Interdisciplinary Journal of Environmental and Science Education
2022, 18(3), e2284
ISSN 2633-6537 (Online)
https://www.ijese.com

Research Article

Ethical Action in the Context of Education for Sustainable Development (ESD)–An Analysis of Tasks from German Geography Textbooks

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Citation: Lindau, A.-K., & Kuckuck, M. (2022). Ethical Action in the Context of Education for Sustainable Development (ESD)–An Analysis of Tasks from German Geography Textbooks. *Interdisciplinary Journal of Environmental and Science Education, 18*(3), e2284. https://doi.org/10.21601/ijese/12045

ARTICLE INFO

Received: 28 Jan. 2022
Accepted: 29 Mar. 2022

ABSTRACT

The subject of geography is considered an ESD-affine subject and pursues the goal of contributing to the empowerment of students to preserve the earth. This includes creating an awareness of the planetary boundaries of the earth and reflecting on the role of human responsibility and social justice. The implementation of ESD in the subject geography takes place in the educational standards for the intermediate school leaving certificate for the subject of geography as well as in the curricula of the individual federal states. Through the integration of ESD, geography is particularly committed to addressing current and future challenges facing humanity, e.g. climate change. In order to achieve these goals, learners should be enabled to understand or recognize, evaluate and act in a sustainable way in complex systems. The German-language ESD discourse to date has often been normative, and the question of ethical action within ESD in geography lessons arises from an ethical perspective. The analysis of tasks of German textbooks are focused on ethical judgement and action. It is shown that the task formats do not sufficiently enable ethical action based on evaluation competence. At the end, conclusions are drawn for future textbook development and teacher training.

Keywords: ethical action, ESD, geography, textbook, task

INTRODUCTION

The textbook is still considered the leading medium in (geography) lessons and can therefore be seen as a reliable indicator for the content and methodological implementation of ESD in the school subject of geography (Lob et al.,1996). Education for sustainable development (ESD) in school has, among other things, one of the goal of school is to also contribute to the preservation of the earth in an interdisciplinary way through ESD, to strengthen the awareness of planetary boundaries among students, and to develop the role of human economic activity as well as social justice among them (KMK & BMZ, 2016). In our understanding, all educational theories, philosophies, and concepts are always normative as they always reflect the prevailing ideas and applicable rules of human coexistence of their time. In relation to the German-language ESD discourse with the goal of sustainable development, this is to be understood as equally normative.

The concept of ESD is closely linked to the norms of justice and responsibility, which in turn are important for ethical action and judgement. For geography education, normative demands from an ethical perspective raises the question of "the instrumentalization or functionalization of education for the purpose of achieving the goal of sustainable development" (Hamborg, 2017, p. 20).

This article aims to first identify aspects of ethical action and judgement in geography lessons in the context of ESD. Then, their implementation is presented and discussed by analyzing tasks in textbooks from Bavaria and North Rhine-Westphalia.

The Basic Concept of ESD in Geography Lessons

The contribution formulated in the educational standards in geography for the intermediate school certificate points to the high relevance of teaching topics to current events and life. The subject of geography is considered to have an affinity with ESD and contributes to the understanding of the world under the premises of sustainable development (Bagoly-Simó, 2018; Otto, 2021). Accordingly, "the main goals of geography lessons

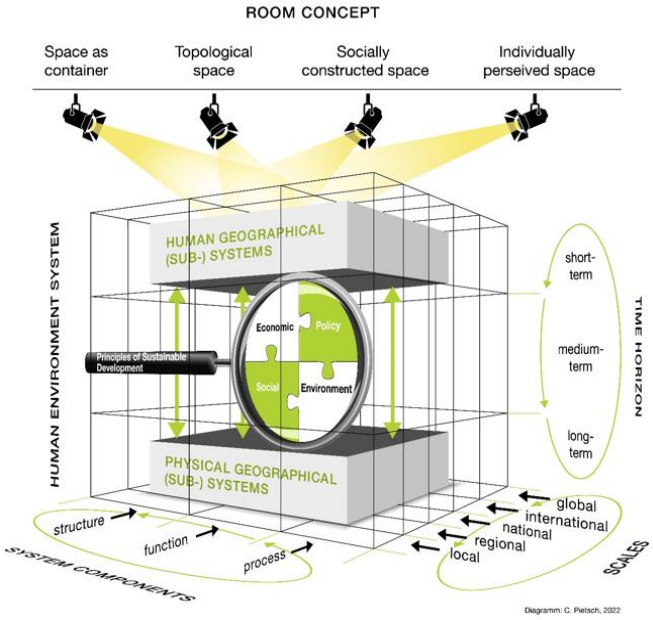

Figure 1. Basic concepts of the analysis of spaces in the subject of geography (changed according to Otto, 2021, p. 21; Fögele, 2016, p. 73; KMK & BMZ, 2016, p. 87; DGfG, 2014, p. 11)

