

Article

Writing in Geography Lessons—An Unreflected Routine?

Saskia Steingrübl *  and Alexandra Budke 

Institute of Geography Education, University of Cologne, 50923 Cologne, Germany

* Correspondence: s.steingruebl@uni-koeln.de

Abstract: Writing is an integral part of everyday school life and is a relevant didactic tool in geography lessons. Nevertheless, there is still little research on the topic of writing in geography lessons. The study aims to investigate the attitudes towards writing and school practice of geography teachers by analysing qualitative guided interviews. It will reflect on the extent to which teachers ascribe meanings and didactic significance to this language action and implement it in their geography lessons. Teachers see writing in particular as a function of performance assessment and material evaluation and less as a means of subject-specific learning. In addition, the integration of writing tasks in geography lessons is a challenge for them. Research and university teaching should support teachers in cultivating a didactically justified approach to writing tasks and raise awareness among them to the diverse functions of writing.

Keywords: writing in geography lessons; functions of writing; importance of writing; teacher opinion; writing tasks



Citation: Steingrübl, S.; Budke, A. Writing in Geography Lessons—An Unreflected Routine? *Educ. Sci.* **2022**, *12*, 587. <https://doi.org/10.3390/educsci12090587>

Academic Editor: Eila Jeronen

Received: 5 April 2022

Accepted: 23 August 2022

Published: 28 August 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Writing is an important action undertaken in school and everyday situations and is one of the key competences needed for educational success [1,2] (p. 17) as well as being a prerequisite for social and cultural participation [3,4]. Writing competence is understood here “as the ability [. . .] to write socially relevant texts correctly and in a way that is appropriate for the reader” based on Harsch et al. 2017 [5] (p. 331).

Geography classes also often use writing tasks and require material-based writing from students [6] (p. 67). Studies show that students face greater challenges in this regard, which suggests that support is needed [7] (p. 31ff). Now, subject teachers have only little teaching time with their class, in which they have to teach a variety of subject contents and competencies—thus, it is obvious that the use of active promotion of writing competencies in geography lessons requires to convince teachers. In the following, some reasons derived from the scientific literature are given why the didactic use of writing tasks and the promotion of writing competencies in geography classes is essential:

1. Language learning and subject learning are directly related and mutually dependent [8–10].

Mastering writing in subject lessons is particularly important due to the connection between written skills and understanding of the content. Writing is always connected to thinking and reflective learning and is often examined against the background of linguistic skills and their promotion among students with a migration background [11] (p. 22). This is particularly interesting because recording thoughts in writing is “a very essential work of thinking and uniquely interrelated with it” [12] (p. 11), which is apparent from these skills being embedded in many everyday actions and in every school subject.

Nevertheless, each subject has its own specific linguistic requirements and require different text contents and structures, which pose new challenges for the students when developing their competence in a range of subjects.

Fostering these competencies is thus relevant across subjects, “since writing, on the one hand, provides students with cognitive access to the content and knowledge of the

respective subject and, on the other hand, (educational-)linguistic competencies are developed through writing" [13] (p. 50). The writing-to-learn approach emphasises the positive effects of writing on professional learning [14,15].

2. Written examinations are a common means of assessing performance.

Decker and Hensel [13] noted that writing competence is closely linked to examination success in school. However, performance assessments are also an important component of geography classes, in the form of tests and written exams, which are used to generate school grades. The anchoring of writing in the curriculum for social studies in North Rhine-Westphalia takes place primarily in the area of "performance assessment and performance evaluation". Within this, both oral and written results, in the form of contributions and products, are expected [16] (p. 61f). The requirements in curricula are to be taken into account by every teacher. Educational standards for the subject of geography have been established so that minimum standards can be taught in schools. Since writing in geography lessons is also anchored there, teachers should be able to incorporate this into their lessons, to take it into account and to judge and subsequently promote the existing abilities of the students in this area. Thus, it is important to examine the extent to which students are challenged and encouraged by teachers to strengthen their written competencies in geography classes.

