday, I had the student a full day and we went through these concepts of modernity and rationality, something very abstract. And then, in the afternoon, they were actually asked: do you think this makes sense? Do you have any comments? Do you think I manipulate you? But, by the use of arguments and references to actually be able to engage in an academic discussion, but that doesn’t come over night. That is something that needs to be developed.

T2: Some are more active in the classroom than others. Some talk more, but that is a general phenomenon. We see that everywhere. But then, again, I see more and more students participating in the discussions. Again, it is a matter of developing a study culture. (...) And they are dedicated. If we take the now, we have approximately 50 who are registered in the course. And I would say 30 of them are active.
background in economy and then you have those with a background in sociology or humanities. And the ability to grasp what you are trying to communicate is very different.”

“This whole, I would say, commodification of higher education, where students more and more have been transformed to consumers and, thereby, they act like consumers. They take on an instrumental approach to education. (…) they have expectations that every teacher should be step dancer, right. Because they have all these requirements to how they should learn, which basically is about entertainment. And it takes a little bit of time to get the students out of that. Saying that, well, maybe not all learning will be fun and entertaining, but that is perhaps not the objective either.”

T2: [I]deally, the students as a group should consider themselves as a group. And that they should help and support each other, again, to put learning in the centre. And, I think, to some extend students do help each other, but, again, it depends on their internal relationship. Sometimes I see students protect a weaker student. But I also sometimes get the feeling that there are students that are left outside. So, I mean, there are all kinds of social dynamics, which is not unusual, but, again, it is a matter of developing a culture. (…) O[ne] of the main challenges we have within the Sustainable Development program, but also all other programs I am teaching or engaged in here at the university, is the broad span among the students. Because you have strong and weak students. You have students, who for years have studied chemistry or worked in a lab or whatever, and then you have those who are more application-oriented like engineers, for example, and then you have those who have a background in economy and then you have those with a background in sociology or humanities. And the ability to grasp what you are trying to communicate is very different. So, it is a huge challenge to find a level, where you satisfy as many people as possible, where most people get something out of it. Either the level is too high for some or it is too low for someone else.

T2: This whole, I would say, commodification of higher education, where students more and more have been transformed to consumers and, thereby, they act like consumers. They take on an instrumental approach to education, as I said before, there is a lot of rules and regulations, and they are very focused on the rights and they have expectations that every teacher should be step dancer, right. Because they have all these requirements to how they should learn, which basically is about entertainment. And it takes a little bit of time to get the students out of that. Saying that, well, maybe not all learning will be fun and entertaining, but it is perhaps not the objective either. And you could, if you want to learn from some of the best within their field, you will meet a lot of dull people, because they are not entertainers.

T3: Sometimes the students do engage in dialogue, but many times the don’t. And then you have to sort of imagine what they would be interested in. Because the feedback from the students is really important. (…) I mean, if a few students start to ask questions or engage in dialogue and discussions, then it is much easier for other students to do that as well. (…) I must say I would like more of the dialogue than it is. And perhaps I am not giving enough space for dialogue, because I also want the students to learn as much as possible within this short time.”

“Yes, I do that [asking the students to be critical to what I present]. Especially in the beginning, when I start the course. (…) So, I try really to stress the critical thinking. I hope I do that enough.”

I would have liked more of that, more comments, more questions. I mean, they don’t have to

T3: So starting broadly and then zooming in on the different problems. And, ideally, that would be in dialogue with the students. And sometimes the students do engage in dialogue, but many times the don’t. And then you have to sort of imagine what they would be interested in. Because the feedback from the students is really important. (…) I mean, if a few students start to ask questions or engage in dialogue and discussions, then it is much easier for other students to do that as well. So, I really want to and try to promote a dialogue than just me talking.

T3: Well, I must say I would like more of the dialogue than it is. And perhaps I am not giving enough space for dialogue, because I also want the students to learn as much as possible within this short time. So, I try to sort of push that through. But, of course, I am trying to be flexible if there is a question in some direction. I would try to follow up and keep the discussion going on that. But I have realized more and more, that I should make it perhaps less stress on the content, on the theoretical content, but invite more dialogue, because I think this is really important to get the dialogue going.
agree at all with what I am saying, because in a field like this nothing is carved in stone. (…) So, I welcome any objections to what I am saying. Unfortunately, it is not as much as I wanted or expected. So, students are more quite than I had hoped.”

“I would say, we have had years in the beginning, where students were really critical. Not only in general, but specifically to some of our courses and teachings. (…) And this has also resulted in change in syllabus and change in teachers.”

“[S]ometimes it is enough that two or three of the students set sort of the certain atmosphere. That they are very strongly for or against something, so they are very critical. This sort of brings other along. (…) I think the culture of how frank you are and what kind of vocabulary you use and so forth is also different depending on where you come from.”

“[I]n some sense you can say that it is better to have a student, who is frank and telling exactly what they think. But they could have sometimes put it in nicer words.”

T3: I should perhaps stop more often and say: what do you think? Or do you have any comments and so on. More often than I do. Because I really think to engage the students in starting to think themselves. (…) Yes, I do that [ask the students to be critical to what I present]. Especially in the beginning, when I start the course. And I also try to say, to distinguish, when I give my own view, my personal view, which might be coloured by my preferences. Then I try to state that very clearly, that this is my own view and others, my colleagues, might have a different view and so forth. And you may have your own view. So, I try really to stress the critical thinking. I hope I do that enough.

T3: I would have liked more of that, more comments, more questions. I mean, they don’t have to agree at all with what I am saying, because in a field like this nothing is carved in stone. So you may have different opinions and you can’t say that one thing is wrong and another is right. It is not so easy at least. So, I welcome any objections to what I am saying. Unfortunately, it is not as much as I wanted or expected. So, students are more quite than I had hoped. And this is what I wonder, if there is anything I can do to make them more talkative so to say.

