# The Use of Planning in English and German (NRW) Geography School Textbooks

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## Abstract

Although it is not possible to predict the future, at least some ideas can be developed through planning. Geography focuses on current social, environmental and spatial problems; however, it should, at the same time, teach us to plan its future handling. At school, this is a responsible role for the subject geography. This article compares how nineteen different English and German (North Rhine-Westphalian) geography textbooks deal with planning through various tasks. These tasks are identified with a definition, based on a multidisciplinary literature review, and are examined by qualitative content analysis. It appears that planning skills for shaping the future are dealt with differently in both countries, with respect to branches of geography, topic of concern, planning method, time frame and perspectivity. Implications and limitations of the findings for geography teachers, international researchers in science education, publishing houses and other persons responsible for geography education programs are discussed.

## Keywords

Planning, Planning Methods, Time Frame, Perspectivity, English-German Textbook Comparison

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Teaching the subject of planning in geography lessons is a possibility to reach the goals of geography education, an understanding of central social, environmental and spatial issues and to ensure participation in a democratic society. Important themes in this field include urbanisation, population, international development, the use of natural resources and climate change in Germany and the United Kingdom (Department for Education, 2014, p. 230; DGfG, 2014, p. 5). A research field currently gaining popularity is how geography education can affect politics and society or how geography contributes to solving key issues (Budke and Kanwischer, 2015). It seems important to identify reasons of these key issues, as showing ways of participation and solution during geography classes. Climate change and spatial disparities are defined in particular as central social problems, which concern students in geography classes. These themes should be dealt with in school (Schultz, 2013). However, students should also learn to develop ideas to solve these problems and, in doing so, helping to shape the future. New ideas are often developed in negotiation processes. Competence in communication is learned especially well in planning, as negotiation involve argumentation processes. Using discussion during these processes, particularly for civic concepts, allows studying different perspectives within the subject of geography. In this context, geography education is also political education and a requirement for a functioning democracy. It helps people to play an effective role in democracy (Crittenden and Levine, 2013). This competence is part of an especially orientated "action competence" (Handlungskompetenz). If we do not learn how to use given options and take decisions, we behave irresponsibly, as we leave the search for solutions to social and environmental issues for future generations (Butt, 2013; de Haan, 2014, p. 382). From this point of view arises the duty to teach planning skills, if we want to have responsible students and adults. There is only little knowledge about planning in school and, so far, there is no textbook analysis published. A possibility to deal with this important fact is to analyse planning tasks in geography textbooks. Planning tasks are a tool to teach different knowledge and skills. Thus, the aim of this article is to discover the status quo of how students become educated in planning skills. Moreover, there will be an international comparison: We examine how textbooks from England (United Kingdom) and North Rhine-Westphalia (Germany) deal with planning through planning tasks. Important aspects, which are considered, are branches of geography, topics of concern, planning methods, time frame and perspectivity.

The research questions are:

- How relevant is planning in geography textbooks?
- How do geography textbooks instruct on planning?
- What are the similarities and differences between planning tasks in textbooks from England and North Rhine-Westphalia (NRW) used in school?

## Theoretical Framework

Planning is a multidisciplinary subject (Parker and Doak, 2012, p. 1). There is political, social, economic and educational planning. The literature used for developing a definition of planning in geography lessons were from geography, urban planning,

psychology and politics. These disciplines were chosen because of their different understanding of planning that is explained below and because of their relevance for geography education in school. The integration of the following main aspects of the different ways of understanding planning leads us to a final definition which is the basis for our identification of planning tasks: Planning in geography classes can be understood as a spatial, value-orientated and creative shaping practice of the future. As a preparation for decisions, it is part of a problem-solving process. Each paragraph is the theoretical background of an aspect of the definition and, at the same time, represents the theoretical background of the results.

## Planning as Problem-Solving

Many themes in geography are connected to complex problems like demographic developments, sustainable international developments, limited natural resources and climate change. Problem-solving skills in geography lessons could help students to understand these problems and to learn about problem-solving strategies. These skills enable students to participate as responsible citizens and to solve these and other problems in the future. For geography education, it is a great possibility to show its significance in problem-solving, which is not yet fully used (Budke, 2013a, p. 23; Laske and Schuler, 2012). Whereas there already exists many studies about problem-solving in general (Greiff, 2012). Some psychologists understand planning as a part of a problem-solving process or creative problem-solving process, while others understand planning as the problem-solving process itself (Kofsky Scholnick, & Friedman, 1987). The process can be divided into four to seven steps, depending on the literature (Hussy, 1998; Betsch, Funke, & Plessner, 2011, p. 146). The five-step process is most common and contains problem identification, problem analysis, plan development, plan implementation and plan evaluation. Problem identification describes the stage of recognizing the problem and setting a goal. Problem analysis is sometimes differentiated into exact goal analysis and exact initial situation analysis. At the stage of plan development, consequences and circumstances are discovered, intermediate targets identified and alternatives developed. Plan implementation includes monitoring and, if necessary, revision. The final stage of plan evaluation contains references to the goal. Some famous problem-solving models, which are suitable for work in school and which take up these stages are Bransford's IDEAL Model (1984) or the See-Plan-Do-Reflect-Cycle (Conrad, Koch & Laske, 2012). Often, the adjective *creative* is added to the problem-solving process. The distinguishing feature is a vague and indefinite solution of the problem. A creative problem-solving process requires a new reaction or the search for alternative solutions (Schuy, 1985, p. 22; Wiegand, 1995, p. 53). Some methods to solve these problems are Brainstorming, Six Thinking Hats and SWOT analysis. Brainstorming is a simple technique to create new ideas. Six Thinking Hats organize different modes of thinking to solve problems and SWOT analysis is a method to develop a strategy, for example for projects. Steps involved in solving a creative problem were already described early on by Wallas as preparation, incubation, illumination and verification (Wallas, 1926; Schuy, 1985; Holm-Hadulla, 2005, p. 54). Preparation is the stage in which the problem is analysed, the goal is identified and the circumstances as space, time and values are taken into consideration. In incubation