are therefore to provide insight into the connections between natural conditions and social activities in different parts the world, and to teach a spatially-oriented competence that can be applied" (DGfG, 2014, p. 6). Due to these goals, topics and contents, Geography education can make an important contribution to achieving the sustainable development goals (SDGs) and in particular sustainable development goal (SDG) 4 (quality education) and sub-goal 4.7 (education for sustainable development) (Kuckuck & Lindau, 2020; Otto, 2021; UN, 2015). "Equal opportunities and quality education" (SDG 4) is addressed as one of 17 SDGs, but at the same time it is also highlighted as a central key instrument for achieving all other SDGs. The importance of ESD is also explicitly addressed here, differentiated across seven sub-goals. According to these, by 2030 it must be ensured

> "that all learners acquire the necessary knowledge and skills to promote sustainable development, including through education for sustainable development and sustainable lifestyles, human rights, gender equality, and the appreciation of cultural diversity and the contribution of culture to sustainable development" (UN, 2015, p. 18).

ESD has been designated as a guiding principle and basic concept of the teaching and study subject of geography (DGfG, 2010, 2020) for many years (**Figure 1**). The subject of geography is the system Earth and, like no other subject, offers opportunities at different scale levels (from local to global) to analyze and evaluate current sustainability–related human–environment issues, whereby both natural science and social science questions and working methods are taken into account. Dickel (2021) makes clear that the subject of Geography has always had a responsibility for the lived relationships between humans and nature and is obliged to treat these relationships with a reflecting subject and self-understanding.

Rost et al. (2003) as well as KMK and BMZ (2016) call for enabling learners to recognize, understand, evaluate and act in a sustainable manner in complex systems in order to meet current and future challenges facing humanity. The competence areas of assessment and action are inseparably linked to the concept of ESD. Thus, the aforementioned competency models of the educational standards in geography for the intermediate school certificate as well as the curriculum framework education for sustainable development (KMK & BMZ, 2016) in the context of ESD on the basis of "gestaltungskompetenz" (participation competence) according to de Haan et al. (2008) identify the competency areas of evaluation as well as acting. However, international ESD competency models also make these competency areas explicit, such as value and action in the CSCT model (curriculum, sustainable development, competences, teacher training) (Sleurs, 2008) and values and action in the RSP model (a rounder sense of purpose) (Vare et al., 2019). The interdisciplinary and cross-domain key competences identified among others aim to develop cognitive, motivational, volitional, social, and action-related competences with the claim to contribute to transformative change in society with the help of the concept of ESD (Rieckmann, 2019). Common to these ESD competence concepts is their normative character. Rost et al. (2003, p. 11) include competence areas of assessing and acting as follows:

> "In questions of sustainable development, values from ecological, economic and social contexts also play a role. Accordingly, assessment competence is also required, which [...] means the ability to recognize different values when making decisions, to weigh them against each other and to let them flow into the decision-making process."

In addition, national and international documents and bodies such as the 2030 Agenda, the national action plan (Germany), the Expert Forum School as well as the current sustainability roadmap ESD 2030 (UNESCO, 2020) and the Berlin Declaration (DUK, 2021) emphasize striving for and promoting action-based activities and initiatives in school and non-school settings. Testimony to this focus is the widespread implementation of ESD in the curricula of the federal states of Germany. It is precisely through this implementation that the normative guiding principle of sustainable development strives to satisfy the present needs of humanity without restricting those of future generations (Heinrichs, 2007).

Ethical Orientation in Geography Lessons in the Context of ESD

The previous explanations of the concept of ESD and the SDG-oriented topics (UN, 2015) make it clear that both normative and ethical criteria are explicitly and implicitly addressed.