T3: I would say, we have had years in the beginning, where students were really critical. Not only in general, but specifically to some of our courses and teachings. And there were really big problems with how to deal with that. I haven’t seen that so much in the last couple of years. I mean, it hasn’t reach me. And, actually, luckily I can say, I have never seen or experienced any negative criticism to my course so far. Maybe there is under the surface, but it hasn’t reached me. So that is nice for me, but I know that some other courses and teachers have been really suffering from this. And this has also resulted in change in syllabus and change in teachers and there have been many changes in other courses. In my course the changes are smaller, minor.

T3: And, as I said, sometimes it is enough that two or three of the students set sort of the certain atmosphere. That they are very strongly for or against something, so they are very critical. This sort of brings other along. So, they also start to become more critical than perhaps they would have been otherwise, if these students had not been there. So, it is partly a result of which individual there are and where they come from. I think the culture of how frank you are and what kind of vocabulary you use and so forth is also different depending on where you come from. And some people are very polite. And this is also a problem. And I can say from Asia usually they are very very polite. They very seldom criticize the teacher or say anything openly at least. And this is also a problem. That you think they are happy and everything is good and well. But in fact they don’t appreciate or don’t like it or whatever. So you don’t really get the truth. So, in some sense you can say that it is better to have a student, who is frank and telling exactly what they think. But they could have sometimes put it in nicer words.
## Students Germany:

<table>
<thead>
<tr>
<th>Prime Example / Core Statement</th>
<th>Paraphrases</th>
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<td><strong>Code: “General educational tradition / didactic contract”</strong></td>
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**S2:**
“Actually, you can’t compare one seminar with another.” (translated by author)

“I had expectations regarding the content, but not of the didactic approach and how it is taught. So, I am positively surprised. We also had a methods course, where all Master students had to reflect on their methods and forms of discussions. (…) And there I realised how well it works for us and that we have a nice atmosphere.” (translated by author)

Since people come from a lot of different backgrounds, “there are automatically a lot of different opinions and that is very exciting.” (translated by author)

**S3:**
Everything that I learned in the agriculture course was learning by heart (…) There was no discussion about it, no questioning of methods or results. And here it is much more open. I feel like I am learning more. So, I would say it is better.”

“Sometimes it is so open, that we can’t really see the red threat and it is difficult to frame the topic of this course, but it might also be related to that it is very difficult in sustainability science to form this, because it is so broad and we have so many influences from every side (…)”

“Because there is this very flat hierarchy, I feel much more confident to talk to the people, to get feedback, to ask for certain things and also to go into topics that I don’t know, but I feel like I just try it. And, if I fail, there is nobody staying behind me criticizing. It is very encouraging to have this.”

**S2:**
[M] an kann ja eigentlich kein Seminar mit dem anderen vergleichen.


S2: Aber das spannende bei beiden Studiengängen ist ja, dass du aus allen Vorstudiengängen kommen kannst. Und dadurch hast du immer so viele unterschiedliche Leute dabei. Also du hast immer die Idee der Nachhaltigkeit und alle haben einen Sinn dafür, aber trotzdem haben wir Leute, die ihren BWL-Hintergrund haben und was über CSR hören wollen und damit hast du ganz automatisch ganz viele Meinungen und das ist auch ganz spannend. Kulturell ist dann nochmal wieder etwas Anderes.

**S3:**
I like the format here much more, because I feel like I am learning more. Everything that I learned in the agriculture course was learning by heart, then having a test and it was just tables and figures that we had to study and that was it. There was no discussion about it, no questioning of methods or results. And here it is much more open. I feel like I am learning more. So, I would say it is better. But, of course, it is also in relation to the development of my own personality now this course fits much better to what I want to do and who I am as it was before. So, if I would have this open format of teaching and learning in the bachelor course, I don’t know how satisfied I would have been. (…)

Sometimes it is so open, that we can’t really see the red threat and it is difficult to frame the topic of this course, but it might also be related to that it is very difficult in sustainability science to form this, because it is so broad and we have so many influences from every side that it is sometime just very difficult to frame what is the core topic.

**S3:**
Yes, definitely. And this is what I feel here. Because there is this very flat hierarchy, I feel much more confident to talk to the people, to get feedback, to ask for certain things and also to go into topics that I don’t know, but I feel like I just try it. And, if I fail, there is nobody staying behind me criticizing. It is very encouraging to have this. (…) I can’t think of anyone here, where I would say that he or she is not a good teacher. I do think that for my personal development the relations that the students have here to the teachers and also the way how people are teaching fits.
S1: “I think that depends very much on the teacher and course.” (translated by author)

“What I also find very important is, how I perceive the pedagogy here, that we in our (...) follow the approach of explorative learning. That we, for example, go through an entire research process.” (translated by author)

“Each project has different teachers and the pedagogical approaches are correspondingly divers. (...) But what is generally similar in almost all the courses is group work. We are working a lot in groups (...)” (translated by author)

“We had this one course (...) where we talked about the definition of terms, like ‘what is the actual meaning of transdisciplinarity?’ And we, as students, could bring in different perspectives. My teacher is a spatial planner and we had one macro-economists, one environmental scientist, one sociologist, one biologist and me as a geographer. (...) In that sense, our teacher also participated in the discussion and said, for example, ‘from the perspective of a geographer, I would say this and that.’” (translated by author)

“The teacher really appreciated the diversity of perspectives to make clear that there are concepts of terms that have to be re-read and changed.” (translated by author)

S2: “I find it way more interactive. In my Bachelor we had much more frontal teaching like in school. And now, at the Leuphana, I felt that you are more involved(...) No lectures anymore, but real seminars, where you get tasks and have to give some input. At least most of the times. Of course, there are exceptions.” (translated by author)

“We discuss a lot, but always neutral and impersonal. You can, of course, say your own opinion, but it is always a respectful dialogue.” (translated by author)
“From time to time, you also need some classic frontal learning to get some input, but that has only limited benefits. The more you have a dialogue on an eye-to-eye level, I think the more fertile the ground for personal development.” (translated by author)