stage, material is analysed by process design methods, for example by changing perspective. Illumination is the stage in which a discovery is made and ideas are elaborated upon. During the stage of verification, evaluation methods are used for decision-making. Reflection of the process as a whole should take place here. In this study, planning methods are distinguished in *process design methods*, which support the communicative process and *valuation methods,* which are more rational (Diller, 2010). *Process design methods* are methods to frame the planning process. Examples are future workshops, moderation or many simulation games (Diller, 2010, p. 38). Valuation methods are methods to evaluate alternatives. Examples are cost-benefit analysis or (cost) effectiveness analysis.

## Planning to Prepare Decisions

Geography education is not just teaching facts, it is also reflecting attitudes and discussing values that provide the basis for future decisions and attitudes. In this context, it is possible to describe planning as a value-orientated preparation of decisions. Luhmann (2007, p. 67) summarizes planning as "deciding over decisions". Further, he explains planning as the determination of premises of later decisions, or as the preparation of decisions. This is comparable with Foucault's (1982, p. 220) understanding of government "le conduire des conduits", the "conduct of conducts". Preparation and its following decisions are value-orientated and these values are internalised both by society at large and by the individual planner. Planning can be seen as a particular understanding of society's deficits and these deficits are defined by the values that guide society's behaviour. These values should thus be taken into account while developing alternatives, making political planning a normative process (Albers and Wékel, 2008). Foucault describes this subtle exercise of power as an aspect of governmentality (Huxley, 2007). For a better understanding we have to recognize that he describes government and to govern not only as the activity of a state, but also as the guidance of children in a pedagogical manner or as guiding ourselves (Foucault, 1996, p. 118). His concept of governmentality, developed in 1979, had a huge influence in social science. The idea of governmentality is taken up especially in poststructuralist trends for example within political geography, by analysing societal discourses to reflect attitudes. The results show how different branches of geography use planning tasks. For the development of the branches of geography, we used the "Drei-Säulen-Modell" and its separation in human geography, physical geography and human-environment geography (Weichhart, 2003, p. 25). This classification is applicable in answering whether human geography is more suitable for planning tasks than physical geography. Decisions in physical geography are taken by factual arguments while decisions in human geography are taken by normative and factual arguments (Budke, 2013c, p. 356). Deciding in human-environmental geography should be founded on both, too. Furthermore, the topics of concern are shown and discussed.

## Spatial Planning and Planning Theory

Students might understand planning as described in geography dictionaries namely as the construction of a plan that coordinates the social and economic development and land use (Brunotte, Gebhardt, Meurer, Meusburger, & Nipper, 2001); Castree, Kitchin,

& Rogers, 2013, p. 376). Planning in this sense could be described as spatial. Regional planners understand planning as a spatial shaping practice of the future as described above. The characteristics of shaping practice in planning emphasise that planning is not only dreaming, but that it is an active and creative practice (Healey, 2010, p. 37). This practice is implemented through different methods, which refer to different planning theories and generations. The first generation of planning theories made use of rational planning models. Cost-benefit analysis is an important method of identifying the objective and is the most rational alternative. In this stage, everything appears possible and plannable. The criticism of the objective and rational planning theories, which are focused on norms, has led to the second generation of planning theories. The main difference between these generations is the assumption that planning tasks are "wicked problems", where problems are ill-defined, have a lack of obvious solutions, and cannot be answered with right or wrong (Rittel, 1972). The third generation of planning could be identified by the argumentative turn in planning, which focuses on communication and collaborative planning. The commonality of these kinds of theories is the mediation role of the planner between society and those in power. Examples nowadays are civic participation in planning processes (Albers, 1996; Brooks, 2002; Schönwandt and Jung, 2005, p. 792; Friedmann, 2006; Huxley, 2009). Applied methods are, for example, "future workshop" or "moderation" (Diller, 2010). Hall (1992, p. 9) identified "blurred goals" as one characteristic of urban planning. He described them as multidimensional because they should envisage alternative action goals, so planning is an act that focuses on the future. The future is everything from this point onward. Some authors use the plural form futures to involve a set of possible or alternative futures (Healey, 2010, p. 37; Bishop and Hines, 2012). The timeline in this imagination is consequently a cone, rather than a line, and in this sense, a plurality of aims is arranged. There is often a distinction found between short, long term and strategic planning (Kurian, 2013, p. 214). Uhlenwinkel and Schramke (2000, p. 4) hint that statements of the future nowadays tell us more about imaginative power, anxieties and hopes. The results show if planning tasks use any time frame to specify the planning context.

