The Whole-Institution Approach at the University of Tübingen: Sustainable Development Set in Practice

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Abstract: In the following paper, we scrutinize understandings and values behind Sustainable Development (SD) in a case study of the University of Tübingen, Germany. In so doing, we adopt the perspective of the whole-institution approach of SD. We do not only analyze documents, but combine our investigations with empirical research on key actors’ understandings and values of SD, as well as the competencies and the knowledge to set SD in practice. First, we demonstrate that actors’ understandings and the values behind them at the University of Tübingen are in accord with the United Nations’ understanding of SD (‘Brundtland Report’). Second, we show that at the University of Tübingen, many actors already work in line with the whole-institution approach; this shall be further fostered and strengthened by the Competence Centre for SD. Finally, we demonstrate that both knowledge and competencies are fundamental to act for SD. It is suggested that the University of Tübingen should explicitly adopt the general understanding of SD in the above-mentioned sense, and develop a sustainability strategy, not least in order to support the actors to acquire specific knowledge to reach SD for the whole university. Finally, we discuss the potential and limits of transferring the findings to other Higher Education Institutions (HEI) and the challenges of necessary global perspectives.

Keywords: whole-institution approach; sustainable development; higher education institutions; competencies; knowledge; values; case study

1. Introduction: Topic and Structure of the Article

“Why should I be studying for a future that soon may be no more, when no one is doing anything to save that future?”

(Greta Thunberg, climate activist) [1]

Already in 2009, the German University Presidents’ Conference (HRK) decided to implement Sustainable Development (SD) in the fields of research and knowledge transfer, education and teaching and the institution, and to foster Education for SD [2] (p. III). In the same year, mainly initiated by a student initiative, measures for establishing SD at the University of Tübingen, Germany were initiated, e.g., a study program for SD and preparations for an EMAS-certificate (European Management and Audit Scheme). In 2013, the University set up activities aiming at establishing a Competence Centre for Sustainable Development. From its outset, the Competence Centre’s main goal is to address SD in a whole-institution approach (see Section 2.2).

The Competence Centre organizes and realizes a wide range of activities across the university, such as network meetings with university staff, and students interested in and working on topics of SD.
The Competence Centre’s staff regularly evaluates these activities. Therefore, we, as members of the Centre, already experienced that members of the University of Tübingen have different understandings of what SD is, as well as of how exactly it should be implemented. The Competence Centre is a network node which enables actors to act for SD and, therefore, needs to know the actors’ different expectations and needs. Only then will the Centre be able to provide them with the various resources adapted to their needs. Since the different understandings of SD, as well as the knowledge and the competencies of actors at the University of Tübingen differ, it is obviously difficult to plan and implement further activities in the field of SD for the Centre.

Hence, as a reaction to this situation, we have started the research project “SD@UT” which pursued the following research questions:

1. What is the understanding of SD of actors, who are involved in different fields of SD at the University of Tübingen?
2. How and where shall SD be implemented at the University of Tübingen?
3. What kind of knowledge and which competencies do actors need to implement SD in the areas of operations, research, governance, transfer, teaching and education, and sustainability reporting?

In the following, we will present the findings of this research project, structured as follows: First, we will briefly introduce different understandings of SD typically found in the scientific discourse. We will then outline the concept of the whole-institution approach and link it to the German research project HOCH-N, which identifies governance, sustainability reporting, teaching and education, research, operations, and transfer as relevant fields of a Higher Education Institution (HEI) [3]. Thereby, we also consider the Competence Centre’s role at the University of Tübingen, its goals as well as its past and future work endeavors.

In the second step, we dive into the Competence Centre’s research project that we have briefly introduced above, by considering its starting point.

In the final section, we will discuss options and opportunities to transfer our research results to other (inter)national universities. We will also discuss the need to integrate perspectives of the Global South into these conceptions and explain further research possibilities and needs.

2. State of the Art

In this chapter, we first present several levels and understandings of SD, followed by an overview of the whole-institution approach, as well as the research project HOCH-N’s fields of actions [3]. Both form a basis for the Competence Centre’s whole-institution approach, which we present in the final part of this chapter.

2.1. Understandings of Sustainable Development

The idea and concept of SD is present in different contexts and on several levels [4] (p. 27). We distinguished four levels and categories, which are, however, only a first classification. These are (i) the political level, (ii) the philosophical level as well as (iii) the personal level. Additionally, there are (iv) models, concepts, and guidelines. We do not want the reader of this paper to understand them separately from each other or to think that they are always redundant, since they smoothly merge into each other. In particular, the boundaries between models, concepts, and guidelines are fluid.

On the political level, the Brundtland Report [5], which was published after four years of work by the World Commission on Environment and Development (WCED), defined SD for the first time in UN history. According to this report, SD “meets the needs of the present without compromising the ability of future generations to meet their own needs” [5] (p. 16). Another important political event was the UN Conference on Environment and Development in 1992, which is known as the Earth Summit [6]. It aimed at setting the course for a worldwide SD while taking into account the dependency of human beings on their environment. For this reason, one core element of the Brundtland Report was elaborated: Since SD has to happen within the frame of finite natural resources, the UN brought together environmental and
development issues and politics. Out of this idea, finally the eight Millennium Development Goals (MDGs) [7] were born and adopted in 2000 during the Millennium Summit, and then replaced by the Sustainable Development Goals (SDGs) [8] in 2015.

The philosophical level of SD is connected to the justice-based idea of “the good life”, which goes back to the ethics of Aristotle. He argued for the aim of all humans to strive for eudaimonia—happiness or well-being—which requires a good character and, therefore, a sense of responsibility. The philosopher, Hans Jonas, took Aristotle’s Eudaimonia, as well as Immanuel Kant’s categorical imperative, as basis for his ecological imperative: “Act in a way that the effects of your action are compatible with the permanence of real human life on earth!” [9] (p. 36, translated by the authors). These ideas, together with John Rawls’ institutional theory of justice [10], surely influenced the Brundtland Report, which deals with inter- and intragenerational justice—the “good life” for everyone at any time.

The personal level is another crucial aspect of SD. However, even though politics often emphasize the importance of people’s individual contribution to efforts such as the energy transformation, which shall contribute to SD, the personal level of SD is not yet highlighted in science. Parodi and Tamm state that “one half of the sustainability universe is still mainly unrecognized and unexplored” [11] (p. 1). In times like ours, when pupils demonstrate for their and the world’s future, it seems crucial not to forget this dimension of SD, and what an individual can and wants to contribute, as well as how this individual is involved emotionally, culturally or psychologically. Our questionnaires’ results demonstrate this level’s importance as well (see Section 4.2).

One, albeit inappropriate, model of SD, which is probably best known in German-speaking contexts, is the three-pillar model. According to this model, the economic, environmental, and social domains constitute three equal pillars, which carry the roof of sustainability [12] (p. 13). As mentioned above, models of SD are closely interrelated to concepts and guidelines of SD. These include, for instance, Kopfmüller et al. [13], who developed an integrative concept of SD including its elements, rules, and indicators; Ott & Döring [14], who discussed the concept of a “Strong Sustainability”; Grunwald [15] on the comparison of these concepts; and Ott [16] who strove for embedding the, also in his view, inadequate three-pillar concept of SD into guidelines of Strong Sustainability. Mainly, all of the authors mentioned above, relate their concepts and guidelines to the three-pillar model of SD to improve it further or give it a suitable framework. Nevertheless, we join in the critics of this model with our own critique (see Section 4.2.1).