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<tr>
<th>S1:</th>
<th>“I would certainly change some things. Especially in terms of the supervision. I would appreciate if there was more space to talk to the teachers and to have intensive discussions regarding our group works and research projects.” (translated by author)</th>
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<td>S2:</td>
<td>Also ich habe ein Praktikum gemacht im Bereich Umweltbildung für Kinder in Malaysia und aus der Erfahrung kann ich schon sagen, dass es viel mehr ein Dialog sein. Und dieses klassische Frontallernen braucht man zwar irgendwie auch mal, um Input zu bekommen, aber ist nur bedingt förderlich. Und je mehr man in einen Dialog und auf Augenhöhe kommt, das ist g laube ich der fruchtbarste Boden für Entfaltung.</td>
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<td>So, for example, this semester I took a [ ] course and we learned a lot. We learned from very different points of view, but, in the end, I was still questioning what [ ] is. We did a little project and we listened to what the other students were doing and we listened to the input from the professor, but, in the end, I still have no idea what we were talking about.</td>
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<td>S3:</td>
<td>It is very nice. Also when I compare it to the agricultural studies. There was this group of 45 people and we were always studying together. Well, we were sitting and listening. So, that was our studying together. And I had the people I had a personal relationship with and I talked to them, but, in general, there was no mixture of the subgroups I would say. And here it is, according to the courses we chose, we always meet new people from this big group and I worked with a lot of different people, since we have a lot of group work. And we communicate a lot and that is very nice. To get to know how different people work and to work with them together on a certain project and not just having this big group, where you don’t know many people.</td>
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**Code: “Planning and democracy”**

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<th>“There are some courses, where it is at an eye-to-eye level, but very few courses. One teacher, for example, takes himself back and leaves the group discussion to the course (…). But I don’t think that we have a relation, where also the teachers learn from the students.” (translated by author)</th>
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<td>“It is, again, dependent on the course. In the [ ] course, for example, the teacher only plays a minor role, as we work almost fully self-organized.” (translated by author)</td>
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<tr>
<td>S1:</td>
<td>“For me, the teacher is an eye-opener (…). What is important for me in the Master is to show how the knowledge I gained, be it content-related or methodical approaches, can be classified and applied.” (translated by author)</td>
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<td>“Es gibt einige Kurse, in denen das auf Augenhöhe ist. Also ganz wenige Kurse. Also eine Lehrperson zieht sich zum Beispiel sehr zurück und überlässt die Gruppendiskussion ihrem Lauf und gibt dann immer mal Input, zum Beispiel um Sachen richtig zu stellen oder zum Schluss noch mal ein Fazit zu ziehen. Aber ich finde das ist jetzt nicht so ein Verhältnis, dass auch die Lehrenden von den Studierenden lernen.</td>
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<td>“For me, the teacher is an eye-opener (…). What is important for me in the Master is to show how the knowledge I gained, be it content-related or methodical approaches, can be classified and applied.” (translated by author)</td>
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<tr>
<td>S1:</td>
<td>“Also ich würde bestimmt einiges verändern. Vor allem wenn es darum geht, was die Betreuung angeht. Das fände ich schon ganz cool, wenn es da mehr Raum gäbe, auch mit den Lehrpersonen zu sprechen und sich auch intensiv auseinanderzusetzen mit den eigenen Gruppenarbeiten und Forschungsprojekten. Als wie zum Beispiel in unserem transdisziplinären Projekt. Dass wir da auch eine bessere Betreuung in dem Sinne bekommen, dass wir auch auf unterschiedlichen Ebenen unterstützt werden.</td>
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<td>S1:</td>
<td>“Es gibt einige Kurse, in denen das auf Augenhöhe ist. Also ganz wenige Kurse. Also eine Lehrperson zieht sich zum Beispiel sehr zurück und überlässt die Gruppendiskussion ihrem Lauf und gibt dann immer mal Input, zum Beispiel um Sachen richtig zu stellen oder zum Schluss noch mal ein Fazit zu ziehen. Aber ich finde das ist jetzt nicht so ein Verhältnis, dass auch die Lehrenden von den Studierenden lernen.</td>
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Das ist auch wieder Modulabhängig. Also in diesem transdisziplinären Projekt ist es beispielsweise so, dass die Rolle der Lehrperson total gering ist, weil wir da fast vollständig selbstorganisiert arbeiten. Da ist es beispielsweise so, dass wir Hause aus im Master-Studiengang Nachhaltigkeitswissenschaften interdisziplinär aufgestellt sind. Also wir haben sowohl viele Geografen und Geografinnen als auch SoziologInnen, Leute aus den Naturwissenschaften, ChemikerInnen, Biologen und so weiter. Und da ist es dann klar, dass unsere jeweiligen Hintergründe da auch mit reinspielen. Die jeweiligen Vorlieben und Foki berücksichtigt werden.

"If you want, you can co-create and participate as a student. And many do that and thus have a voice in determining the direction." (translated by author)

"At an eye-to-eye level is exaggerated, as you still notice a certain authority, with few exceptions." (translated by author)

The topics "are, to a large extent, already specified (...). There is little room for manoeuvre, I would say." (translated by author)

The consequence of students having an impact on the selection of topics might be "that some topics would be avoided. For example, natural science like chemistry, which many people dislike. (...) In this sense, I see a disadvantage, as you would only deal with selected topics the people like. On the other hand, one would receive much better feedback what is interesting to the people, what is interesting to my students. (...) There would be a lot of benefits, if it was more open." (translated by author)

A course structure that is too open “is as doomed to fail as if everything is completely pre-structured like a lesson in school. It is difficult to be creative if the field is too open. If you have at least some key points that you can develop, it is more easy to create ideas.” (translated by author)
S1: Wenn es um eine vergleichende Betrachtung der Wissenschaft und der Gesellschaft oder der Rolle von Natur- und Sozialwissenschaften geht, „sind es große Potenziale unter den Studierenden, weil sie nicht sozialisiert sind und haben eine andere Perspektive auf diese Dinge.“ (Deutsch von Autor übersetzt)