**Planning as Part of Education for Sustainable Development**

Some of the key themes of Education for Sustainable Development (ESD) are sustainable production and consumption, overcoming poverty, environmental conservation and protection and rural transformation (UNESCO, 2010). All of these themes are strongly connected with geography because of the three dimensions of sustainability: economy, environment and society. These themes and dimensions can be found in the National Curriculum of England, section geography, key stage one to three and in the geography curriculum for secondary level I and II in North Rhine-Westphalia (Department for Education, 2014; Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2007, 2014). ESD is a framework to teach and learn skills, knowledge, attitudes and values in shaping the future. This competence[3] is

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[3]The understanding of competence mostly follows the definition of Weinert. He describes competence as cognitive skills and abilities that a person has or can learn, allowing them to solve certain problems, as well as the attendant motivational, volitional

summarized in the concept of "Gestaltungskompetenz" ("shaping competence") (de Haan, 2010). The UN Decade of Sustainable Development was completed in 2014 and this article could be seen as a study of how geography school textbooks incorporate ESD because shaping is commonly closely related to planning. "Gestaltungskompetenz" is divided into twelve skills and planning is a considerable component in half of the mentioned sub-competencies. The relevant skills for planning are "the ability to:

- think and act in a forward-looking manner
- co-operate in (the) decision-making processes
- cope with individual dilemmatic situation(s) of decision-making
- participate in collective decision-making processes
- refer to the idea of equity in decision-making and planning actions and
- plan and act autonomously" (de Haan, 2010, p. 320).

These skills are important for planning because they require reflection of the consequences of future actions. Students should learn to be familiar with decision-making processes. In this context, it is important to be able to argue and to find solutions on one's own and in teamwork. Moreover, students should be capable of designing and reflecting their own plans for the future from the perspective of sustainability (Bormann and de Haan, 2008, p. 23; de Haan, 2010). Personal, social and methodical competencies are described by these skills that are necessary for planning in geography. The official final report of ESD shows that it is included in primary and secondary education curricula in many countries (Buckler and Creech, 2014). As described, ESD is dealing with different dimensions or perspectivities. Rhode-Jüchtern (2013, p. 214) describes perspectivity on one hand as multiple points of view of a subject and on the other hand as multiple properties of an object. In this study we analyze how planning tasks deal with different perspectivity.

**Planning in School**

School has an elementary role in learning geography. In the Educational Standards in Geography for the Intermediate School Certificate in Germany[4], planning and reflection of its consequences are goals for geography lessons (DGfG, 2014). "Natural and social spatial consequences" and alternatives of actions should be developed (DGfG, 2014, p. 24). The understanding of planning as designing or creating is not explicitly mentioned. In the geography curriculum for secondary level I in North Rhine-Westphalia, planning is mentioned as an important part of economic and citizenship education but further explanations are missing, whereas in the geography curriculum for secondary level II in North Rhine-Westphalia planning is elaborated in sections about competencies of action and judgment (*Handlungskompetenz* and *Urteilskompetenz*) (Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2007, 2014). In The National

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and social skills and abilities required to be able to apply these solutions successfully and responsibly in a range of situations (Weinert, 2002, p. 27).

[4]It is a common goal to adapt the exams and curricula of the federal states in Germany to the (national) Educational Standards for the Intermediate School Certificate but it is not mandatory. We consider the geography curriculum here, too.

Curriculum of England of 2014, key stage one to three, planning aspects are mostly missing. However, the National Curriculum of 2000 discusses planning (and managing) in combination with environmental change, sustainable development, resources and its effects. Decision-making skills are explicitly listed (Department for Education and Skills, 2004; Department for Education, 2014). Planning is associated with the concept of *change*. This is one of the organising concepts identified by Taylor (2008, p. 51) in The National Curriculum of England, which is in turn connected with the key concept of *time* (Uhlenwinkel, 2013). Both of these concepts are closely associated with the topic of planning because planning can consciously influence future changes. In German Education Standards and the geography curricula of North Rhine-Westphalia, geography is defined as a human-environment-system and this system is influenced by processes, where planning could be embedded (DGfG, 2014, pp. 10-11; Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2007 & 2014). Attention should be paid to the quantity of different curricula. In England's National Curriculum geography is described on five pages (Department for Education, 2014). The published educational standards in geography in Germany are explained over twenty-six pages, the corresponding curricula over ten pages (*Sekundarstufe I*) respectively over thirty-three pages (*Sekundarstufe II*) (DGfG, 2014; Ministerium für Schule und Weiterbildung des Landes Nordrhein-Westfalen, 2007, 2014).

Piaget (1992, p. 140) postulates in his theory of cognitive development that children from the age of eleven or twelve, at the formal operational stage, are able to plan and thereby also to make decisions, which is associated with the ability of hypothetic-deductive reasoning. Kreitler and Kreitler (1987a; b), however, emphasize that verbal communication skills are important when thinking about the future. This leads them to the assumption that children already begin to think about the future at the age of four or five. At this age, time is seen in intervals that are adapted to children's necessary activities, and planning is thereby limited. Verbal skills increase with words like "tomorrow" or "after" (Page, 2000; Hicks, 2007, p. 181). Declarative knowledge (knowing what) is important for planning, but only complete and useful in combination with procedural knowledge (knowing how) (Lisi, 1987, p. 80). With problem-based learning and problem-solving these knowledge could be learned in school. These concepts can be very well applied in geography lessons, but the specific requirements and conditions are – at least in Germany – rarely considered (Laske and Schuler, 2012, p. 12). Problem-based learning is more discussed in geography in English-speaking countries because of the project "Thinking Through Geography", developed by Leat (1998). The methods of the book are translated into German and edited by Vankan, Rohwer and Schuler (2007). In a meta-analysis study Dochy, Segers, Van den Bossche, & Gijbels, 2003) found that problem-based learning has a positive effect on skills but a tendency to negative effects on knowledge. We should add that the analysis involves only publications about university students and no perfect amount of problem-based learning could be declared. The authors do not know any meta-analysis of problem-based learning in school. Another way to learn planing in school is playing simulation games. These games simulate complex systems, for example in business, ecology or politics, and give feedback to the player, making it useful for education (Greco,

Baldissin, & Nonino, 2013, p. 649). In Germany, the *Raumwissenschaftliches Curriculum-Forschungsprojekt* (RCFP) developed some business games in the 1970s. The project was oriented towards the American High School Geography (HSGP). After this period, decades of remarkably little new development followed (Brühne, 2009, p. 179–182). How frequent planning tasks in recent school textbooks under analysis are, is shown in the results.