We point out that the understandings of SD on the different levels can vary within a certain domain. Many actors share some of these understandings; others exist only on an individual level and contradict the well-known ones. Additionally, scholars are divided considering these different meanings. The philosophical level, for instance, has a normative understanding, whereas models are developed to depict something soberly, to make it visible and easy to understand. These multiple understandings build the crucial backdrop against which our research project “SD@UT” (see Section 3) has been conducted. Taking the general inter- and intragenerational justice basis seriously, there are still different understandings and justification levels of SD.

2.2. Understandings of SD of Stakeholders at HEIs

As shown above, there are differing understandings and conceptions of SD in the scientific discourse. When we now focus on a certain group of actors, the question arises, in how far these conceptions are reflected within these groups and which aspects of SD are relevant. There are some international studies asking these questions and concentrating on SD understandings of actors at HEIs [17–23]. Unfortunately, such studies are hard to find in the landscape of German HEIs, and moreover, “there is a shortage of research approaching how faculty and staff perceive their role in relation to sustainability” [22] (p. 46). Almost all of these studies set their focus, more or less, on academic staff or even on teaching staff only. Rarely, other university members, e.g., facilities management directors [20] or university presidents [19] are being interviewed. Almost all of the studies hitherto have been conducted in the context of Education for SD and, therefore, it “is crucial that university
faculty and staff have the necessary conditions and competences to provide key SD skills to the students” [22] (p. 46). Some of these studies also have a focus on evaluation, as they scrutinize the effects of measures (e.g., trainings and workshops) to implement and teach SD within the academic staff [18,21,23].

However, there are similar findings in these different research approaches. In general, one clear definition of SD does not exist amongst staff members [17] (p. 121), [22] (p. 53). Nevertheless, almost all actors refer to (natural/ecological/environmental) resources and some to (inter- and intragenerational) justice when asked for the meaning(s) of SD [17] (p. 116f.), [18] (p. 229), [19,20] (p. 119f.), [22] (p. 50f.). When first measures of implementing SD at the HEI took place, more reflective aspects, e.g., the values and norms behind SD, are present [21] (p. 34). Consequently, without those measures, some actors have a more superficial understanding of SD, “to keep the concept at a distance and avoid engagement with it” [17] (p. 116).

As we will illustrate later (see Section 3.2.), our study has another approach. It examines understandings of SD within the whole of the university and not only amongst lecturers or teaching staff, due to following the idea of the whole-institution approach.

2.3. The Whole-Institution Approach and HOCH-N’s Fields of Action

As indicated above, different and complex understandings of SD exist. This complexity is particularly increasing when it comes to applying SD in concrete measures, e.g., in organizations or institutions, as such institutions can themselves already act as societies on a micro-level. At the same time, according to Sibbel, “it is essential to acknowledge the individual as a part of many social and cultural groups, so this calls for a whole systems approach” [24] (p. 74) to reach a sustainable society. This whole systems approach combines insights from theories of organizational change as well as living systems theory [25] (p. 202ff.). The idea of organic institutions and structures, of structures facing radical changes while at the same time being highly connected with their surroundings (such as other societal or political actors), is easy to apply to institutions facing SD. This is particularly the case compared to concepts focusing on top-down structures.

Consequently, in 2014, the UNESCO proposed that whole-institution approaches are a method to foster sustainability in learning contexts, because all aspects of the context come in focus and sustainability is implied in all of them [26] (p. 30). The idea of a holistic view on SD in certain institutions is highly linked to Education for SD, which is why this approach is often applied to schools, thereby referred to as a “whole-school approach” [26–28]. The process of teaching pupils SD is detached from strict lessons at school and broadened to the school as a whole institution. Therefore, it includes areas such as operations and governance.

In this conception, HEIs function primarily as a place where the educators are educated. A more specialized conception is the “whole-of-university approach” [29]. In transferring the whole-school approach to HEIs, the idea is, again, that a HEI in all its areas has to participate in applying SD. This idea takes into account that the sole education of SD in lectures and seminars is not enough. In contrast to school institutions, the whole-of-university approach adds research as another dimension and stresses the possible links between the different areas: “A whole-of-university approach, however, recognizes that all functions of the institution can benefit from sharing knowledge and that each influences the student learning experience” [29] (p. 57). Notwithstanding, the quote also illustrates some shortcomings in this approach, as the focus point rests on students and their learning of SD.

Authors taking into account the whole-institution approach at the university level equally put their focus on Education for SD (e.g., [30,31]). Our findings are supported by Lozano et al. (2015), who noted a clear focus on topics of education in the scientific literature on “sustainable universities” [32] (p. 4). The same study revealed that members of universities refer to campus operations when asked for SD implementation [32] (p. 9–10). Considering the fact that these respondents know the structures of HEIs, stresses the importance of widening the perspective beyond Education of SD. Therefore, “[f]uture research could explore in more detail differences between stakeholder groups in HEIs (i.e., students, teaching and non-teaching staff, and relevant external groups)” [31] (p. 763).
Consequently, the research project HOCH-N follows a different understanding of the whole-institution approach. The research network, which consists of different partner universities in Germany, identified six fields of action where SD can and has to be realized in HEIs. These are sustainability reporting, governance, teaching and education, research, operations, and transfer. These fields of action are highly interconnected and sometimes overlap. Therefore, actors in each field can provide relevant knowledge, experiences, and competencies, and at the same time, profit from relevant knowledge, experiences and competencies of actors from the other fields. For this reason, the focus lies not only on educating students in SD, but on addressing all members of the university as key actors for SD at HEIs. However, implementing a whole-institution approach with its demands of interconnection and holistic outlook is difficult to achieve in practice, even within universities that can be seen as forerunners of implementing SD at HEIs [33] (p. 94). Notwithstanding first trials of pursuing the goal of a sustainable HEI on the systems level via the whole-institution approach [34], there is still a lack of accompanying research studies on preconditions, challenges and outcomes. In our case, at the University of Tübingen, the Competence Centre is working on an implementation of the whole-institution approach and, therefore, has a central role in establishing and fostering this whole-institution approach within the university. We will illustrate the structure and activities of the Competence Centre in the following chapter.

2.4. Knowledge and Competencies to Implement SD at HEIs

When it comes to knowledge resources, which are necessary to implement SD, the Conference of the Swiss Scientific Academies (CASS) [35] refers to the three forms of (i) system knowledge, (ii) target knowledge, and (iii) transformation knowledge. Knowledge on the current situation is referred to as system knowledge. Target knowledge provides information on the condition, which is to be achieved or prevented. Finally, the understanding of transformation knowledge refers to knowledge stocks that indicate the path to the goal [35] (p. 15). Of course, these forms of knowledge are mutually dependent upon another and, at times, are not clearly distinguishable. However, it is obvious that they indicate a possible pathway from the (undesirable) present to the (desirable) future.