“Die eigene Auswahl von Themen ist keine Garantie, aber sie kann zum eigenen Motivieren (…) genutzt werden, um tiefer in ein Thema zu gehen. (…) Das ist ein großes Vorteil der eigenen Thema auszuwählen.“ (Deutsch von Autor übersetzt)

S3: Und wenn es dann in diese Reflexionsebene geht, also diese Metaebene, sei es methodologisch – auch wenn es um Transdisziplinarität geht – dann finde ich es ein Austausch auf Augenhöhe schon sehr gewinnbringend, weil auch Studierende, die beispielsweise noch nicht so sehr sozialisiert sind mit unterschiedlichen Rollenverständnissen innerhalb der Wissenschaft, wenn es um so etwas wie eine Gegenüberstellung von Natur- und Sozialwissenschaften geht, oder einer Gegenüberstellung von „der“ Wissenschaft und „der“ Gesellschaft, dann liegt ganz viel Potential bei diesen nicht sozialisierten Studierenden, weil sie nochmals einen anderen Blick darauf haben, von wegen: was sind meine Eindrücke, wie ist der IST-Zustand gerade?
"We first worked with the texts and then led the discussion ourselves. (...) That clearly goes in the direction of playing an active role in organizing the way of learning, but that was only occasionally. (...) But, for example, in that it was almost like learning by teaching." (translated by author)

It is about "developing the ability to discuss. And another important competence is to question what has been said in the discussion, but also yourself. I would say, critical thinking is very important." (translated by author)

"It is a very diverse field of departments and teachers. There are people who don’t want you to as critical questions. (...) Of course there are [other] teachers that say: think about what you are doing. What are the values and objectives that we want to implement here in sustainability research." (translated by author)

"We discussed, but there was no common ground. Meaning that we couldn’t discuss with each other in a good way, because I had a different idea of transdisciplinarity than one of my teachers. The outcome was that I took myself back and said: ok, those people are grading me." (translated by author)

"In this study program, I made the experience that some students are prepared to think out of the box.” (translated by author)

"In the transdisciplinary project, one of our teachers said that they would give us little guidance on purpose and that we should see it as an open playground. There, we had the possibility to try things out, but it failed on part of us students, as we only used conventional methods and approaches.” (translated by author)

S1: Also ich habe bei uns im Studiengang die Erfahrung gemacht, dass schon bei einigen Studierenden die Bereitschaft da ist, eine Art out-of-the-box thinking zu betreiben. Also bei uns in diesem Forschungsprojekt wollten wir auch irgendwie was Kreatives machen, als es darum ging, dass wir nach Abschluss unseres Projektes auch unsere PraxispartnerInnen eine Handreichung geben, von wegen: das ist jetzt im Endeffekt dabei herausgekommen. Und da wurde uns da auch Freiraum gelassen. Also wir durften machen was wir wollen. Und ich habe dann gesagt: es wäre doch ganz cool, da jetzt nicht einen Fachartikel zu schreiben, den wieder nur ein bestimmtes Publikum liest, sondern wir könnten doch auch so eine Art Lehr- und Lernvideo machen über unsere Erkenntnisse. Und die Reaktion war erst so: naja, klingt eigentlich ganz cool, aber im Endeffekt war es dann so: wir wissen nicht, wie das dann bewertet wird von unseren Lehrpersonen. Wir schreiben jetzt doch einen Artikel in einer landwirtschaftlichen Zeitung. Also teilweise gibt es die Möglichkeiten schon, nur nutzen wir sie nicht. Oder wenn es um mehrere Leute geht, die das zu entscheiden haben, dann wird halt doch der einfache Weg gewählt. (…)


S2: “I always reflected how valuable people can be, that maybe don’t dare to say anything in such situations. And not only because they don’t dare, but because they are just not that type of person. (…) It is a pity, because they might have great ideas that would be good for everyone else.”

S2: Also wir reden schon auch oft darüber wer wie angesprochen werden kann. Zum Beispiel in den transdisziplinären Projekten. Wer was für ein Typ ist. Und deswegen habe ich da auch immer reflektiert, wie wertvoll aber auch die Menschen sind, die sich in solchen Situationen vielleicht nicht trauen und auch nichts sagen. Also nicht nur, weil sie sich nicht trauen, sondern weil sie auch einfach nicht der Typ dafür sind. Und da ist es dann schon schwierig, weil die könnten auch einen super Input bringen. Also ich bin schon eher eine Person, die sich äußert, aber es ist halt wirklich schade um die Personen, die das nicht mitbringen, weil sie
“You have to be able to discuss. But we were also a bit forced to. In certain courses we had to have a prepared discussion in front of the class with different parties. There, you had to take a stand and learn how to argue.” (translated by author)

“One of our teachers had very high expectations of how we have to contribute and what we have to say. It felt like the answers to the questions were already pre-formulated. (…) That was one specific example, where you realized that there was no more contribution afterwards.” (translated by author)