3. Writing tasks offers good opportunities for didactical differentiation.

Steinhoff [5] (p. 332) pointed out that writing in the subjects takes place "mostly unsystematically and with neglect of the specific process and developmental conditions", but its potential could be developed through a methodical reflection-based approach in lessons. Moreover, from a didactical point of view, writing, and particularly writing tasks, provide good opportunities for differentiation in a heterogeneous class community [17] (p. 5), which can increase a students' learning success and motivation to write. Language-sensitive geography teaching has received a lot of attention in research and teaching for a number of years. In this context, the realisation that linguistic and subject-specific learning are mutually dependent has been identified [10] (p. 27), particularly due to growing heterogeneity in the student population and the consequential differentiation and promotion of linguistic competencies in geography teaching that has become essential. Many authors have already addressed this issue and collected empirical research on the topic, as well as developing linguistic support methods, particularly focusing on argumentation [18–23].

These three arguments illustrate the relevance of writing and writing support in geography education.

From the point of view of geography education, it is important to examine teachers' perceptions of the functions and importance of writing in geography lessons, as these attitudes form the starting point for didactic decisions and integration of the topic of writing. However, in order to adequately promote writing competences in subject lessons, it is first necessary to investigate the extent to which writing tasks are integrated into the lessons and what importance teachers attach to this language activity in particular. To fill this research gap, the following investigation answers the research question what didactic understanding the geography teachers assign to writing and what didactic functions they ascribe to it. In order to define the research gap more precisely, the first part of the paper provides an overview of the current state of research and an overview of the functions of writing in general. From the theoretical framework, research questions are then formed, which are subsequently answered by means of a qualitative study with eleven geography teachers from Germany, and the results are discussed.

2. Current State of Empirical Research of Writing in the Lessons

In the following, the current state of research on the topic of the significance and functions of writing in the lessons will be examined. Studies from other subject areas will also be used, as research in the field of geography teaching is still limited.

Currently, empirical studies that research the topic of writing in geography education focus on the use of writing tasks, the skills of pupils and students in argumentative writing, and the importance of argumentation in lessons and the attitudes of teachers in this regard [24–26]. In a first explorative, quantitative study, Budke [6] (p. 58ff) used open structured observation of 178 geography lessons to investigate to what extent writing is embedded in geography lessons and what meaning could be derived from this. It was found that students wrote in 64% of the observed lessons, which suggests writing is a highly relevant linguistic activity in geography lessons. In 90% of the writing activities, writing was material-based [6] (p. 67). The proportion of writing is significantly higher between grades five and eight (between 73 and 77% of lessons) than in grades nine and ten (around 55% of lessons). The demands of the writing tasks are predominantly basic, and the majority take place at the word level (52%). In a study on the teaching routines of geography teachers, it was observed, in an analysis of 112 45-min lessons by 38 teachers at grammar schools in North Rhine-Westphalia, that writing assignments made up the largest proportion of the tasks set in lessons. They served as a means of solving tasks, especially in the development phase. The low occurrence of the written recording of information in the debriefing phase is striking [27] (p. 445f). It was also clear from this study that the use of material seems to be a subject-specific routine.

Beyond the quantitative studies on writing in geography education, it is also interesting to investigate what teachers and students associate with writing and what attitudes they have towards the language act. A large proportion of the pupils interviewed in a study of writing practice in subject lessons [28] had a negative attitude towards writing, an attitude which was found to increase with advancing age and is thought to be related to the development of writing competence, with strong writers having a more positive basic attitude towards the language activities [28] (p. 30). The majority of teachers think that their pupils do not like to write because it is “too tedious and exhausting, because it requires too much concentration and they already write a lot in subjects such as German and English” [28] (p. 31). The teachers identified difficulties in motivating pupils to write, but the potential of learning to write was also not being exploited (*ibid.*). These research findings were not collected in geography classrooms and no comparable studies on geography teachers’ associations and attitudes towards writing are available yet. The following study therefore aims to investigate the following research question in more detail:

1. *What are geography teachers’ associations toward writing in geography lessons?*