With information on the unsatisfying current situation, on how this situation should be, and on how one could reach the goal, system and target knowledge alone will not change the status quo. This is why another resource necessary to act for SD are action-related competencies. We understand “competencies” as “dispositions which individuals need in this environment for acting and self-organisation in various complex contexts and situations” [36] (p. 129). Accordingly, competencies for SD are competencies which individuals need to, for instance, implement measures to foster SD [37] (p. 205). In order to move from knowledge to application, the actors need competencies to transfer this knowledge into practical actions. In the field of Education for SD, de Haan identifies twelve different competencies and summarizes them under the general term of “‘Gestaltungskompetenz’, or ‘shaping competence’, [which] means the specific capacity to act and solve problems” [38] (p. 22). De Haan is one of the main contributors to discourse around Education for SD [39]. However, his approach focuses almost exclusively on the function of HEIs as ‘educating the educators’. He does not consider tasks, such as research for SD, which are crucial to HEIs as well.

Authors who also address competencies, but focus on students and (university) courses are Wiek et al. [37], Rieckmann [36], and Lozano et al. [40]. However, with their distinctive perspective, they all remain in the field of Education for SD, even though Wiek et al., as well as Rieckmann, go beyond the ‘shaping competence’, and Lozano et al. bring together competencies and pedagogical methods. Since HEIs do not solely focus on Education for SD, but do conduct research, follow administrative tasks, and disseminate research results into society—just to name a few of their different tasks—university staff working in these areas might need other competencies than those needed in the field of Education for SD. Rieckmann mentions SD challenges for HEIs which concern all their fields of action [36] (p. 129), but does not link his findings to competencies actors would need to solve these problems.
Consequently, HEIs have additional obligations, when it comes to knowledge on and competencies for SD. According to the CASS [35] (p. 21), science is often seen as the ‘authority’ that is supposed to compile these, the above-mentioned knowledge stocks, and to communicate them into society. Furthermore, it is research for SD that should provide the competencies to engage in implementing SD [41] (p. 2). However, two points are neglected in this analysis. First, this understanding clashes with the transdisciplinary understanding of research for SD [42]. We emphasize that the creation and accumulation of knowledge, as well as the teaching of competencies, are not tasks of science alone. Non-university actors, who represent different societal needs and behalves, are important influencers and shapers of such stocks of knowledge and competencies as well. Since we do not perceive the communication of knowledge and competencies for SD as a purely top-down process, it is crucial to equally engage these actors. Second, science—which, in our case, is represented by the University of Tübingen as HEI—is never isolated from society. All members of a university are citizens as well, who are in direct contact and exchange with their societal environment. Additionally, there is a constant fluctuation of knowledge between science and society, e.g., in the form of scientific reports or discussions.

For this reason, universities have to take their role seriously. They are not only providers for certified knowledge, but also key actors in society. They have to be aware of their political and societal relevance and, therefore, have to act as role models and pioneers on behalf of SD. As much as “knowledge of people involved and their needs and interests at stake have to be taken into account . . . ] sustainable development is a socio-political model for societal changes” [42] (p. 120). Thus, we wanted to understand what kind of knowledge, skills, and competencies are present and especially needed amongst key actors for SD at the University of Tübingen. Additionally, it is crucial to reveal the university’s members further expectations and needs. Only if we know them we are able to plan and conceptualize future activities of the Competence Centre in cooperation with other actors of the university. For this reason, we conducted interviews in order to get insights into the university’s different fields of action. Hence, we now turn the tables and want to know which knowledge and skills are needed to act for SD in the frame of a university.

3. The Tübingen Case: The Competence Centre and its Research Project

3.1. One University, One Centre, Many Activities and Partners—The Competence Center for Sustainable Development

In 2013, the Ministry of Science, Research and the Arts of the State of Baden-Württemberg decided to fund the concept development and installation of a Competence Centre for Sustainable Development at the University of Tübingen as part of a program “Science for Sustainable Development”. The Competence Centre is associated with the International Centre for Ethics in the Sciences and Humanities (IZEW) as one major player for SD, and its main tasks are to bring together all activities in the field of SD at the University of Tübingen, as well as to integrate Education for SD into teaching activities of all curricula. The above-mentioned whole-institution approach (see Section 2.3) provided the starting point for creating the Competence Centre, which addresses researchers, teachers, employees, students, and governance structures at the same time (see Figure 1). The major aim is to combine different actions and measures, which all members of the university carry out and/or implement at all university levels. Additionally, the Competence Centre is the core of an overarching network—not only in the University of Tübingen but also beyond. This approach is based on the idea that a university has a societal responsibility and serves as a role model and blueprint for other societal actors and stakeholders. For this reason, practitioners, for instance from NGOs, are sometimes cooperating in the Centre’s activities. Transdisciplinary approaches are fostered but they are still in their early stages. To strengthen its SD networking activities in the university and beyond, the Competence Centre organizes regular network meetings and provides funding for small SD projects, which are initiated and realized by students.
The establishment of the Competence Centre is a result of various bottom-up efforts at the University of Tübingen, especially by student initiatives as well as researchers and teachers [43] (p. 210). The efforts and claims of the student initiative “Greening the University e.V.” led to the installation of the Board for Sustainable Development [44] in 2010. The Board’s work is now coordinated by the Competence Centre. The Board for SD is the main consultant of the president’s office of the University of Tübingen concerning all questions on SD. Furthermore, the student initiative’s efforts gave way to implementing the EMAS audit at the university in 2011 [45]. The University’s Environment and Energy Management section, which is in close contact to the Competence Centre, is responsible for the regularly conducted EMAS audits.

Today, the Competence Centre is active in every field of the University of Tübingen and cooperates with many members of the university. The Centre uses its position to create awareness for topics of SD—within the university as well as for the broader public. The Centre’s employees organize public events such as sustainability slams, clothes-trading events or vernissages, as well as workshops for pupils to transfer ideas of and awareness for SD to practical action. Since students and young scientists are driving forces for change and take things into their own hands [46] (p. 6), the Competence Centre aims at enabling students to take over responsibility, to empower themselves, and to foster SD according to their own interests. For this reason, the Centre mentors students who are planning SD projects or want to write their thesis in a field of SD. However, the most important point in this field are the SD network meetings (“nachhaltig@UniTübingen” [47]) for all university members to create the room they need for developing new bottom-up ideas. One of the last meetings was organized in cooperation with the Competence Centre and the student representatives in the Board for SD [48].

In summary, the Competence Centre is the university’s network nexus point, which brings together people, knowledge, and competencies under the umbrella of SD. It provides contexts and structures to realize SD projects on all university levels and makes people’s ideas shine for a better future.

3.2. The Research Project “SD@UT”

Whether a HEI moves forward to implement measures which lead to SD depends on several conditions. On the one hand, one of those characteristics is its understanding of SD, which is the basis for all activities a HEI carries out in the frame of SD [49] (p. 322). For this reason, it may be considered as crucially important for a HEI to develop a common understanding of SD, if it is keen to contributing its part to a sustainable society. On the other hand, “it is impossible to come up with the right definition” [50], since so many actors and their various perspectives are involved in the discussion.
on working for SD in a large institution like a university. It shall be noted that apart from different details in understanding SD, there are also members of the university who would reject the immediate necessity of considerable transformations for SD in the first place.