Closely linked to the guiding principle of sustainable development are the topics of justice and responsibility. When it comes to the topic of justice, social justice is predominantly spoken of in geography lessons. The concept of justice is often used as a normative frame of reference without, however, clarifying exactly what is meant by justice at all (Applis, 2012; Ulrich-Riedhammer, 2017).

In addition to the aspect of justice, the topic of responsibility also plays a role in the guiding principle for sustainable development; based on the definition of sustainable development, this refers to the assumption of responsibility towards a (fictitious) future generation. Here, too, it is not clarified or discussed to what extent present generations can even know what the needs and interests of a future generation are. This is accompanied by the question of which goods are considered worth preserving today and whether this assessment will also be shared by future generations. In the following, the ethical orientation of ESD will be discussed on the basis of the following aspects: on the one hand, the normative and ethical dimensions of spatially responsible action will be shown and, on the other hand, the significance of ethical judgement in geography lessons will be presented.

Ethical Action in the Context of ESD in Geography Lessons

Educational standards in geography for the intermediate school certificate identify the competence area action (DGfG, 2014). Both justice and responsibility are aspects that can be found in the field of geography education in the formulation of "factually and spatially appropriate" and "responsible action" (DGFG, 2014, p. 24). This action should be a "good" (Ohl et al., 2018, p. 89) action in the sense of sustainable development, which can or should become apparent, for example, in decisions faced by consumers.

Students should be encouraged to act responsibly, which can be achieved, among other things, through action-relevant knowledge, such as knowledge of solutions. This aim goes hand in hand with the motivation and interest of pupils to get involved in topics of sustainable development. According to the educational standards in geography for the intermediate school certificate (DGFG, 2014), a distinction is made between information action, political action and everyday action, whereby the learners are to be strengthened in reflecting on the effects of actions already carried out or planned and possible alternatives. In coordination with the other competence areas, learners should gain a basic understanding of the human-environment system.

> "This can lead to a high regard for a near-natural environment and willingness to become active in environmental protection. […]. In this way geography can make a significant contribution to encouraging students to participate actively in the avoidance and reduction of environmental damage. […] the students can be encouraged to develop the ability and willingness to work for peaceful coexistence on Earth […]. Their understanding of the interactions among physical and human geographical factors, i.e., ecological, economic and social/political factors, gives the students insight into the need for sustainable development, from the local to the global level, and also gives them the ability and willingness to act accordingly "(DGFG, 2014, p. 25).

The desired linking of the concept of ESD with a competence for action, which is demanded by the character of the educational standards, is made clear by the quotations listed. This becomes even clearer under sub-competency H3:

> "Willingness to take specific action in geographically/geo-scientifically relevant situations (information action, political action, everyday action)" (DGFG, 2014, p. 26).

According to Ulrich-Riedhammer (2017), it remains unclear to what extent these competence expectations are implemented. Nevertheless, the educational standards can be seen as a basis for the development of textbooks. Ohl et al. (2016) make it clear that it is impossible to give clear and "correct" recommendations for action in the classroom. Due to the factual and ethical complexity of the topics, the diversity and interconnectedness of relevant influencing factors, the existing controversy or insufficient knowledge about the issues as well as contradictory opinions, it is impossible to give students clear recommendations for action. Accordingly, the aim of geography teaching cannot be to educate learners to act in a certain way, but rather to enable them to make decisions about their actions on a professional as well as ethical basis. Following Vare and Scott (2007) and Wals et al. (2008), a distinction can be made between an instrumental ESD 1 (ESD 1=learning for sustainable development) and a critical-emancipatory ESD 2 (ESD 2=learning as sustainable development). In ESD 1, the focus is on indisputable expert knowledge about values and actual behavior, as well as on teaching these. In relation to geography lessons, an ESD 1 aims to promote certain patterns of behavior that are considered sustainable. It is thus learning for sustainable development. ESD 2, on the other hand, aims to enable learners to critically engage with sustainable development issues and their complexities and contradictions. Accordingly, learners should critically reflect on expert knowledge, examine it and probe contradictions. In an analysis of geography textbooks on the topic of energy and sustainability, Pettig and Kuckuck (2021) found that almost half of the textbook pages studied focus on ESD 1, in that the tasks or headings address the students directly, whereas only two textbook pages correspond to ESD 2. Half of the textbook pages examined correspond neither to ESD 1 nor ESD 2, but to a pure transfer of knowledge without showing connections (e.g., mining of brown coal).