In addition to the teachers’ associations with writing in geography lessons, it is also interesting to examine how they justify their didactic use of writing tasks in geography lessons. A study of writing practice in the subject lessons showed which functions the activity of writing fulfilled in these contexts was investigated. The authors identified the following functions (listed by frequency of mention): securing reading comprehension, securing subject terms, securing subject concepts, organising work, developing or realising certain types of texts, drawings/calculations/estimates, repeating and consolidating subject content, disciplining and supporting an independent mental operation [28] (p. 19f). However, it is worth noting that this study used a small sample so may not be representative in a wider context. These initial study results do highlight that writing takes place in almost every lesson and predominantly at the word and sentence level, thereby securing learning outcomes and subject-related teaching concepts and has a predominantly reproductive character [28] (p. 21). If the state of research in the field of the functions of writing is considered, it becomes clear that there is still much need for research here. Thus, the following research question will be pursued in the rest of the article:

2. *What are the key didactic functions of writing in geography lessons from the perspective of geography teachers?*

In order to gain a deeper understanding of the opinions and didactic actions of geography teachers, it makes sense to examine not only the functions of writing but also the significance of writing for teachers in their geography lessons. Decker and Hensel [13]

examined the significance of writing texts and the promotion of writing competences in the subject lessons of the Upper classes of secondary schools. By analysing the North Rhine-Westphalian core curricula for selected subjects, it was found that writing only appears explicitly in the subjects of German and Biology [13] (p. 55). Within the framework of this study on the significance of writing in lower secondary education [13], it was thus possible to establish that writing activities within the subject areas have a lower significance, which is apparent from the lack of explicit and binding curricular guidelines that provide orientation on forms of writing and their respective educational functions.

Again, when looking at the current research on the place of writing in geography education, it becomes clear that only marginal results are available. For this reason, the following study pursues the research question:

3. *What is the importance of writing in geography lessons? And what importance do geography teachers attach to the action of language?*

The results of the quantitative studies on writing in geography lessons show that writing tasks are part of the teaching routine of geography teachers. However, the qualitative research gap exists here, as the extent to which teachers functionally and consciously embed language activity in their teaching, and the importance they attach to writing, have not yet been investigated. Through the desideratum in the area of geography teachers' attitudes towards writing, the three research questions presented could be identified and form the basis of the investigation for the following study.

The research questions will be answered by analysing guided interviews with 11 geography teachers. Following the evaluation of the interviews, it will be reflected to what extent writing is consciously integrated into geography lessons in terms of its functions and significance. This is done with the overall goal of sensitising teachers to the many functions of writing and reflecting on their teaching in this regard. So first, a theoretical overview of the functions of writing will be given. This is done because the individual functions of writing form deductive categories for evaluating the interview statements of the teachers.

3. Functions and Relevance of Writing in Lessons

In order to analyse the interviews with geography teachers and to answer the question of which didactic functions they assign to writing in their lessons, theoretical models focused on the different functions of language action that have been established in German education are presented below. Comparable models do not yet exist in geography education. Taking into account the most common writing function models e.g., [17,29,30], which differentiate, among other things, between the psychological, social and cognitive functions, as well as writing for oneself or for others, the relevant literature is further used to give an overview of relevant functions. Table 1 illustrates the most relevant functions of writing in lessons discussed in the literature, which is divided into three upper categories. The category **"Writing for the acquisition of subject-specific competences"** contains the functions of writing that relate to content-related learning, such as the generation and transformation of subject-specific knowledge [8,9].

Here, the focus is on deepening, securing and linking subject content. From an empirical and theoretical perspective, research around the topic of the functions of writing for subject learning is becoming increasingly important (cf. studies by [8,31–35]). Another category is **"Writing as a medium for gaining knowledge"**, which refers, in particular, to the functions that deal with the acquisition of knowledge through the written examination of facts and materials. A special distinction is made between the first two categories, since the primary focus is on the functions of writing in geography instruction. The category **"Writing for the acquisition of subject-specific competences"** thus again clarifies the special value of writing for the acquisition of subject content. The category **"Writing for Communication & Strengthening Language Competences"** deals in depth with the linguistic and communicative competences that can be acquired through writing beyond the purely technical level. **"Writing as a medium for reflection and personal development"**

was also chosen as a separate category, as here the special focus is on the reflective function of writing in relation to one's own learning process and personality.

The following overview serves as the theoretical basis for the design of deductive categories, which are subsequently compared with the statements of the teachers.