This sensitive and controversial field is where the activities of the Competence Centre are located. From its starting point in 2013 until now, the Competence Centre has set up, experienced, and analyzed a broad range of different activities. It turned out that members of the University of Tübingen have different understandings of what SD is and of how exactly it should be implemented. Even though “Sustainable Development is not an externally defined goal, but an open searching process with heterogeneous target components” [51] (pp. 16–17, translated by the authors), it is obviously difficult to plan and implement further activities in the field of SD. This problematic situation led to the birth of the Competence Centre’s research project, “Sustainable Development at the University of Tübingen (SD@UT)”. With this project, we want to shed light on the following research questions already mentioned above:

1. What is the understanding of SD of Tübingen University’s actors who are involved in different fields of SD?
2. How and where shall SD be implemented at the University of Tübingen?
3. What kind of knowledge and which competencies do actors need to implement SD in the areas of operations, research, governance, transfer, teaching and education, and sustainability reporting?

3.3. Methods

Since our goal was to include as many actors and their perspectives, insights, and knowledge as possible, a research approach, which is based on a well-differentiated and balanced methodology is appropriate. According to Mikkelsen, “a wealth of information [is] hidden in a variety of sources” [52] (p. 87). For this reason, we based our methodology on three columns (see Figure 2). These are desktop research, questionnaires, and interviews.

![Figure 2. SD@UT—Research methodology and research questions.](image)

3.3.1. Desktop Research

One important part of the desktop research was a stakeholder analysis of the actors who are involved in topics of SD at the university, which we did at the beginning of the research project. Whether “stakeholder” is or should be a proper category for individuals of different groups at HEIs shall not be discussed here. We use it as a technical term in a generic sense of social science research, which, in this case, comprises persons active for SD at our university. We identified all members of the university who have already taken part in any activities of the Competence Centre or with whom the Centre has already cooperated. Additionally, we identified individuals who are involved in certain fields of action, for example, research or administration. However, it was also important to include
university members who work in overlapping fields, such as the University Library, science didactics, or the Foreign Language Centre. Finally, we equally set a focus on student groups who want to foster SD at the university. It was our goal to depict not only the HOCH-N fields of action in our work but equally to include ‘representatives’ for every SDG. With the help of the stakeholder analysis, we could identify university members whose opinions and experiences qualified them to be part of our questionnaire survey. Additionally, a broad literature research and content analysis of these documents supports and informs the discussions and topics revealed in this article.

3.3.2. Questionnaires

In April and May 2019, the Competence Centre identified 76 stakeholders in the field of SD at the University of Tübingen. Student initiatives, professionally active persons, and committed individuals, as well as political groups and representatives of committees were included. Then, the Competence Centre conducted a survey on the understandings and values of SD amongst this wide range of stakeholders. The questionnaire has been developed to obtain an insight on actors’ understandings of and values behind SD. For this reason, we framed two types of questions: First, we directly asked about understandings of and values behind SD. Second, we had the idea to ask, in an indirect way, about both of these issues to obtain even more information. We operationalized “values behind SD” through the reasons to act for SD and “understandings of SD” through activities for SD. In our last question, we additionally wanted to learn how we, as members of the Competence Centre, could support the stakeholders with our own further activities. We sent the questionnaire to 76 members of initiatives and university groups, including students, as well as university employees from the fields of research, teaching and education, sustainability reporting, transfer, governance, and operations, who are all working on SD issues. 30 questionnaires were completed and sent back to the Centre, which corresponds to a return rate of 39.5%. Hence, the Competence Centre is able to provide an overview of the actors’ understandings of SD and the values behind them. For the analysis of our data, we extracted the core statements of the questionnaires’ responses, clustered them, and assigned them to appropriate keywords. We present the results in Section 4.2.

3.3.3. Interviews

In August and September 2019, we conducted six open-guideline face-to-face interviews with representatives of all six HEI areas introduced by the project HOCH-N: sustainability reporting, governance, research, teaching and education, transfer, and operations. We chose our interview partners due to their professional tasks and their personal commitment, as well as their experiences in the field of SD. The interviews consisted of five open questions and gave much room for the interviewees’ own perspectives. They were all recorded and transcribed, and took around 10 to 30 min. Our guideline included questions on the importance and necessity of specific knowledge and competencies for SD for the interviewees themselves, other university stakeholders involved in actions for SD, as well as stakeholders who are not active in any area of SD.

We analyzed our data conducting a qualitative content analysis. Our analysis was summarized in categories which we supported by extracted quotes of our interviewees. With the help of our categories and the quotes, we were able to learn in detail about the interviewees’ perspectives on their own knowledge and competencies, as well as on knowledge and competencies they wished others to have, who (do not yet) act for SD. We present the interviews’ results in Section 4.3.

4. Results

In the following chapter, we first present the status quo of SD actions and institutionalization at the University of Tübingen. Second, we present the questionnaires’ findings and demonstrate how they are connected to the Brundtland understanding of SD. Finally, we explain which knowledge and competencies actors need, who are involved in fostering SD at the University of Tübingen, according to our interviewees.
However, before we do so, we present some results of the stakeholder analysis of the actors who are involved in topics of SD at the University of Tübingen.

4.1. Stakeholder Analysis: Actors Involved in Topics of Sustainable Development

Since the University of Tübingen is one of the eleven HEIs, which are involved in the research project HOCH-N and, at the same time, the Competence Centre is set up to implement SD in all parts of the university—striving for a whole-institution approach—we analyzed the measures, which many stakeholders take at the University of Tübingen, to foster SD. Then, we closely considered future potentials in each field of action for the realization of SD at the University of Tübingen.

An analysis of all the fields of action and activities, which stakeholders carry out on behalf of SD at the University of Tübingen, is a challenge in itself and necessarily demands an own research project. For this reason, our analysis is not exhausted and only represents exemplary activities. Table 1 lists some results of our analysis.

Table 1. SD activities at the University of Tübingen.

<table>
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<tr>
<th>Field of Action</th>
<th>Exemplary Activities Carried Out at the University of Tübingen</th>
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<td></td>
<td>2. Institute of Evolution and Ecology: main topics: climate change, invasive species, land use and species diversity et al. [54].</td>
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<td></td>
<td>3. Collaborative Research Centre SFB 923: “Bedrohte Ordnungen” [55].</td>
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<tr>
<td>Teaching and Education</td>
<td>1. ESD certificate program “Studium Oecologicum” [56].</td>
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<td></td>
<td>2. Courses for students of Environmental Biotechnology: “Sustainable Environmental Biotechnology Systems” [57].</td>
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<tr>
<td></td>
<td>3. Series of lectures “Gender Justice in Muslim-Christian Readings” [58].</td>
</tr>
<tr>
<td>Operations</td>
<td>1. Several rewards as “Recycling paper friendly HEI” [59].</td>
</tr>
<tr>
<td></td>
<td>2. University members who come to work by e-bike can charge them for free [60].</td>
</tr>
<tr>
<td></td>
<td>3. The university is using 100% eco-electricity [61].</td>
</tr>
<tr>
<td>Governance</td>
<td>1. The Advisory Board for Sustainable Development [62].</td>
</tr>
<tr>
<td></td>
<td>2. Representatives of the student body in the Advisory Board for SD [63].</td>
</tr>
<tr>
<td>Sustainability reporting</td>
<td>1. The University of Tübingen is certified and managed according to the EMAS standards since 2011 [64].</td>
</tr>
<tr>
<td></td>
<td>2. The Competence Centre has, together with 11 other German universities, applied a beta version of the HS-DNK [65].</td>
</tr>
<tr>
<td></td>
<td>3. Every year, the university’s environmental manager publishes the environmental declaration [66].</td>
</tr>
<tr>
<td>Transfer</td>
<td>1. The university is a member of the “Action alliance for a low-waste Tübingen” and supports the ReCup system [67].</td>
</tr>
<tr>
<td></td>
<td>2. The student initiative “Papierpilz” recycles single-sided printed paper [68].</td>
</tr>
<tr>
<td></td>
<td>3. The Faculty of Humanities has university branches in Kyoto, Seoul, and Peking [69].</td>
</tr>
<tr>
<td></td>
<td>4. Sustainability Lecture and Sustainability Award for Bachelor and Master thesis [70,71].</td>
</tr>
</tbody>
</table>

In summary, different measures to realize SD on the different levels of the university are set in practice. Some are already institutionalized to a high degree (e.g., the university’s EMAS certification
or the Advisory Board for SD) others are project-based activities (e.g., GLOBUS), which will come to an end. All in all, we found that many activities are carried out due to the personal commitment of individual university members. However, to successfully anchor SD on all levels of the university, this commitment has to spill over and every stakeholder of the university has to be committed to SD.