## Materials and Methods

In this article textbooks are analysed, based on the compiled definitions of planning. The following section describes the methodical approach.

### Purpose of Textbook Analysis

A textbook analysis can help us to understand what kind of material children work with in geography lessons. Further, a comparison between textbooks can help us to recognize how the importance of planning varies in different regions; what understanding do the authors of the textbooks have about planning and how they do think students should learn to plan. Some recent publications, which include the work with geography textbooks, focus on international comparisons or analysis tasks (Bagoly-Simó, 2013; Budke, 2013b; Matuskova and Rousova, 2013; Yang, 2015).

### Material

The analysed material is composed of nineteen recent geography textbooks used in school, ten from England and nine from North Rhine-Westphalia. North Rhine-Westphalia in Germany and England in the United Kingdom have the highest population in their countries and therefor a high relevance for many people. The schools in Wales are using the same books and curriculum as England, so the relevance is even higher. For reasons of legibility, writing England always includes Wales. Nonetheless, we have to underline that results apply only to the analysed textbooks from the mentioned regions. Conclusions to other textbooks or generalisations are speculation. The regions were chosen because of their similar social and ecological problems and resources to solve them, for example the challenge of deindustrialisation. This international study offers the chance to compare the different national understanding of planning presented in school textbooks. This could be productive for textbook authors, editors and publishing houses from these regions and other countries to improve their material and develop new planning tasks. There is no data analysis we could consult about the number of copies of recent textbooks in both regions. Therefore geography teachers from both regions were asked to get information about recent textbooks. The answers were the publishing houses Klett and Westermann for North Rhine-Westphalia, while Hodder Education, Nelson Thornes, Pearson and Oxford University Press for England. Since there are books from other publishing companies available, the results of this study have to be restricted to the books under analyses. All analysed books can be found below. The analysed textbooks have some commonalities, for example that topics are structured and printed on double pages. The distribution of the questions and tasks is similarly organised. The analysed textbooks are applied for all grades in

secondary school in England and North Rhine-Westphalia. Nevertheless, the analysed German textbooks are only used in grammar school (*Gymnasium*). These were chosen to compare the textbooks for the ages of eleven to eighteen. For these samples there were two exemplary textbooks chosen for every grade, respectively age with the result of 6058 tasks.

## Data Identification

To indicate planning tasks, all aspects of the compiled definition (theoretical framework) are identified in the tasks. Geography teachers and scientists of our working group of geography education were asked to classify tasks of the same textbooks to verify our selection and to increase objectivity. These experts completed a table with all mentiond aspects of the definition of planning tasks. In cases of doubt, the researchers asked the same experts for discussion. For a better understanding, here is an example of a planning task. "Discuss with somebody possibilities for shrinking cities, to end the vicious cycle shown in M1" (Bethke et al., 2009, p. 102).

Every aspect of the planning task definition has to match as shown here: The planning task is spatial because of the shrinking cities and their effects on the environment. Values are brought into question through the vicious cycle of demographical, economical negative growth and a loss of importance for the shrinking cities. Creative shaping is possible because of the open-ended question. Shrinking cities are a challenge with huge effects on the future, and the discussion about the options is preparation for decisions. Learning to answer this task supports problem-solving competencies. A problematic consequence of this methodical approach is that tasks which do not fulfil every aspect of the planning definition, are omitted. In a discussion with the mentioned experts, the following example was clarified as not a planning task because only an explanation is required and shaping and decision-making are not required here. "Give an example of a) short-term and b) long-term consequences of flooding" (Milner and Witherick, 2010, p. 32).

## Data-Analysis

After identifying the planning tasks, their frequency was calculated for comparison. The numbers of pages including planning tasks were also counted. The results help in understanding the importance of planning. Following this, a qualitative content analysis, as described by Mayring (2010), was performed with the support of qualitative data analysis software MAXQDA. Categories were developed deductively and inductively. A coding agenda with samples and coding rules was developed. The coding agenda was specified in four loops, reducing the material by paraphrasing, summarising, generalising and structuring. To ensure acceptable inter-coder reliability and for consensual validity, members of the scientific working group geography education were asked to identify categories in the original material during and after the process. The categories' branches of geography, planning methods and perspectivity were developed in a deductive way. For the development of branches of geography, we use the division in human geography, physical geography and human-environment geography (Weichhart, 2003, p. 25). The category planning methods were developed on the basis

of Diller (2010) and his differentiation in process design methods, valuation methods and other methods. This disposition shows how working methods are introduced. The category perspectivity is built on the basis of the distinction between explicit multiperspective and not explicit multiperspective (Rhode-Jüchtern, 2013, p. 214). The category topics of concern and the different subcategories of time frame were developed inductively. For the topics of concerns the planning task issues are defined, accumulated and brought together to broader topics in an iterative process. The category time frame is divided into subcategories with any point in time and without any point in time. These subcategories are developed in an iterative process and are representing the dealing with time and time-management. One problem with our methodical approach was the iterative process of forming broader topics. However, for the development of the category topics of concern we focused ourselves towards the branches of geography but subjectivity of the researchers is part of the results. The category time frame was easier to develop because much of the task does not consist of time specification. For these processes, some members of the workgroup were involved as well.