<table>
<thead>
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<td>“[It] depends on the teacher, but mostly I feel like there is not much feedback coming from the students. In most courses I experienced that the teachers were asking more than one time (…) to bring in new ideas. And they said, well, we have this open space, so just tell me what you want to hear.</td>
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| “I experienced that, in courses, where expectations are not met from the students’ side, they just disappear. They don’t show up anymore. So, if a class is very boring or the teacher is not }

| S2: | Ja, eine unserer Dozierenden hat sehr hohe Erwartungen gehabt, wie wir uns zu beteiligen haben und wie wir uns zu äußern haben und eigentlich waren die Fragen gefühlt schon vorformuliert beantwortet im Fragenkatalog. Und wenn dann erstmal gar nicht passierte, war das schonmal nicht gut. Und wenn man dann was gesagt hat, wurde man immer in die Antwort gedrängt sozusagen. Das war halt ein spezifisches Beispiel bei einer Person, wo man dann gemerkt hat, dass sich dadurch nachher fast nicht mehr beteiligt wurde. Es gab halt vorgefertigte Antworten und ich glaube das war das Hauptproblem dabei. Und das ist sehr auseinandergegangen. (…) Aber da hätte man eigentlich Raum gehabt, etwas zu sagen. Aber dadurch, dass man das Gefühl hatte, dass es nur die vorgefertigten Antworten gab, war es dann manchmal auch so: was will sie denn jetzt hören? |
| S3: | Yes, it depends on the teacher, but mostly I feel like there is not much feedback coming from the students. In most courses I experienced that the teachers were asking more than one time or more than two or three times to bring in new ideas. And they said, well, we have this open space, so just tell me what you want to hear. |
| Me: | Would you say that there is space left for students having an impact, but this is not properly used by the students? |
| S3: | Yes, kind of. At least in some courses. In other courses, where there is more like a frame that the teacher set, there, within the last half an hour, the teachers say: ok, now you got some input. What are your ideas? What would you like to talk about now? So, then it is more a form of discussion and there is more input from the students. But if is it that the teachers say: ok, the last four lectures you can chose the topics, I didn’t experience that there was much feedback. |
| S3: | It is interesting that, especially since we have so very different backgrounds, that we can also bring in new topics that also the teachers are not very familiar with. So, for them it is interesting. I heard one teacher saying last week: that is really interesting. I haven’t thought about this. I don’t know about this, but I am trying to find out something. I feel, maybe it is because it is also that this field of sustainability science is quite new, that there is a lot of open space for students or anybody to dive in and to give impulses and new ideas. I would say it is crucial for students to participate. |
| S3: | It is definitely to be open for new ideas and to reflect on the different inputs that come from the group. As I studied agriculture and also philosophy, I find certain ways of thinking very interesting and try to relate them back to what I studied before and to the topics, to the methods and to what we were doing there. Then, suddenly, a new idea evolves. For example, we could use a method that comes from ecology to do some linguistic research. And that is |
really integrating the students’ views, then people will leave. But it hasn’t happened to an extent that I would say is a problem.”

really really interesting. We have to be able to reflect and to make these links. Holistic thinking. To dive into the system to see how complex it is and to find the links that exist.

S3: I experienced that, in courses, where expectations are not met from the students’ side, they just disappear. They don’t show up anymore. So, if a class is very boring or the teacher is not really integrating the students’ views, then people will leave. But it hasn’t happened to an extent that I would say is a problem.
### Students Sweden:

**Prime Example / Core Statement**

<table>
<thead>
<tr>
<th>Code: &quot;General educational tradition / didactic contract&quot;</th>
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<tr>
<td>S1: [T]hat [the relation between students and teachers] has been very non-hierarchical I find. Almost more so in the CEMUS courses than in the SLU courses, because there it has been relatively more hierarchical, but still in a very un-dogmatic way. But CEMUS courses, there hasn’t been an order between the two parties. (…) I like the concept, theoretically, but (…) I want to walk away from a lecture with a feeling that I have learned something (…). And sometimes I have not, and that I felt is because the teachers have sometime lacked the formal knowledge or maybe education, or the skills to facilitate the discussion and bring it forward.”</td>
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<td>S1: Oh, that has been very non-hierarchical I find. Almost more so in the CEMUS courses than in the SLU courses, because there it has been relatively more hierarchical, but still in a very un-dogmatic way. But CEMUS courses, there hasn’t been an order between the two parties. (…) I like the concept, theoretically, but, as I said, I want to walk away from a lecture with a feeling that I have learned something – with a net-benefit of knowledge. And sometimes I have not, and that I felt is because the teachers have sometime lacked the formal knowledge or maybe education, or the skills to facilitate the discussion and bring it forward.</td>
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<td>S2: “And I think that whole dynamics of us coming from different places and being in different periods of our lives, I think that has been one of the best things in this program.”</td>
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<tr>
<td>S2: I mean, some people have been working for a while or done other stuff before the Masters and others just come from their Bachelors. That also gives you another perspective on time and where you are in life. And it also gives you different views on things. You know more stuff or you experienced something that changed how you view something. And I think that whole dynamics of us coming from different places and being in different periods of our lives, I think that has been one of the best things in this program.</td>
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<td>S3: I am kind of surprised, because I thought when I started this program, that it will be much more difficult and much harder. I don’t know. When I took my Bachelor, when I was on a higher level in the Bachelor, I think sometimes it was more difficult than some of the courses here. More challenging. It was human geography, so it was the most advanced course that I took. And here I think it is not basic but it is still really broad and maybe that is the big difference, because we don’t get into it that much. But I think it is really nice as well, because it is such an easy environment that really encourages us to take part and include our own experiences. (…) It depends, but my general feeling is that they are really approachable and really nice, but you still don’t get any real connection to them. Because they are kind of distant. Maybe it depends. I am not the most talkative person. So maybe if I would go and talk to them after class and discuss thing with them that would change. (…) I think it is a really open environment. People are so nice to each other. And you should not be afraid to say anything in our class. I think it is really open and friendly, but if it comes more to how to benefit the most out of the class, I think we are really heavy on social science background. We could easily, when we are discussing, tipping over to the ideas of social science and: I am happy, because I have a social science background and if they would take some of us away, maybe I wouldn’t be here, but may be that would be something for the future. To try to get it a little bit more balanced.”</td>
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</table>
S1: “It definitely varies between the courses. But if you take the CEMUS course, (...) then I would describe them as very open. And the teacher has not played ever a big role. The objective, in my perception, has been to facilitate dialogue and discussion, rather than having a set frame of a monologue that they are supposed to teach us, or fed us.”