Such educational approaches run the risk, albeit with the best of intentions, of imparting one-sided views to learners and denying them the choice of their own action decisions (ESD 1) (Ohl et al., 2016). The critical-emancipatory approach (ESD 2) aims at addressing students in geography lessons on complex sustainability issues in order to make decisions for action based on factual as well as ethical considerations. The prerequisite for this is the formation of an evaluation and judgement competence.

Ethical Judgement and Evaluation in the Context of ESD in Geography Lessons

Areas of conflict that exist in the context of sustainable development are, for example, the fair distribution of natural resources, ensuring social justice or questions of the limits of one's own responsibility (Ulrich-Riedhammer, 2017). These areas of conflict already show the normative and ethical aspects of sustainable development. Normatively, points of

appropriateness of one's own actions are addressed, as well as, on an ethical level, justice and morally good and right action (Künzli et al., 2013). Only a selection of sustainable development issues can (so far) be decided on the basis of verified knowledge. Here, it is necessary to weigh things up and come to an ethically justified decision.

In terms of geography lessons, this means that students are already being asked to make an (ethical) judgement on socially discussed conflict topics (Ohl et al., 2016). At best, the justifications for these judgements take into account all dimensions of sustainability (ecology, economy, social/cultural, and politics) and include both ethical and factual arguments. This leads to a very high demand for complexity and multidimensionality. The distinction between normative and ethical arguments is particularly important and highly relevant for geography lessons, as Kulick (2014), among others, points out for discussions in geography lessons or Budke et al. (2015) for the reception of argumentations in geography lessons.

Educational standards in geography for the intermediate school certificate, the competence area assessment/evaluation states:

> "Students are trained to link their evaluation of evidence with geographically relevant values and norms and thus to produce well-founded evaluations (E4). Criteria for evaluations are provided, for example, according to general human rights and the protection of nature and the environment. This leads to the model of sustainability [...] (DGfG, 2014, p. 22).

What remains opaque at this point is which values and norms are actually meant from a geographical perspective and which ethical standards are applied. Closely connected to the ethical perspectives and the ability to (ethically) judge is the resulting quality of the decisions to act and the associated sufficiently justified assumption of responsibility.

Based on Knopf and Brink (2011), Maak and Ulrich (2007), and Rieckmann and Schank (2016) formulate the various knowledge and skills belonging to a "moral toolkit" in the context of an ESD:

> "Moral knowledge: There must be knowledge about which norms, customs and traditions should apply in economic, social and ecological decision-making situations and how actions are to be weighed up, especially in dilemma situations.
>
> Moral judgement: 'Sustainability citizens' must have the ability to analyze situations and actions for their moral content and decide whether a particular norm or duty should be applied.
>
> Moral reflective competence: This competence stands for a pronounced moral capacity for differentiation when it comes to accepting ethical dilemmas in which moral principles have to be put to the test. It is the ability to reflect on ethically justified points of view–including and especially one's own point of view.
>
> Moral courage: The ability to take a critical distance from the norms and values lived in certain contexts, and to step back from these prevailing morals in case of doubt and to avoid the pressure to conform that can exist especially in organized cultures such as companies, is linked to reflective competence" (Rieckmann & Schank, 2016, p. 69).

In order for education not only to serve to reproduce the values of others, it is essential to empower learners to analyze complex problems themselves, but also to be able to (ethically) assess existing norms and values and to reflect on them. These requirements on the level of assessment and action are multi-perspective, complex and at the same time limited to the educational situation. According to Rieckmann and Schank (2016, p. 69), education aims to "make individuals more capable of making value judgements and more capable of making decisions with regard to their own social actions".

Laub (2021) and Pettig (2021) raise the question of whether the developments outlined here are education or rather education for sustainable development. Furthermore, as a consequence of the establishment of ESD in the curricula of the German federal states, the question arises as to the realization of ESD within teaching topics as well as materials and the associated tasks with the aim of, on the one hand, realizing the specifications of the curriculum and, on the other hand, doing justice to the educational goal of ESD.