# Findings

## Planning in English and German (NRW) Textbooks

In the following paragraph, the collected data is organized in tables. The results are described and subsequently interpreted.

## Importance of Planning Tasks

Initially, we answer the question, which relevance planning tasks have in the two textbook samples. The result can give us evidence of commonalities and differences in planning tasks. The frequency of planning tasks is compared in table 1.

Table 1
*The Use of Planning Tasks in English and NRW Geography Textbooks*

| Object of investigation | English textbooks | NRW textbooks |
|---|---|---|
| Textbooks | 10 | 9 |
| Pages in total | 2548 | 2284 |
| Tasks in total | 2885 | 3173 |
| Planning tasks (in %) | 288 (10%) | 126 (4%) |

In the analysed textbooks 10% in the English sample and 4% in the North Rhine-Westphalian sample of all tasks were defined as planning tasks. Although, the sample from North Rhine-Westphalia gives more tasks in total (3173) on less pages (2284) than the English sample with 2885 tasks on 2548 pages, they give less planning tasks. The task/page ratio in the English sample is 1.13 and in the North Rhine-Westphalian sample 1.39. The quantity of planning tasks could possibly be explained by the authors' preference of tasks with only one clear result. However, this is not the case for planning tasks because here creativity is needed and unforeseen different results can be correct solutions. Tasks with more than one correct result are more complicated to grade for teachers. This might be a reason why creative problem-solving as described above is not

taught systematically. Valuation standards for planning tasks have not been developed yet. Furthermore, planning tasks probably need more material than do description or explanation tasks. Since the English and North Rhine-Westphalian textbooks under analysis are organized on double pages, they often cannot present enough materials to meet the requirements for high-quality planning. This could also reduce the number of planning tasks. This is between 3.0% and 5.1% in the North Rhine-Westphalian sample, respectively between 3.1% and 18.3% in the English sample. The greater variability in the analysed English textbooks is probably a result of the greater number of publishers with different concepts of textbooks. This is illustrated by the fact that both extreme values came from books for students of the same age (low: Nagle and Cook, 2011; high: Waugh 2009). In addition, Lambert and Balderstone (2010) already criticise that in textbooks higher order tasks, were planning in our understanding can be added, are not given satisfactorily. Surprisingly, our result shows that planning tasks are given more often in English than in the North Rhine-Westphalian sample. A reason could be that the freedom of the publishers in England is probably greater because of the shorter geography section in the National Curriculum in comparison to curricula in North Rhine-Westphalia. The opportunity of geography to teach planning skills and prepare children for the future is, based on this result, very small. A greater number of planning tasks in books could increase the chance that they will be used in geography lessons.

**Planning Tasks Dedicated to Branches of Geography and Topics of Concern**

An interesting question is to which *branch of geography* the planning tasks belong, and to what topic of concern the planning tasks can be allocated. The results show what kind of issues textbook authors see as particularly suitable when imparting planning skills to students. These are possible issues that either have a higher impact on students, or they are particularly urgent and important issues, as described by Klafki (1996).

Table 2

*Planning Tasks Dedicated to Branches of Geography*

| Branch | English textbooks | NRW textbooks |
|---|---|---|
| Human geography | 34.6% | 60.0% |
| Human-environment geography | 61.2% | 37.6 % |
| Physical geography | 4.2% | 2.4% |

Table 2 indicates the identified planning tasks dedicated to the branches of geography. In English and North Rhine-Westphalian geography textbooks under analysis, 4.2% respectively 2.4% of the planning tasks were dedicated to physical geography. This result shows that planning, as a human activity, is quite difficult to find in the branch of physical geography in both samples. In the sample from North Rhine-Westphalia 60%, the majority of planning tasks were dedicated to human geography. In the English textbooks under analysis, 34.6% were allocated to human geography. The following task is an example from the human geography subject area of migration: "Should Pepe emigrate? Re-enact the conflict in role-play" (Brodengeier et al., 2011b, p. 77).

Students are invited to exchange arguments about the decision of whether Pepe should emigrate to earn more money in Europe than spending his life in his home country, Ecuador. Even if physical geography aspects could be responsible for poverty too, only economic reasons are described in the teaching material and these can be discussed in a role-play. The example task captures some issues from population geography and economic geography. In contrast, 61.2% of the planning tasks were dedicated to human-environmental geography in the analysed English textbooks. In the analysed North Rhine-Westphalian textbooks 37.6% was allocated to this field. The following task is an example from the subject area of flood protection: "How does the UK cope with the floods? Describe three ways that the Environment Agency can help reduce the risk of flooding" (Waugh and Bushell, 2010b, p. 51).