S1: And it is really hard to measure the actual knowledge that you gain from a lecture, but gaining knowledge should be the end goal of lectures. Not just having a nice discussion or listening and learning how to listen. You have meetings, yes, but you don’t listen to lectures so much. You have more of a discussion going on.

Me: But do you feel that this is the right way to do it, even though you can’t measure the outcome properly?

S1: Theoretically yes. I do believe it is the right way.

“Discussions, if genuine and prepared and where all sides have something to bring, can be much more effective in creating lasting knowledge than standard lectures. An intercultural context can be vital in providing real-world examples and experiences to the discussion. Also, formal education, as in the standard format lectures and exams, is still based on an industrial model which was made to create workers, not thinkers.”

S2: “I think some courses have been more interactive and more welcoming. For example, even though you can have discussions on whether the ___ courses were good developed, they were still very interactive. We did stuff on those classes all the time. We had to do poems or we had some kind of value statement. It was very seldom just lectures and that is it. And I think that is one of the really good things. Hopefully what most students get to do in the Masters is to interact more with other students and with the lecturers. They should not just sit and read.”

“I think some courses were easier to talk in than others. For example, in one of the lectures in ___ (_), the first one we had in economics, I think we talked more, because some of us didn’t like how they taught economics. Well, we rather discussed about how they taught than what they taught us basically. But, well, I think it should be more about what you are taught than how they are teaching it.”

“I mean I thought there were lots of options to talk in class and express your views and stuff and also have discussions if you didn’t really agree on certain things.”
S3: “I think there is a lot of differences between the courses we have taken. Here at CEMUS it is very oriented on discussions in groups and the students are in charge in one way. And we are supposed to be the ones who keep the discussion going. But then, if you compare it to SLU, they are much more the old way, that there it is more the case that the teacher stands in front of the class and tells us things and then we are supposed to ask questions and have a discussion in that way.”

“But I think we have had a lot of not that theoretical courses. And maybe be that is something that is lacking. Because, the last course we had last year, the one. That was really heavy and that was something completely new, because it was really focusing on theory and methods in a way of: you should know this.”

“And it is interesting that, even though we have the same interest like we all want to work with sustainability issues or sustainable development, that we have so different starting points and we had really different ideas of what that would be.”

Code: “Planning and democracy”

S1: “My image is that students are supposed to involve more in the topic and the subject within the CEMUS courses. So, we were supposed to bring in own ideas and question what has been taught.”

“I really feel it depends on the competence of the students’ coordinator, if the lecture is good or bad, because we need somebody probing the student to keep the dialogue going further. At all times. We need somebody who is actually, almost one step ahead of the students in the discussion at all times. So, he knows where the discussion might go. So he can prepare a provocative or probing question to keep the discussion going further. And that, I feel, has been lacking at some points throughout my first year.”

“I think it should be up to the teacher to decide the topics. (...) They kind of need a framework for the lecture. It could be called semi-open-ended, which is contradictory, but at least kind of a framework. Semi-structured maybe you can call it.”

S2: I mean I thought there were lots of options to talk in class and express your views and stuff and also have discussions if you didn’t really agree on certain things. I don’t know if there is anything specific that I would change.

S3: I think there is a lot of differences between the courses we have taken. Here at CEMUS it is very oriented on discussions in groups and the students are in charge in one way. And we are supposed to be the ones who keep the discussion going. But then, if you compare it to SLU, they are much more the old way, that there it is more the case that the teacher stands in front of the class and tells us things and then we are supposed to ask questions and have a discussion in that way. It is much more much more like a seminar at CEMUS. I think it depends a lot on what course you take.

S3: But I think we have had a lot of not that theoretical courses. And maybe be that is something that is lacking. Because, the last course we had last year, the one. That was really heavy and that was something completely new, because it was really focusing on theory and methods in a way of: you should know this. But I think a lot of us didn’t really know or remember. I feel now I am kind of safe in it, because I am doing it at the moment. But is something that you have to keep fresh and that is something that has been lacking in the first year. It is a lot of ideas but not really applying them to reality.

S3: And it is interesting that, even though we have the same interest like we all want to work with sustainability issues or sustainable development, that we have so different starting points and we had really different ideas of what that would be. But I think somehow we are merging it together to something. All of us have kind of the same idea now.
"[S]ome lectures were lacking the framework that I was talking about. (...) I think in general people were quite unhappy with that form of lecture. I think here the teacher expected us to facilitate the discussion by ourselves and we, at least I, expected her to be very knowledgeable on the subject and experienced in this teaching style, so that she would act as a facilitator on the discussion and keep it moving forward. Maybe we both overestimated each others capacities."

"[The teacher as] a coach! Or like a mentor. Somebody, who is facilitating the discussion but putting the words and the questions there, so that the students can come up with the solutions themselves. (...) [T]his form of teaching actually places a lot of demand on teachers. It requires a very high standard of teachers."

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**S1:** The teacher as a coach! Or like a mentor. Somebody, who is facilitating the discussion but putting the words and the questions there, so that the students can come up with the solutions themselves. I link this to what has been said before. Or at least it is coming back to me now. I think it is called the socratic method. Where you have an individual just probing you, provoking you in a discussion or dialogue, until you come up with the answers yourself.

**S1:**: Not so much selecting topic I feel. I think it should be up to the teacher to decide the topics. But, the topic is the framework of the discussion and within the framework you should be allowed to discuss, but not to change the framework. So, again, semi-open-ended, if that makes any sense. (...) this form of teaching actually places a lot of demand on teachers. It requires a very high standard of teachers.

**S1:**: The benefit of students selecting topics? I think there would be a delay in the lecture, so would they decide beforehand or during the lecture? What topics should it be? Would you have to vote? Would you have to be democratic? Because it takes a long time, if you want to be democratic about it. That is the thing with democracy. It takes a lot of time. So I feel that a student coordinator should set the topics beforehand and please read up on it and have your questions ready. No, basically, no I don’t think the students have too much to say when it comes to deciding on the topic.