With regard to competence orientation, tasks from requirement area III should be taken into account in addition to tasks from requirement areas I and II (DGfG, 2020; KMK, 2004), since ethical evaluation is explicitly stimulated in pupils. The promotion of evaluation competence is already a normative goal, because it should enable learners to participate in society. In order to initiate this, a change of perspective and the handling of controversies must be practiced. For this, students need both factual and ethical judgement skills in order to enter into a constructive discourse (Dittmer et al., 2016). In order to initiate this progress, work is usually done in the school context with operators, including in textbooks.

Tasks are formulated with the help of operators (signal words, e.g., describe, explain, declare, reflect) (Tajmel & Hägi-Mead, 2017). They are "knowledge-generating learning actions that initiate, guide and structure the processing of learning tasks" (Thürmann, 2019, p. 1).

Operators have three functions here: (1) they are relevant in setting curricular standards and objectives, (2) they design (new) learning tasks for the acquisition of competences in learning materials, and (3) they help in the assessment of competences as well as in performance, diagnostic and examination tasks (Thürmann, 2019). Operators are terms for typical learning actions, they establish relationships between different forms of representation, contents, linguistic-textual procedures and cognitive operations (Tajmel, 2011). The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK, 2004) has defined various requirement areas for determining the complexity and degree of difficulty of a task.

Table 1. List of the geography textbooks examined and the proportion of tasks examined

Coding	Publisher	Book series	Year of publication	Grade	Total number of pages/Total number of tasks	Proportion of examined tasks in total number of tasks
Bav 1	Westermann	Diercke	2017	5	159/218	0.5%
Bav 2	Westermann	Diercke	2019	7	168/237	0.8%
Bav 3	Westermann	Diercke	2022	10	Book was not available for analysis	
Bav 4	Westermann	Seydlitz	2017	5	168/380	2.9%
Bav 5	Westermann	Seydlitz	2019	7	175/311	3.5%
Bav 6	Westermann	Seydlitz	2021 (Dez.)	10	Book was not available for analysis	
Bav 7	Klett	Terra	2017	5	179/310	0.3%
Bav 8	Klett	Terra	2019	7	187/313	1.3%
Bav 9	Klett	Terra	2022	10	Book was not available for analysis	
NRW 1	Westermann	Diercke Praxis 1	2019	5-6	199/330	0.6%
NRW 2	Westermann	Diercke Praxis 2	2020	7-8	216/432	0.7%
NRW 3	Westermann	Diercke Praxis 3	2019	9-10	171/251	1.2%
NRW 4	Westermann	Seydlitz Geographie 1	2020	5-6	207/318	0.3%
NRW 5	Westermann	Seydlitz Geographie 2	2020	7-8	207/331	0.9%
NRW 6	Westermann	Seydlitz Geographie 3	2022	9-10	Book was not available for analysis	
NRW 7	Klett	Terra 1	2019	5-6	237/323	0.6%
NRW 8	Klett	Terra 2	2020	7-8	255/339	1.9%
NRW 9	Klett	Terra 3	2021	9-10	255/357	1.7%

The educational standards in geography for the intermediate school certificate are based on the uniform requirements in the Abitur examination (EPA) and distinguish between three requirement areas (I-III) (DGfG, 2020). Budke et al. (2016) analyzed textbook tasks with regard to discourse management and were able to identify an area of basic requirements in addition to the requirement areas. These include operators that cannot be assigned to any of the requirement areas and/or do not require any linguistic actions (e.g., search).

Research Gap and Research Question

In order to contribute to sustainable development for the preservation of the earth as an essential goal of ESD and to enable learners to think and act in a self-determined way, the question arises to what extent learning materials meet these requirements. Textbooks are oriented towards the requirements of the curricula and try to operationalize them with the help of tasks. Up to now, there has been a desiderat for the analysis of tasks in the competence area of action and assessment/evaluation in textbooks for geography lessons. The research question is: How are pupils guided via tasks in textbooks to independently make appropriate judgements with regard to complex and not fully penetrable geographical topics and contents (= education)?

The study aims to analyze tasks in geography textbooks that relate to the competence area of action in the context of ESD. The focus here is on the call to action in the sense of a prescription and/or the demonstration of complex references with the necessary systemic penetration and reflection for one's own actions and their consequences (judgement).

METHODS

Geography textbooks from the federal states of Bavaria (Bav) as the largest and North Rhine-Westphalia (NRW) as the most populous federal state in Germany for the middle school (grades 5-10) were examined. For this purpose, only the most recent editions of the books from the two most frequently used textbook publishers, Westermann and Klett, were considered. The textbooks are designed for several grades (**Table 1**).