More than three ways are explained in the book, and more are said to be possible. The human-environmental context of the explanation is clarified by human action being a response to a natural danger. Such topics could be a great source for planning tasks, as the example shows. The result emphasizes that planning as a human activity is mainly taught within the branches of human-environmental geography and human geography. This outcome confirms the result that North Rhine-Westphalian geography textbooks use argument tasks predominantly with human geography topics, as Budke (2011, p. 259) already detected. The results could reflect the traditions of geography education in different countries. It seems that education of human-environment geography is dominant in the English sample, whereas education of human geography is dominant in the North Rhine-Westphalian sample. It appears that physical geography is involved in planning almost only through tasks that were allocated in this analysis to human-environmental geography. Table 3 shows a detailed examination of the tasks allocated to more specific divisions of geography. The divisions are combined to meaningful classifications for a better readability. The analyses can give us evidence of the authors' understanding of planning. The topics of concern are fields in which textbook authors see the potential of a creative planning process.

Table 3
*Topics of Concern of the Planning Tasks*

| Topic of concern | English textbooks | NRW textbooks |
| --- | --- | --- |
| Natural disasters & climate change | 21.4% | 5.4% |
| Tourism and travel | 14.1% | 27.7% |
| Urban and regional planning | 13.4% | 10.8% |
| Settlement and location factor | 12.8% | 6.9% |
| Development | 6.9% | 4.6% |
| Consumption and lifestyle | 5.9% | 10.8% |
| Natural resources and energy | 5.2% | 6.2% |
| Agriculture and livestock | 4.5% | 11.5% |
| Other | 15.9% | 16.1% |

In the analysed English textbooks, natural disasters and climate change were the most frequently used topic of concern to set a planning task (21.4%). This topic includes questions of how to handle the consequences of climate change such as floods

and droughts but also includes the effects of volcanic eruptions and tsunamis. In the following example, the risk of tsunamis is included into the planning: "How can the tsunami danger be reduced?" (Waugh and Bushell, 2010b, p. 99).

Authors of the North Rhine-Westphalian textbooks under analysis rarely use natural disasters and climate change when creating planning tasks (5.4%). There is a potential for more relevant planning tasks as the result of the English sample shows. However, in the analysed North Rhine-Westphalian textbooks, tourism and travel is the most frequently used topic of concern to set a planning task (27.7%). Authors of the English textbooks under analysis use this topic less often (14.1%). It subsumes tasks to plan development of tourism in various places like at the beach or at mountain villages, as in the following example: "Construct different scenarios for the tourism development of the municipal Sölden" (Bauer et al., 2011, p. 77).

The topics agriculture and livestock and consumption and lifestyle are used more often in the analysed North Rhine-Westphalian textbooks (11.5% respectively 10.8%) than in the analysed English textbooks (4.5% respectively 5.9%). Consumption and lifestyle include topics about sustainable customer behaviour and the way of life. It can be a very realistic topic for children to start with planning, as this example shows: "Discuss with your classmates how you can become active in terms of sustainable consumer behaviour" (Brodengeier et al., 2011d, p. 335).

Agriculture and livestock include tasks about the origin of our food and production methods, as the following example shows. More planning tasks in this field could educate children on a healthier diet, a healthier lifestyle and on more self-reflected behaviour. "You are taking over a farm and have the choice between a mixed farm and a specialized farm. Which one do you choose? Why?" (Brodengeier et al., 2011a, p. 155).

The topic of concern settlement and location factor includes tasks about establishing industries and businesses. Even if the difference in frequency is not huge, it is remarkable that authors of the analysed English textbooks mention settlement and location factors more often (12.8%) than the authors of the North Rhine-Westphalian textbooks (6.9%). The following task is an example, which allows getting an idea of globalisation from different perspectives. "Look at photo M. Design an advert for Cyberbad to attract British-based companies to outsource their activities to India" (Widdowson, 2009, p. 63).

In English and in North Rhine-Westphalia geography textbooks under analysis, the proportion of urban and regional planning, development and natural resources and energy is almost the same. Urban and regional planning summarize tasks about sustainable urban development or for example traffic management. This is maybe the first topic of concern that comes to mind when thinking about planning tasks. Surprisingly, the quantity is low in both countries. An example is shown in materials and methods about shrinking cities. The subcategory development includes examples about good governance in developing countries and potentials of some rural areas. The quantity is also low. The following example displays the topic inherent complexity.

"Find a recent example of bad governance in the developing world and discuss possibilities of influence by states or communities of states" (Bauer et al., 2011, p. 99).

The subcategory *natural resources and energy* summarises preparation of strategies of the gain of mineral resources or questions on the use of renewable or non-renewable energy. The quantity is surprisingly low in both countries, although it is a current issue all over the world. An example is a following task, addressing the energy supply with renewable raw materials. "Discuss the benefit and problems that would be involved in an increasing reliance on biomass as a major source of energy supply" (Waugh, 2009, p. 550).

All these *topics of concern* about *urban and regional planning*, *development* and *natural resources and energy* are set in proportion quite similarly. This means that both groups of authors use these *topics of concern* just as often as the others to set planning tasks. Students in both countries could learn with these tasks to be creative in answering important and potentially raising questions about our energy supply, development assistance and urban planning but the amount is comparatively low. Energy transition has captured the media's attention gaining relevance only after the publishing of textbooks, especially with the Fukushima disaster in 2011. The results suggest that children who work with English geography textbooks under analysis learn how to plan using examples of *natural disasters and climate change* and *settlement and location factors*. This could be a reflection of the long coastline of the United Kingdom and the historical connection to members of the Commonwealth like Bangladesh, Kenya, Micronesia etc., which suffer from climate change and accompanied disasters (Kreft and Eckstein, 2013). The result of the North Rhine-Westphalian sample is not surprising if we acknowledge the money spend on holidays. For example, in 2013 Germans spent the second highest amount of money, globally, on tourism (United Nations World Tourism Organization, 2013). The different results from the two samples are possibly based on a different understanding of planning. While authors of the English textbooks under analysis understand planning with the wish to find solutions to urgent key social issues such as climate change, authors of the North Rhine-Westphalian textbooks under analysis seem to understand planning primarily as preparation for individual lifestyles, self-fulfilment such as travelling, and consumption of organic food. The results also show potential for improvements in especially underrepresented branches respectively identified underrepresented *topics of concern*. Greater involvement of ESD as described in 2.4 could be helpful.