According to Niedlich et al. [72] (p. 3), a HEI needs to change its institutional culture if SD shall be put in practice because SD affects the whole HEI as an organization. They identified four categories of organizational culture as key areas for SD governance at a HEI. We emphasize the fourth, highlighting the importance of a “holistic governance covering all core areas of higher education institutions—teaching, research, operations and outreach” [72] (p. 4). With our findings, we are able to support this argument since it is crucially important for a HEI that the goal to realize SD at the whole university level is commonly pursued bottom-up and top-down.

4.2. The Understanding of Sustainable Development at the University of Tübingen, the Values Behind it, and the Interconnection to the Brundtland Report

4.2.1. Understandings of Sustainable Development at the University of Tübingen

As mentioned above, the Competence Centre has assembled the first university-wide understandings of SD according to the questionnaires’ results. Of course, this understanding needs to be reworked and discussed continuously, since foci could change and perspectives are renewed due to new stakeholders, who will join the area of SD at the university. In its mission statement, the University of Tübingen affirms the “maxim of sustainable development” and “regards sustainability as an integral part of research and teaching” [73] (translated by the authors). Provided with this framework, it is essential for all members of the university to understand what SD means.

The Competence Centre’s understanding of SD is based on the Brundtland Report of 1987, which also was mentioned several times in the questionnaires. For this reason, we will use it as the core meaning. As outlined above, SD means a development, which “meets the needs of the present without compromising the ability of future generations to meet their own needs” [5] (p. 16). At the same time, this development has to and can only happen within the scope of limited technical possibilities and finite natural resources [5]. The three-pillar model of SD is very common and well-known (see Section 2.1), and reasonably criticized by many scholars [13,16,74,75]. As well, in our perspective, it is not suitable for several reasons: (i) It does not depict the complexity of the SD understanding mentioned above, (ii) it ignores exactly those interdependencies between the three pillars of economy, ecology, and society, causing most of the problems and difficulties related with SD, and (iii) it is a static model, which does not demonstrate the process-oriented nature of SD. This theoretical frame of SD has been communicated by the Competence Centre on many occasions, e.g., the networking days “nachhaltig@UniTuebingen”.

During the questionnaires’ analysis, we assigned the core statements of the SD understandings to the key words, which are illustrated in Table 2.

<table>
<thead>
<tr>
<th>Key Word(s)</th>
<th>Number of Different Statements</th>
<th>Key Word(s)</th>
<th>Number of Different Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumption</td>
<td>5</td>
<td>Others</td>
<td>2</td>
</tr>
<tr>
<td>Education, consciousness, sensitization</td>
<td>14</td>
<td>Preservation of resources</td>
<td>16</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>3</td>
<td>Protection, avoidance of damages, preservation</td>
<td>10</td>
</tr>
<tr>
<td>Justice</td>
<td>10</td>
<td>Structures and processes</td>
<td>4</td>
</tr>
<tr>
<td>Levels of SD</td>
<td>14</td>
<td>Theoretical basis</td>
<td>2</td>
</tr>
<tr>
<td>Management</td>
<td>7</td>
<td>Transfer, realization</td>
<td>10</td>
</tr>
</tbody>
</table>
In the following, we summarize, categorize, and reproduce the questionnaires’ answers on the understandings of SD.

In the questionnaires, stakeholders mentioned several levels of SD; one of them is the personal dimension. At this level, we have the opportunity to change our own lifestyle and influence SD. The societal dimension connects individual and collective actions and brings forward society as well as its processes. Additionally, SD is to be realized on the professional, the institutional, and the political levels where aspects of development politics have to be integrated as well. At the global level, inequalities between humans should be reduced to make the world a better place. Overall, the world should become more just, and inter- and intragenerational interests have to be considered, as well as distributive justice and equality of opportunities. If people pay attention to the environment and all living creatures around them, the highest well-being and the best quality of life for every living being will be achieved.

SD can be realized if people are educated for and sensitive to, as well as conscious of, aspects of SD. These statements are important for HEIs and their research, education, and teaching spheres.

Another important aspect which contributes to SD is the conservation and protection of natural resources. Especially the responsible use of resources, the reduction of pollutant emissions, recycling, and the consequences of livestock farming for the use of resources and human health are important points to consider. The continuous protection of biodiversity and the diversity of species result in resistant ecosystems, which will contribute to the protection of our climate. According to the questionnaires, it is equally important to reduce climate change and to consider the interests of all non-human animals to avoid damages for the environment and nature.

Another aspect is the role of companies, which strive for the common good, and of managers, who use their scope of action for responsible decisions. Furthermore, it is urgent for the economic sector to take its responsibility seriously and to implement CSR strategies such as people, planet & profit (see John Elkington, who introduced the term “triple bottom line” in 1994. Further information on what he thinks today are accessible online [76]). The optimization of processes and the consideration of consequences on other regions of the world and future generations contribute to SD, too.

The last aspect, continuously mentioned in the questionnaires, evolves around the individual. Everyone can be a role model, who critically reflects on topics of SD, and thinks of consequences for his/her everyday life, acts responsibly, as well as motivates others. Part of it is certainly to question our own consumption of food and all other products, to live sufficiently, and to avoid a large ecological footprint. Finally, mobility needs to shift from the individual to the public level to create and establish an infrastructure for sustainable actions—not only in the sense of mobility.

4.2.2. Values behind Sustainable Development

The answers, which dealt with the values people associate with SD, were as various as the answers which were given to explain the understandings of SD. Figure 2 gives an overview of the statements on SD values. Some of the values are not values in the classical, philosophical and sociological understandings. For this reason, the key words we assigned them to are not values in this sense. From our perspective, it was crucial not to understand the answers too conceptually because we want every member of the university to find her/his opinion at least partly reflected.

The core value is a “good life for everybody”. It is the basis for all other values and, at the same time, refers to the Brundtland Report’s moral background of SD (see Figure 3). Values, which we assigned to the key word justice, seem to be an important contribution to such a good life. They rank from social justice, to generational and environmental justice, up to global justice and solidarity.
The key word fairness summarizes values, such as equality and equal rights for men and women. These values show an overlapping in terms of content with justice and structures, especially social security. Other values we assigned to structures are structural change, processuality, movement, and dynamics. In addition to these values, which are based on change, there were also answers pointing to resilience and consistency.

There is a strong relation between the key concepts justice, structures, and esteem. However, values assigned to esteem have a broader meaning and include respect for all forms of life and nature. Cultural openness can be attributed to these values as well.