It is clear (**Table 1**, last column) that only a very small proportion of tasks show a reference to the question and were taken into account in the analysis. A total of 60 relevant tasks with some further subtasks could be identified, whereby a distribution according to grades and federal states cannot be determined. The majority of the tasks in grades 7-8 were related to the research question. Tasks on action competence could be found in all grades.

For the textbook analysis, the method of qualitative content analysis according to Kuckartz (2018) was chosen. The formation of the thematic main categories was done deductively on the basis of the competence area action (DGfG, 2020) as well as from the categories space, scale (**Figure 1**), content and roles within the sustainability-related topics (students as perpetrators, problem solvers and assumers of responsibility) associated with the basic concepts of geography as well as the requirement level of the individual tasks. The deductive formation of categories was inductively supplemented by individual characteristics.

Table 2 presents the categories, the coding rule and anchor examples. The tasks were assigned to the categories independently by the two authors and validated consensually in case of deviation. The aim of this quality assurance measure was to establish argumentative agreement between the coders (Mayring, 2015).

RESULTS

Ethical Action

The tasks refer to many different topics of geography lessons. It is clear that the tasks are mainly thematically related to the area of human-environment relations, whereby human-geographical as well as physical-geographical aspects are considered. The tasks analyzed include topics such as

Table 2. Categories, coding rules, and anchor examples of the textbook analysis

Categories	Coding rule	Anchor example
Ethical action competence		
Learners cause unsustainable problems	Learners are (partly) attributed the role of causing unsustainable development.	"Think about how you can avoid food waste at home. Make a small poster." (NRW 1, p. 64)
Learners solve the world's problems	Learners are said to have the ability to act sustainably. Problems of non-sustainable development are minimised through proposed solutions to be developed or given within the task.	"Plan a 14-day holiday in Majorca. Also consider how you can reduce the negative consequences of tourism in the process." (Bav 2, p. 141)
Learners take responsibility	Learners are empowered to take responsibility for sustainable development through concrete actions.	"How can you contribute to fight against global hunger? List concrete measures if possible." (NRW 9, p. 25)
Ethical judgment & evaluation	Anforderungsbereiche I-III (KMK, 2004; DGfG, 2020), Grundanforderungen (Budke et al., 2016)	"How can you yourself contribute to the fight against global hunger? Name concrete measures if possible." (NRW 9, p. 25)

consumer behavior, tourism, consumption of resources, pollution, nature conservation, energy, transport, agriculture, sustainable urban development, integration, climate change and globalization. By addressing cause-effect relationships, the task formats intend systemic thinking as an important requirement of geography lessons as well as ESD (Otto, 2021).

The majority of the tasks studied (28) focus on the students as solvers of (global) problem areas. In doing so, topics are addressed on both their local and global scale. Often the learners are asked to show how raw materials can be saved or how waste can be avoided or what impact the students' actions have on global processes and how these problems could be solved. Most often, topics are addressed that show a local or regional reference to the learners' everyday life in order to embed their actions in a local context. One example is:

> "The state capital Munich should develop sustainably: [...] Explains what characterizes major events and how they can be made sustainable. Formulate a letter with demands to the city administration" (Bav 1, p. 138).

Far fewer tasks focus exclusively on distant, global events on which pupils are supposed to exert an influence through their actions. Only in two tasks is a reference made between global and local interconnections, which show the interconnectedness of thematic aspects at different scale levels to some extent. The scale level becomes clear in relation to the regions, as these are included in the tasks. In one task formulation it says: "Explain why regional and seasonal food contributes to environmental protection" (NRW 1, p. 86), for the local or regional scale level: "How can you reduce paper consumption at home and at school?" (NRW 8, p. 62).

Taking responsibility is addressed in 18 tasks. Here, the learners' consumption behavior is often addressed. The following example should be named as representative:

> "Impact of fishing: Discuss to what extent we can act responsibly as consumers. Create a list of theses 'measures to protect fish stocks' for a letter to a member of parliament" (Bav 5, p. 116).

Likewise, task formats direct their demands to the individual personal level, e.g., "how can you yourself contribute to the fight against global hunger? Name concrete measures if possible" (NRW 9, p. 25). A frequent common feature of the tasks is the thematization of a purchasing situation (e.g., buying food or mobile phones) of the pupils on the local scale level, which focuses on the causes and effects of consumer behavior on the regional or global scale level (e.g., water consumption, working conditions).