**Planning Methods**

We also researched what kind of planning methods geography textbook authors suggest. Textbooks not only contain specialised knowledge; they are a didactical support for students as well as for teachers. Table 4 indicates the usage of planning methods, in English and North Rhine-Westphalian geography textbooks under analysis.

Table 4

*Planning Methods Used in Geography Textbooks*

| Planning method | English textbooks | NRW textbooks |
|---|---|---|
| Process design methods | 20.8% | 27.8% |
| Valuation methods | 26.2% | 2.4% |
| Other | 8.8% | 7.9% |
| With any method | 55.8% | 38.1% |
| Without a method | 44.2% | 61.9% |

These results show major differences between the analysed English and North Rhine-Westphalian textbooks. While 55.8% of the planning tasks in English sample suggest any planning method, 38.1% of the planning tasks in the North Rhine-Westphalian sample suggest any method. The following example is embedded in a chapter about climate change. Since there is no method used, it could be more complex for students because they receive no information to start planning and how to deal with the planning process: "What could we do today to affect one of the big challenges of the future?" (Bethke et al., 2009, p. 40).

A way to make planning tasks less complex is to specify them with a *process design method*. However, tasks that do not suggest a *process design method* allow more possibilities in answering. In the presented task, students are initially encouraged to define "big challenges of the future". Afterwards, they need to analyse the reasons for the problems. At the end, they are asked to develop suggestions to resolve the problems. The methodical and thematic liberty could lead to a cognitive overload. The authors of both geography textbook samples use *process design methods* to set planning tasks, whereas North Rhine-Westphalian textbooks under analysis instruct these methods somewhat more frequently (27.8%) than English textbooks (20.8%). Here is an example: "Debate, for example within the framework of a 'round table' with involved and affected people, how socially compatible resettlement is" (Brodengeier et al., 2011b, p. 243).

This example uses *process design methods* because round table discussions are communicative and have framing character in a discussion. These methods could conduct and help students through planning processes. In English geography textbooks under analysis, *valuation methods* appear by far more often (26.2%) than in the North Rhine-Westphalian sample (2.4%), as in this planning task:

You have been asked to advise the government on the best way to produce energy in the future. a) Think about the costs and benefits of building a new coal power station, like the one on page 124. Do a simple cost-benefit analysis for a power station (Widdowson, 2008, p. 129).

The author suggests doing a cost-benefit analysis. This method is used for rational planning methods because of its benefit of evaluating alternatives. It could be a great help for students, especially in discussions about numbers. The results could indicate that the authors of the analysed North Rhine-Westphalian geography textbooks concede more methodical freedom to teachers in their lessons because 61.9% of all planning

tasks are without any methodical suggestions. Teachers who work with English textbooks under analysis appear to be more structured because 44.2% of the analysed tasks are without any methodical suggestion. A possible interpretation could be, that the authors of the analysed English textbooks view the subject of geography as leading more to rational methods, whereas the authors of the analysed North Rhine-Westphalian geography textbooks understand geography more as a communication and mediation science. It seems that the authors' self-concept of geography affects how children learn to plan the future. To improve planning tasks, an option would be to offer methods on a separate page for students to choose from. An important aspect of methodical approach in planning is consideration of the time frame. Short-term planning, which refers for example to a visit of friends in another city, differs from long-term planning, such as the decision to emigrate. While considering time frame, it is possible to gain more in-depth understanding of how authors think about time horizon of planning and how they teach an understanding of it.

Table 5
*Time Frame of the Planning Tasks*

| Time frame | English textbooks | NRW textbooks |
| --- | --- | --- |
| Without any point in time | 87.9% | 93.8% |
| With any point in time | 12.1% | 6.2% |

Table 5 indicates specification of the planning tasks with a time frame in English and North Rhine-Westphalian geography textbooks under analysis. This is given if any point in time or any term is mentioned in planning tasks. An example is a following task about energy supply: "Should the UK increase its use of nuclear energy over the next 10 years? Justify your answer" (Waugh, 2009, p. 550).

In the example, a time frame of ten years is given. Some authors use a specific year to set a time frame. The problem arises from that is the subsequent editions of the textbook are no longer up to date. The distinction in short-term and long-term planning is rarely found but if so, particularly in English textbooks under analysis. The results point out, however, that time frames need to be considered when planning and give, in this sense, methodical support. Most of the planning tasks in English and in North Rhine-Westphalian geography textbooks under analysis surprisingly do not use any specific point in time to specify planning tasks. If *time* is an organising concept in geography, as described above, planning tasks could be suitable to integrate this concept. The opportunity to teach an understanding of time is thus omitted. Authors of the English sample give a time frame as a detail of the planning tasks more often (12.1%) than authors of the North Rhine-Westphalian sample (6.2%). A possible explanation is that authors of the textbooks under analysis do not expect students to be able to handle different time designations. If it is our wish that they learn to plan well, students should acquire time management skills. A possibility to improve these skills could be to pose more planning tasks with time specifications. Another important aspect of methods in planning is *perspectivity* in planning processes.