We differentiated values assigned to the key concepts structures, esteem, and future. Here, we include durability, the inclusion of long-term consequences and potential, as well as a future-orientation. Future generations play an important role in this cluster, as do challenges, with regard to the future.

There are also values, which are closer related to social action: solidarity, reciprocity, fraternity, compassion, and peace which show the importance of own behavior towards fellow humans (global, current, and in the future).

Closely related to these values are the ones we assigned to responsibility. The scope of responsibility includes nature, environment, as well as future generations, and equally focusses on the present and the future.

The key word ethical practice summarizes answers which are strongly directed towards reflexive actions and which emphasize specific ethical and moral components of SD. Part of these are truthfulness, the ability to criticize oneself, and reflection, as well as ethics as the capability to include the others’ needs and to act ethically. The value “not live beyond our means” is equally part of ethical practice and, at the same time, is the link to sufficiency. Here, we included satisfaction, modesty, as well as slowing down. The cluster of sufficiency is closely related to values we assigned to the key word economy. Those emphasize economic aspects and include profitability, public welfare or a full cost accounting for every product. A minimum wage for all employees, as well as fair pricing of loans, link to fairness and justice.

Equally, the concept of “buen vivir” [77] has been mentioned several times. “Buen vivir” originates in Latin America and is a concept for development, giving nature an intrinsic value and highlighting the importance of togetherness of all living beings. We summarized this life in balance with nature and
society, and added the Western notion “humankind as part of the ecosystem” as well as the sustainable protection of all living creatures, due to their own value of life (for their own sake). This value shows the interconnection to the key words of protection.

Answers we assigned to protection include health, the environment, as well as the protection of nature and climate. The preservation of an environment, which is worthwhile to live in and is capable to live for itself, is closely connected to the protection of resources and resource neutrality. These are part of the key word resources.

We summarized other crucial values to the key word knowledge. These values deal with prudence, care, and mindfulness, as well as consciousness of and education for a careful use of natural resources, for instance. In our opinion, key words as ethical practice, resources, and protection can only be rationalized and then realized, if people know the necessary facts. To take a step further and turn this knowledge to action, everybody needs fun and a personal vocation, which we listed with the key word motivation.

4.2.3. What about the Brundtland Concept of SD?

In summary, there are three key words amongst the answers on understanding of SD, which are, as well, reflected in the values behind SD. These red threads are justice, (preservation of) resources and protection (avoidance of damages, preservation). We summarized them in Table 3.

<table>
<thead>
<tr>
<th>Understandings of SD [Number of Statements]</th>
<th>Key Word(s)</th>
<th>Values Behind SD [Number of Statements]</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Justice</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>(preservation of) Resources</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Protection (avoidance of damages, preservation)</td>
<td>9</td>
</tr>
</tbody>
</table>

The statements, which we assigned to these key words, show a high divergence in numbers between understandings of and values behind SD. In the category ‘understandings of SD’, justice, preservation of resources, and protection (avoidance of damages, preservation) include the most (resources) and third most mentioned statements (others). The category ‘values behind SD’ includes the third most mentioned statements on protection. However, justice and resources show the second and third lowest numbers. In the case of ‘justice’, this is due to the fact that we assigned slightly different statements to the key words ‘fairness’ and ‘ethical practice’. Nevertheless, these keywords cover similar statements. If we summed them up to the statements of ‘justice’, this conceptual cloud would include the highest number of statements (17). The same applies to ‘resources’, which have often been associated with ‘future’. If we summed up both numbers of statements, we had the number of 14, which, would be the second highest after the ‘justice cloud’.

Since these keywords are represented in the Brundtland understanding of SD as well, we shortly demonstrate how the UN linked justice, resources, and protection to SD. For instance, humanity shall ensure that development is sustainable to meet “the needs of the present without compromising the ability of future generations to meet their own needs” [5] (p. 16). Hence, SD is based on the values of inter- and intragenerational justice. Furthermore, the world’s poor should “get their fair share of resources” [5] (p. 16), which clearly links justice to the distribution of resources. Additionally, according to Brundtland, injustice and environmental degradation as well as poverty and conflict “interact in complex and potent ways” [5] (p. 240), which illustrates again the importance to protect and preserve nature and environment. Only if both are not exploited to a non-renewable degree can intragenerational justice be realized. Additionally, the normative claim of justice does not go hand in hand with the three-pillar model of SD but demands an integrative understanding of SD, which we want to realize with the whole-institution approach.
For this reason, our research confirms the suggestion to explicitly use the Brundtland understanding of SD for the whole University of Tübingen.

4.3. Which Knowledge and Competencies are Needed to Realize SD in the University of Tübingen? Transfer of Knowledge—Results of the Interviews

The project SD@UT does not merely analyze the status quo of differing understandings (see Section 4.2.1) and the institutionalization of SD in the University (see Section 4.1). The main goal is to identify concrete measures of how SD comes into practice and how these measures can be optimized. One of the core elements in the understanding of Sustainable Development in the scientific and political discourse is the idea that—besides society and politics—each individual can and should take action to change “unsustainable” conditions and behaviors [11,78]. This requirement was also mentioned in our questionnaires on understandings and values of SD. However, from our point of view, it could be a challenge for each individual to actively involve in practicing SD. It is our hypothesis that actors need appropriate knowledge and necessary skills and competencies to act for SD. For this reason, it might be difficult for those who do not possess—or at least think they do not possess—adequate knowledge or competencies to engage in these activities. To learn if our hypothesis was right or wrong and to obtain insights in knowledge and competencies, stakeholders needed to act for SD working in the six different fields of action at the University of Tübingen, where we carried out six interviews, each with one representative of one field of action.

4.3.1. Proof of the Hypothesis

With the help of the interviews, we wanted to gain more and deeper insights into competencies and knowledge, which are needed to actively foster SD in the context of a university.

All six interviewees agreed on our assumption that specific knowledge and competencies are needed to set SD in practice at all levels of a university. Two of them explained that this particular knowledge can be learnt and accumulates over time. One said that a certain (scientific) background would help and ease this learning process. This knowledge depends, on the one hand, on the field of action the person is fostering measures to act for SD. On the other hand, it depends on the goals which are to be achieved.

4.3.2. Knowledge and Competencies for Each Field of Action

There is specific knowledge, which all representatives have, and competencies they need in their individual field of action.

In the area of sustainability reporting, it is important to know the organizational structures of the university to detect connecting and, maybe, leverage points. Another essential competence is communication with different players at the university and networking with local groups and other HEIs, which implies not only psychological but also strategic competencies. Additionally, it is crucial to strengthen the intrinsic motivation of the university’s members and to always keep on maintaining their interest in processes connected to SD. The interviewee feels that these points are important “that something happens here in the form of concrete projects” (interview sustainability reporting, min. 04:04, translated by the authors).

The interviewee from the field of governance laid emphasis on the competence to transfer knowledge and to network. It is important to know how to communicate with different stakeholders of the university and to keep on bringing SD topics to the table, which needs courage and diplomatic skills.

In the context of teaching and education, knowledge on topics of SD is essential. For scientific teachers, it is important to be open and to accumulate new knowledge on SD. Another point the interviewee mentioned is to integrate knowledge of the teacher’s own research into the seminars. The interaction with scientific colleagues, who are working on similar topics, is an important aspect as well.