**S1:**: Ok, that is that some lectures were lacking the framework that I was talking about, because, basically, one of the lectures, I won’t mention any names, but there was a topic, but then the teacher said, ok you can chose between five sub-topics in this topic or you can do whatever you want. And then people would just do some bullshit, because its you know. That was not facilitating any discussion or did not create a good dialogue. (...) I think in general people were quite unhappy with that form of lecture. I think here the teacher expected us to facilitate the discussion by ourselves and we, at least I, expected her to be very knowledgeable on the subject and experienced in this teaching style, so that she would act as a facilitator on the discussion and keep it moving forward. Maybe we both overestimated each others capacities. It is this experience that is the foundation for my earlier statement that high, maybe even extraordinary, demands are placed on the teacher (and the students) in order for this type of teaching to be successful. Should you expect that from Masters students? Yes, maybe, but if the threshold for passing a lecture is continually low, people will sooner or later disengage from the lecture mentally if they find the discussion or teaching lacking.

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**S2:** I mean, based on the course evaluations we have done and, for example, for the class in spring, the teacher had tried to make changes based on people’s views on the first one, I guess, and let students have more impact on what lectures we should have.

**S2:** I mean, based on the course evaluations we have done and, for example, for the class in spring, the teacher had tried to make changes based on people’s views on the first one, I guess, and let students have more impact on what lectures we should have. So, I think, that was a direct example of if the students say how they think enough times, the lecturer will and should act on it, because it is a bad thing, if all the students think your course is not really working for them. So, I mean, I hope and it seems like they really wanted us to evaluate the courses, because they are trying to coordinate that.
"I think it depends on the course and what should be covered. I mean in the syllabus you have all your learning objectives and I guess if you have a course where it says the students should do this, and this, and this and learn this, and this, and this, sometimes that might limit you a lot."

"I mean, also if you think about how science and research develops all the time you shouldn’t be so locked in one setting. So, I think, it is still depending on the course and the content of that course. Like what you want you to go through. And then, I think it is a good thing if students can be more engaged in choosing what they should discuss in class. (...) I think it is definitely a must for a Masters degree, because that is where you should also be able to some extent, doing your degree, to make your own choices and really specify your little area within what you are studying, because that is what you think is very interesting. And that can also be done through forming the courses to some extend."

"I think that is one of the main benefits. The feeling the students get when they are more involved in the course than just be there and listening and discussing. That is a really good thing for the whole course and for the students and for the teacher and for the whole program as well."

"I think for a lecturer or coordinator sometimes it is difficult to acknowledge the fact that your students are not agreeing with how you are conducting the course. And, I mean, that really can be very conflicting in the sense like: should I act on this, because that would improve the course according to the students or should you just stick with your old plan, because you have done it before and you know that it is a good thing."

S2: I think it depends on the course and what should be covered. I mean in the syllabus you have all your learning objectives and I guess if you have a course where it says the students should do this, and this, and this and learn this, and this, and this, sometimes that might limit you a lot. You only have 10 lectures and you have to cover these things during that time and it is basically impossible to change something unless you change the syllabus. But at the same time I would say that is a problem they should solve, because, I mean, also if you think about how science and research develops all the time you shouldn’t be so locked in one setting. So, I think, it is still depending on the course and the content of that course. Like what you want you to go through. And then, I think it is a good thing if students can be more engaged in choosing what they should discuss in class.

S2: I think it is definitely a must for a Masters degree, because that is where you should also be able to some extend, doing your degree, to make your own choices and really specify your little area within what you are studying, because that is what you think is very interesting. And that can also be done through forming the courses to some extend. The benefits would be, that it is a positive feeling when you are able to be a part of something. And depending on the students you have, they will agree on something. On a specific thing to cover as well. And so for you it can always be something new that you haven’t really had thought of.

S2: I think that is one of the main benefits. The feeling the students get when they are more involved in the course than just be there and listening and discussing. That is a really good thing for the whole course and for the students and for the teacher and for the whole program as well, if it is more integrated into the courses that some part is influenced by the students. I mean, it also creates this kind of surprise factor, I guess. So, even as a lecturer, and you know you have things that you have to cover, you know that there is one spot you keep open. And depending on the students you have, they will agree on something. On a specific thing to cover as well. And so for you it can always be something new that you haven’t really had thought of.

S2: I think for a lecturer or coordinator sometimes it is difficult to acknowledge the fact that your students are not agreeing with how you are conducting the course. And, I mean, that really can be very conflicting in the sense like: should I act on this, because that would improve the course according to the students or should you just stick with your old plan, because you have done it before and you know that it is a good thing. And it can also have an impact on her own view of her as a teacher and coordinator. Like: ok, am I a bad teacher, because the students are disagreeing with how I am doing this course. And depending on the students you have, they will agree on something. On a specific thing to cover as well. And so for you it can always be something new that you haven’t really had thought of.

S3: I think some teachers are really open for it and they are adapting their lectures to the topics that are brought up by the students. But, at the same time, some of them are really narrow. You could see that this was not the question they want us to ask. But I think in general they are kind of open.

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S3: One of the problems would be the fact that we have the evaluations in the end. And then we are allowed to say like: this should not have been in the course. You could do this. And, of course, we won’t get any benefit from that. That would maybe be the next year’s students. And then they won’t have the same picture as we or the experience as we do. So, if they
“One of the problems would be the fact that we have the evaluations in the end. And then we are allowed to say like: this should not have been in the course. You could do this. And, of course, we won’t get any benefit from that. That would maybe be the next year’s students. And then they won’t have the same picture as we or the experience as we do. So, if they really want the students to get engaged and into the planning of the lectures, they should post some information before the course starts and ask: what would you like us to talk about.”

If it is openly structured it has to be communicated, “Because if the students think that this will be a regular course and that we are supposed to get information from the teacher and then we are supposed to do something out of that, then that would create a clash.”

**Me:** And when it comes to the selection of topics, what role should students play, when it comes to the selection and treatment of contents in class?