Table 6
*Perspectivity in the Planning Process*

| Perspectivity | English textbooks | NRW textbooks |
|---|---|---|
| Not explicit multiperspective | 48% | 76% |
| Explicit multiperspective | 52% | 24% |

Table 6 indicates that the authors of English textbooks under analysis give *multiperspective* planning tasks more often (52%) than authors of North Rhine-Westphalian textbooks (24%) under analysis. By contrast, North Rhine-Westphalia geography sample uses *not explicit multiperspective* planning tasks more often (76%) than the English sample (48%). An example for *not explicit multiperspective* is the following task: Plan, on your own, one day in CentrO. Assuming that you are not on a budget, what would you like to do? (Frambach et al., 2011, p. 94)

The example emphasises one specific view with the words "on your own". On the one hand, pupils are instructed to develop leisure activities in CentrO, a shopping mall. Multiperspectivity might be especially helpful in this space to show younger pupils different interests and perspectivity. On the other hand*, not explicit multiperspective*, respectively monoperspective planning tasks help to develop and to communicate individual interests. However, an *explicit multiperspective* planning task is the following example, pointed out through the word "two" which is used twice.

> Should the quarry in the Dun valley be allowed to remain open? Present the arguments for two groups that think the quarry should continue and for two groups that think it should be closed. Then present a conclusion, taking the arguments of both sides into consideration (Waugh, 2009, p. 205)[5].

Planning tasks *not explicit multiperspective* give students the chance to formulate their own view of a problem, albeit it does not include a possibility to reflect it. This is possible with the emphasis on multiperspectivity. Spatial, environmental and social problems should be considered from multiple viewpoints to plan solutions that pay attention to every participant. This could be a way to learn values that lead to decisions as described above. The reduction of complex issues to only one perspective does not lead to appropriate planning. Authors could increase in tasks the perspectivity from grade to grade to develop individual interest and community involvement.

## Conclusion

The aim of this article was to discover how textbooks from England and North Rhine-Westphalia under analysis educate planning tasks. These tasks have been identified by a developed definition of planning and they have been the basis for the qualitative analyses. The study shows that the textbooks under analysis attach little importance to planning tasks. This result is surprising, as both current social and environmental problems and spatial developments in both regions need to be considered. Students should not take them as unchangeable, but rather act as responsible citizens in future through helping to shape it. It appears that there is a distinct lack of

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[5]Emphasis in the original

preparation of planning skills for shaping the future in both planning task samples. Teachers need to develop tasks on their own if they want to give planning lessons. This is why in new geography education programs planning tasks should be taken into account. While planning tasks from the English textbooks under analysis largely cover *natural disasters and climate change* in the branch of *human-environment geography*, planning tasks from the North Rhine-Westphalian textbooks under analysis focus mainly on aspects in the field of tourism, consumerism and lifestyle in the branch of *human geography*. A different understanding of the subject of geography and different didactical goals of the textbook authors could explain these results. In both textbook samples, improvements could be made in topics that are not yet covered, for example in textbooks from North Rhine-Westphalia under analysis in *human-environmental geography* and in English textbooks under analysis in *human geography*. It appears that in the English sample, planning tasks deal more often with problem-solving, whereas in the North Rhine-Westphalian sample planning tasks rather deal with the individual fulfilment of one's aims in life. It could be for this reason that the results of the perspectivity are different. Authors of the North Rhine-Westphalian textbooks under analysis formulate planning tasks more often in a *not explicit multiperspective* way, whereas authors of the English sample use explicit multiperspectivity for planning tasks more frequently. A look into textbooks of other countries could stimulate teachers, researchers and persons responsible for education programs to see the potential of planning tasks in their class and their system.

In the analysed planning tasks of the nineteen textbooks, methodical preparation of planning processes of the students appears particularly deficient. Time frames, planning process steps and methodical support are mostly missing in the analysed planning tasks, even if geographical concepts of time and change are embedded in the National Curriculum of England. This could lead to a cognitive overload and however, it seems it does not extend the methodical understanding and knowledge of the students. The opportunity for students to use suggested methods could make different levels of complexity of the planning tasks available. An idea to teach this missing information is to integrate an extra page in school textbooks about different methods that could be used to solve planning tasks. Textbook editors could pay attention to which planning methods could be used more often in the textbooks. Different time specification of tasks could develop an understanding of the influence of time on planning. Geography teachers should discuss with students the influence of different time frames for planning tasks.

The results of this study only refer to geography textbooks under analysis from England and North Rhine-Westphalia. Planning in actual geography lessons was not analysed. We cannot answer the question of how students deal with different time frames in planning or how results in planning can be marked. The results are nevertheless an interesting basis for further research. This is needed if we want that nowadays students resolve the problems of tomorrow. Interesting points for new research are also the comparison between textbooks from Hauptschule, Realschule and Gymnasium and the question which books give more planning tasks and why. This could be helpful for teachers if they were searching for creative planning tasks, too.

Since the analysis of the planning tasks as a function of the age level of the textbooks could not deliver a clear result, further research could help to understand in which grade teachers could give more planning tasks. The influence of the current curriculum in England could be studied because it seems that planning is less important in there. The curriculum was established in 2014 and the analysed textbooks have been published before. Another interesting field for researchers is how often problem-based learning could be useful in school. Furthermore, the influence of the centralistic respectively federal political planning system on the planning culture in school could be studied. The results would be interesting in relation to methods and could be a contribution to citizenship education.

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