In another twelve tasks, students are assigned the role of causers of non-sustainable processes. In particular, social aspects such as labor relations and conditions are the focus of consideration. Examples of this type of task are: "Aspects of seasonal labor: discuss whether we become exploiters for our food?" (Bav 5, p. 78) and "my purchase has consequences: [...] Explain why consumers and supermarkets also bear responsibility for conditions in other countries" (Bav 5, p. 80f.). The role of the causers is directed towards problems that are significant in the regional living space relevant for the learners and on a global scale.

Table 3 shows the distribution of the analyzed tasks in relation to the dimensions of sustainability with one example of each task. The dimension ecology is represented most frequently with 38 tasks, i.e., approximately 75%, followed by the social dimension with four task formulations (approximately 7%). No task is explicitly dedicated to the dimension of economy. The focus on only one dimension does not strictly correspond to the concept of ESD. Ten tasks (approximately 20%) cover three dimensions of sustainability (ecology, economy, and social), whereby the four-dimensional sustainability model (ecology, economy, and social/cultural, political) is not explicitly represented by the task. None of the tasks include political decisions or laws.

Ethical Judgement and Evaluation

Based on the theoretical considerations on ethical judgement, the operators and tasks were examined. In the total of 60 tasks and subtasks examined, a total of 32 different operators could be identified, whereby only ten operators are used in the textbooks of both federal states. The other operators are only used in one federal state. Half of the tasks could not be assigned to any requirement area of the educational standards for the intermediate school certificate in geography (DGfG, 2020). This was assigned to the basic requirements according to Budke et al. (2016), such as "Calculate how much arable land you took up with your meat consumption last week. How much area would that be in a year? How much area does your class take up?" (NRW 9, p. 155). With just under 28%, tasks of requirement area II (reorganization and transfer) follow, e.g., "explain how you, as a consumer of fruit and vegetables, can make a contribution to more sustainability through your buying behavior." (Bav 8, p.

Table 3. Distribution of the analyzed tasks related to dimensions of sustainability with one example of each task

Sustainability dimensions	Number of tasks	Examples of tasks
Ecology	38	"Make suggestions to your classmates on how to reduce plastic waste in our environment. Write a letter to a politician explaining why we should take better care of the earth. Make two demands." (Bav 4, p. 22)
Economy	0	-
Social issues	4	"Diversity in Berlin: Plan an action day on the topic of cultural diversity at your school. Also formulate wishes for a good coexistence." (Bav 4, p. 156.)
Ecology, economy, & social issues	10	"Discuss whether you would prefer slow-fashion clothes to fast-fashion clothes in terms of sustainability." (NRW 5, p. 153)
Ecology, economy, social/cultural, & politics	0	-

76). Almost 16% of the tasks use an operator of requirement area III (reflection and problem solving), e.g., "explain what personal contribution you and your family can make to ensure a sustainable and environmentally friendly energy supply in the future" (Bav 8, p. 137). Only about 6% of the tasks come from requirement area I (reproduction). Tasks like the following: "How can you yourself contribute to the fight against global hunger? Name as concrete measures as possible" (NRW 9, p. 25) can be assigned to all three requirement areas, depending on the interpretation. Even though almost one third of the tasks could be assigned to requirement area III, none of the tasks lead to students being encouraged to differentiate between normative and ethical decisions in the sense of an ethical judgement on a topic in the context of ESD. They are not encouraged to reflect on which arguments are factual or ethical. Likewise, learners are not asked to reflect on the extent to which norms and rules are inscribed in this content. The tasks remain one-dimensional and only reproduce knowledge without reflecting on the contexts. The focus is predominantly based on one-dimensional and (socially) normatively set ways of acting. Weighing up different arguments in the sense of an evaluation and judgement competence as a key competence of ESD is usually not necessary because the analysis of the complexity of the decisions to act (e.g., through dilemmas) is not thematized and demanded. The processing of the tasks often succeeds through "simple" and "quick" solutions without considering the ethical problems.