The representative person of the field of operations said it is important to learn from scientific disciplines, especially psychology and empirical cultural studies, how to motivate all members of
the university to feel responsible and to not forget the bigger picture. For this field of action, it is important to have the competencies to initiate bottom-up processes and to be involved with student representatives. They are the ones who are able to influence their fellow students and confront them with their own actions’ consequences. For this reason, it is essential to network and see synergies, and especially to cooperate with other stakeholders, who are interested in similar topics: “Those people are everywhere, and if you join them and you work together you really can achieve something” (interview operations, min. 16:35, translated by the authors). Another crucial point is to be ambitious and set high goals.

In the field of research, the interviewee told us that it is important to develop an own understanding of SD and to gain knowledge on the planetary boundaries of the earth. Then, there are thematic foci an SD scientist can carry out research for, such as climate change, loss of biodiversity or nuclear disarmament. These topics all have practical implications and have to be worked on since they are crucial for the survival of humanity. For this reason, a researcher has to prioritize to actively work on them and not solely discuss them theoretically.

Finally, the representative of the field of transfer laid emphasis on the knowledge of what SD is, and how structures and contexts of SD work in a university. For transfer, it is important to listen to each other carefully and to bring together different ideas as well as to integrate them into concrete projects. Additionally, there is the point of courage to foster topics, which may not be valued by many other actors in society, and to show an intrinsic motivation for change. In the end, for transfer, it is essential to be able to renounce decent things in life and to enjoy challenging oneself, and trying things out.

All interviewees agreed that the knowledge and the competencies they mentioned are finally not specific for the field of SD. On the contrary, people who own these competencies are able to work more productively because “these are basic things you need and they are not necessarily related to Sustainable Development. They are connected to SD, but actually these are human and social competencies you have to own in general” (interview sustainability reporting, min. 06:14, translated by the authors). Another interviewee added that these competencies fit into her desired ideal conception of humans and do not depend on SD.

4.3.3. Knowledge and Competencies to Foster SD in General at a HEI—What Do We Have, What Do We Need?

When we asked the interviewees about the specific knowledge and competencies members of the university involved in fostering SD should have, we received numerous and varying responses.

The person from the field of sustainability reporting emphasized that, on the one hand, a person’s interest in support processes is more important than the competencies s/he owns. Especially students need—and do have—motivation to change things. On the other hand, expert knowledge is needed to successfully carry out specific projects.

In the field of governance, it is crucial to find suitable arguments and to know that topics of SD are a red thread, which runs through the whole university. Additional essential competencies are the awareness of other people’s needs and interests, as well as the ability to (empathically) deal with other people.

The representative of teaching and education told us that transdisciplinarity is a key aspect of education for SD. People need a sense of responsibility to see and understand the damages their actions are causing: “People need to understand that it is their business!” (interview teaching and education, min. 09:07, translated by the authors). On all levels of the university where people make important decisions, they need to understand the financial consequences of non-sustainable management. Additionally, decision-makers need to perceive and understand the responsibility of a university.

In the field of operations, this sense of responsibility is a crucial point as well. However, it is not only the responsibility of the institution university but also a responsibility for the university. For instance, teaching staff should feel positive about being able to use the university’s infrastructure, such
as rooms, and should have an interest for their students to leave these rooms clean. Then, all members of the university should feel the task to foster SD in society and to act as key agents for SD.

For the area of research, expert knowledge on topics concerning the environment or ecology is essential. Another crucial point is to include non-scientific actors in the sense of transdisciplinary practice and research.

The representative for the field transfer appreciates the ability to first think in a utopian way and, in a second step, think realistically. All university members should be courageous and think big to not restrict themselves during the search for new ideas and solutions. In discussions, the abilities to focus on the topic and to set back one’s own questions and interests are very important. This point is related to the competence of being neutral, having self-regulatory skills, and being disciplined.

The last question dealt with the competencies our interviewees have themselves and wished for others, who are not involved in SD activities (yet).

In the area of sustainability reporting, clearly the competence to network and bring knowledge together is key. The representative of governance mentioned characteristics such as motivation, perseverance, the ability to network, and being open-minded. In the area of teaching and education, others should be able to think things together, to broaden their own horizon, and not to remain in rigid structures. She wishes for every member of the university to know and understand “that every action [they take] here may have a consequence somewhere else” (interview teaching and education, min. 16:49, translated by the authors). The interviewee of the field of operations said that she would like all members of the university to get in touch with others to network and to learn continuously. Another wish she had was to recognize the enrichment of the whole process and to experience moments of happiness when they go through this transformation: “I really wish people that they can integrate this [SD] into their lives and experience what I experience, how nice it can be!” (interview operations, min. 23:50, translated by the authors). The representative of the area of research mentioned a cooperative and friendly attitude, fairness, as well as the will to work together. He appreciates the exchange with colleagues in order to learn from each other. Finally, the interviewee from the field of transfer wishes everybody to recognize their own privileges and to reflect on the consequences their actions have for planet earth. No member of the university should stay alone and think of how it will be possible to pass on his or her knowledge to others. In closing, she wishes that everybody had the willpower to change something in every area of his or her own life.

4.3.4. Knowledge and Competencies to Foster SD at a HEI—What Do We Learn?

In summary, all interviewees agreed to our assumption that specific knowledge and competencies are needed to set SD in practice at all levels of a university. There is specific knowledge all representatives have and there are competencies they all need in their individual field of action: networking, keeping sight of the big picture, interaction, and cooperation are the red threads through all the fields of action. This finding is supported by Rieckmann [36] (p. 133), who identified a set of twelve key competencies for SD which include (i) the “competency for cooperation in (heterogeneous) groups”, (ii) the “competency for systemic thinking and handling complexity”, and (iii) the “competency for empathy and change of perspective”.

Hence, on the one hand there are basic competencies, which are needed in all areas of a university as well as specific knowledge and abilities. On the other hand, all interviewees agreed on the fact that the knowledge and competencies, which they need for their own field of action, are not specific SD competencies but facilitate work in general and social abilities people need.

As we view it, this is not as surprising as it seems at first sight. First, the goal in SD every interviewee is striving for is a very broad one. The field of governance did not define it (yet) and the University of Tübingen does not own an explicit sustainability strategy. Consequently, all actors, who are involved in the field of SD, follow their own SD understanding. This is not necessarily ‘good’ or ‘bad’—on the one hand, one could easily lose the big picture; on the other hand, every individual has the freedom to engage actively in his or her favorite topic. Since SD is a process of societal transformation,
the interviewees mentioned knowledge and competencies, which “are somehow helpful for transformation of any kind, or for structural change of any kind” (interview transfer, min. 15:33, translated by the authors). Recently, Niedlich et al. [72] found out that there are significant differences in the conception of SD at the eleven German HEIs they examined. This is due to the lack or existence of a common understanding of SD and an SD mission statement, the way SD discussions are handled and communicated into a HEI, as well as the focus of the SD definition and the targeted SD dimensions [72] (p. 9). For most HEIs Niedlich et al. studied, it is a major challenge to establish a whole-institution approach to SD governance [72] (p. 10). Therefore, it is not surprising that the University of Tübingen, as one of the HOCH-N collaboration partners, provides an example for a HEI which holds no commonly shared conception of SD, and which seems to struggle to find its way to SD governance.