Table 1. Functions of writing in the didactic literature (source: own compilation).

Function of Writing	Theoretical Description of the Function of Writing
Writing for the acquisition of subject-specific competences	
Generate and transform expertise	Schmölzer-Eibinger and Thürmann [35] (p. 12) see writing as a “medium of subject-specific learning”. This means that writing can promote the acquisition of subject-specific competences. Knowledge is generated and transformed through writing (ibid.). Thürmann, Pertze and Schütte [28] see in writing the potential to generate new knowledge by creating a bridge between subject knowledge and discourse knowledge. In doing so, the contents are linguistically linked to create new logical references (p. 35f). This potential also exists because the planning and revision of the resulting text is dealt with intensively in the writing process and decisions are always made about the use of linguistic means in relation to the correctness of the content and the subject content. This creates a high potential for learning and reflection of subject content [36] (p. 64), which is the “prerequisite for self-determined and responsible knowledge acquisition in the information society” [5] (p. 332). With regard to subject learning, meta-studies by Graham and Hebert [14] and Graham, Kiuahara and MacKay [15] showed that writing argumentations in particular has an effect size of 0.42 that promotes learning.
Deepening of Contents	The <i>writing-to-learn</i> approach emphasises the relevance of written action in the classroom by foregrounding learning through writing, where writing is understood “as a form of acquisition and processing of knowledge that occurs during or after engagement with different content” [37] (p. 41). Writing is thus used as a thinking and learning medium to deepen and consolidate content and to discuss different spatial, factual and temporal conflicts. In contrast to speaking, writing takes place much more slowly and enables the use of long-term memory and external knowledge storage, which additionally favours the deepening and consolidation of content [5] (p. 335).
Safeguarding acquired knowledge and skills/conserving function	Writing is said to have an epistemic sub-function. Further characteristics of writing are memorising, repeating or revising, which contribute to cognitive relief and offer space for new thought structures [30,38] (p. 281). Feilke [39] (p. 49) also refers to writing as an “accounting of learning”, which can also show students at a later point in time the knowledge they have acquired and the learning process. Steinhoff [5] (p. 331) describes this specifically as the “conserving function” of writing. This conserving function also serves as a way to pass on knowledge to others [40] (p. 41).
Writing as a medium for gaining knowledge	
Material evaluation	Regarding the educational standards of the subjects, it becomes clear that writing serves as an instrument for evaluating material and thus for the purpose of gaining knowledge. The educational standards of geography as a subject for the intermediate school leaving certificate state: “In geography lessons, students learn a systematic evaluation of information by structuring the information, elaborating significant insights and linking them with other information, and translating them into other forms of information” [41] (p. 18). In particular, “material-based writing” as an established term promotes the acquisition of knowledge, as writers should “actively select textual content, link it together, reflect on it and transform it into their own language” [42] (p. 14), thereby linking and deepening subject content and creating new trains of thought.
Task and problem solving	Writing serves to develop and structure subject and world knowledge, which is indispensable for solving tasks in lessons [35] (p. 9). In Ludwig's writing function concept [29] (p. 85ff), he calls this the operative function of writing. Steinhoff [5] (p. 331) emphasises that writing has an epistemic-heuristic function in that it serves as a problem-solving tool that helps to structure and expand knowledge. Thürmann, Pertze and Schütte [28] add here: “Writing in the subject doubles the complexity of the problem-solving process because it links the strand of problem-solving subject content and cognitions with that of producing a sense-developing and situation [. . .] appropriate text at any point in the preparation, planning, execution and revision process, as learners consciously or part consciously manage the progress of the project through target-actual comparisons” (p. 37).

Table 1. Cont.