**S1:** Not too big. Like, a course is taught for a reason. There needs to be room for discussion, but the topic, like the spine of the discussion should be set beforehand.

“For students to have an impact on knowledge creation in class, first the entire group would need a common set of background knowledge, which means that everybody has read up on the literature for example. Everybody.(…) Then everybody needs to be confident in English and in speaking up, so that their knowledge is shared with the rest of the group. This also requires everybody to actually want to participate – people showing up unengaged or unprepared, like I believe everybody in my class did at some point, risks dragging the discussion down.”

“There was often a lack of willingness to discuss or engage in debate, and when debates did take place it was on very shallow subjects like “humans versus animals, which do you like best”. In general, we had a lot of interesting discussion in my class but they happened outside of the classroom.”

**S1:** Because you want to feel that you walk away from the lecture with a net benefit of knowledge. And sometimes I felt that you just walked away with a nice feeling, but not so much new knowledge. So, it would also need students who also always have something to bring to the table. It would need kind of a focus group, the whole class would need to be a focus group. So it places also a lot of demand on students. You could almost say that you would need a background check on everybody, so you know that they have something to bring.

**S3:** Maybe one thing is that they come from a lot of different academic areas, meaning that they have a lot of different approaches. So, I don’t know if it is even possible, because it is such an interdisciplinary program, if it is possible to get them more cohesive on what ideas and what the program should promote. Because we have gotten so many different descriptions of sustainable development and people have different ideas. And maybe, I don’t know if it would make any difference if all the different courses coordinated more, because I think they are coordinating that somehow, but I don’t really know how.

**S3:** Because if the students think that this will be a regular course and that we are supposed to get information from the teacher and then we are supposed to do something out of that, then that would create a clash. Because if the intention is that we will create the content, that we will be the driving force.

**Code: “Role of students”**

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class but they happened outside of the classroom. I think it’s very hard to facilitate that genuine, driven, enlightening debate in a classroom. My experience is that they almost always come spontaneously.

S2: “It feels like they all strive for more activity with the students.”

“[N]ormally in class I am not really talkative and I am usually just listening to people and form my own views in my head and when I really have to I will say something. But normally I just keep it to myself.”

“I think for their [the teachers] sake it is good really good as well to just be open and really trying to communicate and discuss with the students, because I think it helps them as well.”

“I felt at least if enough students were expressing that they wanted something to be change, I think and thought, they did that. They would try and do something about it.”

“[T]o some degree it is really good if the students can be a part of that (…) I think during university, that is the time where you should be able to have some kind of impact on the content.”

“[I]f you want to really act on stuff and really be a change agent within your program (…), [y]ou will [need] be able to gather people.”

“I know that for the second course, we had this meeting where you could come with suggestions and bring up your ideas.”

S2: I would would say that, at least for me, when we had the lectures, I don’t know if it is just because you are older in the Masters or it is just how it is, but people tended to ask less questions during the lectures. So, if we had someone just doing a normal power point lecture or something, we wouldn’t have that much discussion afterwards. The teacher wouldn’t ask that many questions to the students While, I think during the Masters, more lecturers have done that. It feels like they all strive for more activity with the students. So, I guess, more interaction on this level.

S2: I mean, normally in class I am not really talkative and I am usually just listening to people and form my own views in my head and when I really have to I will say something. But normally I just keep it to myself. (…) So, I think for their [the teachers] sake it is good really good as well to just be open and really trying to communicate and discuss with the students, because I think it helps them as well.

S2: So, I mean, for the program and the common student satisfaction, I think, it is really important for them to take those relations seriously. And my impression was that they are doing that as well. I mean, even though it is sometimes difficult to change things, because you might have a teacher, who is not really into changing the course, because they think it is so good. And sometimes it is difficult between the two universities. The might have different views on how much you could change during one year and so on. But I felt at least if enough students were expressing that they wanted something to be change, I think and thought, they did that. They would try and do something about it.

S2: I think it depends also on how willing the teacher is to open up for something the students want to know about. But, I think, to some degree it is really good if the students can be a part of that (…) I think during university, that is the time where you should be able to have some kind of impact on the content.

S2: And I think some of those qualities are good if you want to really act on stuff and really be a change agent within your program. You will be able to gather people like: lets do this! Or what can we try to do to make this teacher improve this or that part? And, I mean, you as an individual, you don’t have to like the way how some people act, because that depends on what kind of leadership style you prefer as an individual. Because there are lots of different ones. Some really like to be inclusive and make their co-workers feel welcome, while others, I guess, have more of an authoritative style, like: we are doing this and I am giving you all these tasks. So, I guess that depends on what your own preference is. But, I guess, some of the qualities that people see as a good thing in a leader would also be a good thing for students wanting to make a real change.
S3: "The CEMUS courses are really different and especially [one course] course, as we were able to really have an impact on what the course should include, but I don’t know if that was an effect of the fact that a lot of people were kind of unsatisfied after the first course. But I think it is really nice to have a little bit of both, because then it keeps people interested."

I think the class of the program is really nice. It opens up my perspectives and I think the fellow students teach me more than maybe the program in itself."

"I think one thing that is really lacking in our program, I took a course last semester in [redacted] and I think that is a huge part of what we are supposed to do. Facilitating. Because they are talking about that we should be facilitators. (...) More hands on how to create discussions in a group and how to be the person who is in charge and how to direct discussions in a good way. Because, if I remember it right, someone described what we are supposed to do said that we are supposed to be facilitators and bridges between."

"I didn’t really have an issue with the course, but, of course, if people are having a negotiation idea about it, that will affect me as well."

"I think teacher often recognize that students are able to teach them something. If someone says something, the teacher is not afraid to say: oh, I didn’t know that. (...) But that is also part of it, when we are on Masters level. We have some kind of knowledge. Even though it doesn’t feel like like always, we have knowledge and we are somehow more equal to teachers and that could be an answer."