Additionally, the goals are to connect actors and to think of the big picture, as well as to understand the university structures demand for the necessary system, target, and transformation knowledge. According to our interviewees, they have the necessary system and transformation knowledge, or they know with whom they could collaborate to incorporate it. The necessary target knowledge for the specific actions of individuals or groups is also largely available. What is lacking is the target and, even more so, transformative action knowledge to jointly achieve the big picture—a more sustainable university. It is obviously difficult for all members of the university to acquire this kind of knowledge, if there is no sustainability strategy, which leads to a common goal and roadmap, and no statement to explain the university’s understanding of SD. Hence, the actors cannot acquire the lacking target knowledge. For this reason, it is even more difficult for them to define necessary competencies they would need. Again, especially for HEIs, it is of utmost importance to understand that knowledge alone will not lead to successful action. Consequently, they mention broader transformation competencies, acting within their own scope, and planning their own actions and activities.

It would be the university’s next task to set up an SD-strategy which is (i) explicitly based on the SD understanding following the Brundtland Commission [5], and (ii) will be specified in a participatory process to be organized by the Competence Centre. Then, the university could profit even more from its motivated members, who have the willpower to change something.

5. Discussions and Outlook

We have shown that the understandings of and values behind SD in the scientific and political discourse, as well as at the University of Tübingen, are diverse. However, we were able to demonstrate how actors’ understandings and the values behind them at the University of Tübingen are in accordance with the Brundtland understanding of SD. We also showed that at the University of Tübingen many actors already fill the fields of action to foster SD. Nevertheless, there is much room to strengthen and improve activities and their output, as well as to give actors the support and freedom they need to strengthen SD at the University of Tübingen. Finally, we were able to demonstrate that both knowledge and competencies are fundamental to act for SD. Since the University of Tübingen has not yet made an explicit statement on its understanding of SD, it appears to be difficult for the actors to acquire specific knowledge to reach SD for the whole university. For this reason, they possess broad knowledge and competencies, which are crucial to any process of transformation.

Even though existing scientific studies put their focus on teaching staff and not the whole HEI as a unity fostering SD (see Section 2.2), some of our findings on the understandings of SD match these studies’ results. Two important issues that were raised repeatedly in the literature [17–20,22] were ‘(natural/ecological/environmental) resources’ and ‘(inter- and intragenerational) justice’. In our questionnaires’ responses, these keywords were raised as well. However, the understandings of SD at the University of Tübingen are far more distinct and nuanced. We assume this is firstly due to the fact that we concentrated on stakeholders who are already involved in thematic fields of SD, and secondly, because we included university members of all fields of action carrying out a research based on the whole-institution approach (see Section 2.3).
In general, we are able to assign the understandings of and values behind SD of stakeholders at Tübingen University to the different contexts and levels of politics, philosophy, and personality, as well as to existing models (see Section 2.1). For instance, they refer to the Brundtland Report (political level), the three pillars model (models), responsible behavior (personal level), and thematic issues related to the ‘good life’ (philosophical level).

Existing research on university members’ competencies for SD equally sets a focus on the field of Education for SD (see Section 2.4). Literature on research for SD competencies at the whole HEI, including different fields of action, does not seem to exist yet. With our results, we demonstrate existing similarities in the perceptions of university members of (i) competencies being key in Education for SD and ii) competencies our interviewees mentioned to be important for setting SD in practice at the whole university level (see Section 4.3.4). As we have outlined, we started from the perspective of a whole-institution approach at the University of Tübingen and combined it with a research project that searches for key actors’ understandings and values of SD, as well as the competencies and the knowledge to set SD in practice. With this particular approach, we aimed at looking at the University of Tübingen as a whole. Therefore, our perspective was broad enough to consider all relevant fields of action. At the same time, our perspective was narrow, as we concentrated only on one HEI. For this reason, we cannot simply transfer our results and the approach we chose to other HEIs, although many of our findings resonate very much with shared experiences at other HEIs, e.g., in the HOCH-N network. This is, firstly, because we only asked and interviewed actors at the university that already had a relation to SD. It will be more representative to widen this perspective and include actors who are not yet involved in SD activities. However, this could be the next step for further research.

Secondly, our approach is a special one since, as of now, the University of Tübingen practices SD within ongoing research, education and teaching, and management. Other HEIs emphasize establishing a specific sustainability science or focus on transfer. This means that they act in different contexts with, surely, other settings, opportunities, and results. Thirdly, the German landscape of HEIs is diverse and ranges from comprehensive universities (as Tübingen) and Technical Universities to application-oriented Applied Sciences Universities (Fachhochschulen) and Universities of Teaching (Pädagogische Hochschulen). Following Niedlich et al. [72] (p. 13), and Wals [23] (p. 11) we clearly expect that different orientations of HEIs manifest in different structures. This may result in different foci of knowledge and competencies that the actors at different HEIs have and need, as the relations of the different fields of action may also differ. Further research and comparison of the findings might be very helpful in identifying such differences. As we considered above, the idea of the whole-institution approach is that actors in different areas of an institution can learn from each other. In broadening this approach to a, as we want to call it, ‘whole-institutions approach’, different institutions can learn, likewise, from each other and adopt fruitful measures in fostering SD.

It is also important to point out that not only our research topic is settled on a certain discourse, but also that the whole discourse itself is a rather Western- or even Germany-centered discourse. However, there are, of course, other concepts, which emerged in the Global South that could improve this discourse. Interestingly, even in our questionnaires, some actors referred to such concepts, e.g., “buen vivir”, and integrated these concepts into their own understandings and values of SD. Since SD is a global task, it requires international dialogue [36] (p. 130). Including other concepts broadens the perspective and prevents the danger of a Westernized, or even neo-colonial, point of view, which may include more individual-oriented and technocratic aspects than counter-concepts developed in countries of the Global South. Therefore, these concepts have to be taken into account and the German and Western scientific discourse on SD still lacks a systematic consideration of them.

In the original outline of our research project, we planned to equally integrate perspectives from the Global South and, therefore, sent questionnaires to members of the University of Ghana and the Valley View University in Ghana. Unfortunately, the response rate was very low, so that we could not take these answers into account. However, we managed to get in contact with the “Clean Africa e.V.”, an organization that regularly holds summer schools in the Global South, and is right
now planning a summer school in Ghana with a focus on the whole-institution approach and SD at Ghanaian universities in summer 2020. We plan the Competence Centre’s participation in this summer school to get in contact with key actors of universities in Ghana.

Furthermore, the Competence Centre could profit very much from an intense exchange with key actors at Addis Ababa University in Ethiopia, especially in the person of Professor Workineh Golga Kelbessa. He has already visited the International Centre for Ethics in the Sciences and Humanities several times. In October 2018, the Competence Centre and the research project “Energielabor” have organized a workshop on SD and Environmental Ethics, presenting exemplary perspectives from Africa and Europe, where Professor Kelbessa was one of the keynote speakers.

Additionally, the Competence Centre was involved in a small research project at Lake Kivu, Rwanda, in the summer of 2019 [79]. Together with scientists from the Universities of Heidelberg and Karlsruhe, the Competence Centre examined opportunities to mine methane in Lake Kivu and talked to involved actors on their understandings of SD, and why this form of energy supply was important from their perspective.

Following these different measures, which should just serve as illustrations of how to proceed, we are optimistic that we will manage to integrate perspectives from actors of the Global South in our findings, also in order to broaden the scope of a sustainable University of Tübingen.

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