DISCUSSION

The results of the textbook analysis on tasks related to the competence area action contain ESD-related contexts. Due to the formulations of assignments and tasks and addresses, three roles are attributed to the students: (1) the role as causer, (2) the role as problem solver, and (3) the role as responsibility taker. This result raises the question of the appropriateness of the tasks with regard to the target groups of learners of the gymnasium secondary level I at the age of 10-16 years. To what extent can the students be assigned the role of causers of local and global sustainability-related problems? As learners are socialized in their familial relationship structures, they usually do not act independently/self-determined in their decisions regarding consumption and lifestyle. Furthermore, the groups associated with the learners (e.g., friends, school sphere, leisure sphere, parents' work sphere) are also embedded in a social system that does not (yet) stand up to the criteria of sustainability in many areas (Pettig & Kuckuck, 2021). So, is the call to action and assumption of responsibility ethically justifiable? Furthermore, the tasks are partly characterized by a subliminal passive reproach in that the pupils are attributed a responsibility for the existing sustainability-related problems of the earth despite their immaturity.

The tasks in the analyzed textbooks are often oriented towards actions in the sense of recommendations and suggestions for sustainable action, without laying sufficient technical foundations and without a prior critical evaluation of the intended action. The tasks sometimes imply quick and easy solutions to complex problems; the promotion of systemic thinking on different scale levels is not enabled to a sufficient extent. Furthermore, sustainability-related tasks are mainly linked to the ecological dimension; other sustainability dimensions such as economic, social/cultural or political are neglected. This issue raises the question of whether the tasks analyzed are at all appropriate as formulations of requirements for ESD. Hardly any reference is made to dilemma situations that explicate ethical judgement as a prerequisite for responsible action. The option of action, which is often oriented towards the perspective of the consumer, hardly allows for any other purchase decision than the one suggested in the task (e.g., purchase of organic products). At the same time, the complexity of the options for action and the associated conflicts are not sufficiently illuminated. For the learners, quick, simple and visible solutions emerge that can be brought about without great effort, expense, cost and constraint, e.g., collecting rubbish and switching off lights. Can it be the goal of geographic education to make learners feel good about the "pseudo" sustainability actions required in the tasks, or to make them think that acting sustainably is easy and conflict-free? The learners are not taken seriously enough in their ability to judge with regard to their decisions to act if the "sustainable" solutions are already obvious. The tasks are not suitable for promoting ethical judgement competence. With regard to the research question, the pupils are primarily guided to sustainable action in the sense of education via tasks in the examined geography textbooks, without taking into account the independent appropriate judgement of complex and not fully penetrable geographical topics and contents in the sense of education.

In this context, the formulation of ESD-related tasks is a worthwhile approach to understand the complexity and the associated conflicting goals of geographical problems and thus to promote reflective and sustainable action. The prerequisite for this is that the tasks are challenging, realistic and focus on real sustainability conflicts that are appropriate for the

students. In this context, the tasks in geography textbooks in the competence area of action need to be revised to a large extent as well as to be produced more professionally in the future.

Another essential measure is to raise teachers' awareness of the complexity of ESD and the competence area of action. In addition to the ESD 1 perspective, teachers must also consider the ESD 2 perspective (Vare & Scott, 2007) in their teaching. Teachers should be aware of the one-dimensionality of tasks in textbooks, which is often certainly due to the framework conditions in which textbooks are created. Furthermore, it is a task of teacher education in all phases to sensitize pre-service and in-service teachers to the normativity of the concept of ESD. At the same time, it is a logical and necessary requirement to differentiate between the levels of ESD 1 and ESD 2 in all phases of teacher education.

An important goal of ESD-related tasks on the competence area of action is the analysis of the perspective of the effectiveness of individual and collective action, since so far the focus has rather been on the individual level of students as consumers. The societal embedding as well as the political perspective should be given more consideration in the future, as well as the development of further subject areas that go beyond a pure consumer and consumerist function. An additional derivation for the formulation of tasks is the consideration of four sustainability dimensions (ecology, economy, social/cultural, and politics) in order to open up the potentials of conflicting goals and contradictions and to promote ethical judgement as a prerequisite for sustainable action.

Author contributions: All co-authors have involved in all stages of this study while preparing the final version. They all agree with the results and conclusions.

Funding: No external funding is received for this article.

Declaration of interest: The authors declare that they have no competing interests.

Ethics approval and consent to participate: Not applicable.

Availability of data and materials: All data generated or analyzed during this study are available for sharing when appropriate request is directed to corresponding author.

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