Function of Writing	Theoretical Description of the Function of Writing
Linking content and supporting systemic thinking	The heuristic sub-function of the <i>Writing to Learn</i> approach also states that new contexts can be recognised due to the act of writing down and thus a further development of thought can take place [37] (p. 41). Writing down thoughts also has the function of promoting systemic thinking. By writing down content, it gains precision and has a lasting effect on thinking in systems [12] (p. 10).
Writing for Communication and Strengthening Language Competences	
Support of subject-specific language	Academic language and the associated subject-specific language are oriented towards written language, unlike ordinary language. It therefore stands to reason that writing positively interacts with the development of subject-specific language competences in oral language as well [12,43] (p. 17, p. 11). As Davis and Parker [44] state: “Language competence grows incrementally, through an interaction of writing, talking, reading, and experience, the body of resulting work forming an organic whole” (p. 7).
Reading support	The <i>Writing to Read</i> and <i>Reading to Write</i> approach focus on the mutual support of reading and writing competences [37] (p. 42). Writing has a positive effect on text comprehension and can thus be seen as part of reading promotion: “writing before, during, or after reading enables a reader to make sense of her or his reading, which in turn strengthens the quality of the reading” [45] (p. 73f). Graham and Hebert [14] and Graham, Kiuahara, and MacKay [15] also found in a meta-study that writing longer texts (at least paragraph length) and summarising writing in particular had a positive effect on reading competence.
Acquisition of communication skills: Representation and presentation	Writing should not be understood solely as a learning medium, but also as a learning object. It interacts directly with the development of communicative competences [5] (p. 332). In addition, writing—in contrast to spoken language—supports the specification of formulations and, according to Ludwig’s writing function model [30] (p. 85ff), has a formulating function. In this way, communication competence is strengthened, which is relevant in relation to messages in presentations, in exchanges with students and teachers as well as in communication contexts outside of school. Overall, writing allows better possibilities for planning and revision than oral language and can thus promote a better result in argumentative texts than in oral texts [39] (p. 49). Budke and Kuckuck [18] emphasise that the acquisition of communication skills can also be accompanied by an understanding of subject content: “Learning in geography lessons takes place both with and via language. The aim is to support all pupils in such a way that they can develop their communication skills in geography lessons and use them to understand geographical contexts” [18] (p. 19).
Acquisition of communication skills: Argumentation and assessment	Writing also serves to build up (subject-specific) discourse skills, which come into play when negotiating problems, for example. Writers evaluate facts in order to become aware of their own position, among other things. In this process, writing can have a positive effect on opinion-forming processes and argumentation. In this process, learners are required to discuss technical content appropriately in private and public settings, and to communicate appropriately to the addressees [28] (p. 37).
Supporting empathy skills	In the writing function model by Ludwig [29], as well as the extensions by Ossner [30] and Fix [40], it becomes clear that writing can take place both in an addressee-free and addressee-oriented form. Addressee-oriented writing and thus also “writing for others” can only succeed if the person writing takes on the perspective of the recipient in order to ensure good comprehensibility of what is written. By taking the reader’s perspective into account, writing can have the function of supporting empathy [46] (p. 430f).
Performance review/performance communication	The anchoring of writing in the curricula for geography and social studies of all school types takes place above all in the area of “performance assessment and performance evaluation”. There, both oral and written results, contributions and products are expected [16] (p. 61f). Czapek [12] notes: “Moreover, student performance (sic!) and grades in geography are also largely determined by written performance. Given this importance, the relative neglect of language in any subject is deplorable” (p. 10). He adds that written performance shows more clearly than oral performance whether and to what extent facts have been understood [12] (p. 10).

Table 1. *Cont.*

Function of Writing	Theoretical Description of the Function of Writing
Writing as a medium for reflection and personal development	
Creative expression	Writing can also serve to express oneself creatively. Through this expressive function of writing [29] (p. 85ff), not only can one's own view of the world be intensified, shaped and new possibilities created, but one's own experiences and personality can also be expressed [46] (p. 428f). Thus, writing can also be used for personality development.
Reflection	Writing can also serve as a means of talking to oneself [29] (p. 85ff). and can thus serve self-reflection. Writing as a means of reflection can also help to reflect on learning paths and learning outcomes. In this area, learning diaries, portfolios and expectation or result sheets have proven particularly useful [28] (p. 36).

The table is an idealised representation of the functions of writing. Additionally, it is worth noting that the writing functions that are outlined can also be interrelated and mutually reinforcing. In this context, writing tasks can pursue and focus on several didactic functions in parallel.

The explanations of the individual functions were taken in particular from research on German didactics and must first be explored for geography instruction. Thus, it is interesting to see which functions of writing teachers also name for geography lessons. This has special, subject-specific requirements: A study of teaching practice shows that a special requirement in geography teaching is problem solving, in which a content-related question is to be answered in writing [6] (p. 62). Typically, a wide variety of materials—both continuous and discontinuous texts—are used to provide relevant information for these answers. The sifting, linking and assessment of different actors' perspectives contribute to obtaining a multi-perspective picture of an issue [41] (p. 28). With regard to this point, Czapek [12] postulated: "Language and thinking are known to have a reciprocal relationship. Factual thinking and factual writing/formulating must also be central concerns of geography teaching" (p. 11).

A distinctive feature of research in geography didactics is the distinction between writing at the word, sentence and text levels, where different demands are asked, and different functions of writing are carried out. Writing can take place at word, sentence and text level in geography lessons. At the word level, notes, keywords and technical words are secured, expanded and applied. In addition, subject knowledge can be categorically sorted and networked. Making notes can also help in developing reading skills and preparation of text production [6] (p. 60). Writing at sentence level also serves as a basis here and simple subject concepts, geographical phenomena and significant subject contexts can already be described. Working on the text level is a complex challenge, both in terms of content and language, but nevertheless indispensable for the development of geographical competences and the ability to participate in geographical problems, because: "Through the writing of argumentations, discussions, analyses and descriptions, among other things, systemic understanding of complex issues can be generated in the students and the formation of professionally justified judgements can be promoted" [6] (p. 60).

Although these theoretical functions have been formulated, research has not yet been conducted on the question whether teachers are aware of these functions. The following qualitative study is intended to show which functions of writing the teachers consider to be typical for the teaching of geography.

4. Methodology

The following study is a qualitative investigation and thus follows an interpretative-understanding, explorative research approach in which individual opinions and world views are examined [47] (p. 14).

4.1. Sampling

The selection of the sample was determined by the method of theoretical sampling [48] in which the aim is to generate as heterogeneous a group of respondents as possible. Persons with contrasting school types, schools, second subjects, genders, ages and professional experience were interviewed.

For the study, eleven geography teachers, mainly from North Rhine-Westphalia and Brandenburg, were interviewed with qualitative guided interviews on the topic of writing in their lessons. Of these, six identified as male and five as female. Four teachers each currently worked at grammar schools and comprehensive schools, two at secondary schools and one at a German school abroad, which means the sample includes teachers from all types of schools. The respondents were between 27 and 49 years old and had between two and a half and 21 years of professional experience. Seven teachers stated that they teach children with special needs. In addition to geography or social studies, other subjects taught were chemistry, history, physical education, social sciences, French, German, Latin and English. In Germany, teachers may teach a subject they have not studied. For the study, however, only teachers who have studied geography and are currently teaching in schools were interviewed. Due to the ongoing Corona pandemic and the change to homeschooling, the search for test subjects was difficult. Schools throughout Germany were contacted, but there was little response, so the subjects were mostly found through networks and personal contacts at schools. Thus, this is a non-representative, convenience sample. Nevertheless, the case selection decisions were made using an approach of theoretical sampling parallel to the concept development and the ongoing research process. As this is an explorative, qualitative study, the focus was placed on finding interview partners who were as contrasting as possible, so that no theoretical saturation would arise and the research conclusions would address multiple perspectives [48] (p. 4f).

4.2. Data Collection

The research method for the guided interviews focused on the topics of associations with writing, the significance and practical implementation of writing tasks in their own geography lessons, and the didactic functions that writing provides in lessons from the teachers' point of view. Teachers who teach both lower and upper grades were asked about the differences between lessons for different grades. The guided interview was divided into four thematic blocks and began with a brief survey of the teachers' personal characteristics (e.g., type of school, etc.). The interview guideline can be taken from Table A1.

The interviews were an average of 73 min long. The shortest interview was 54 min and the longest 100 min. In preparation for the interviews, the interview guide was examined in a pretest (one interview with a teacher of upper secondary school) for practicability, comprehensibility, possible weaknesses and missing aspects. The research sample interviews took place online via Zoom videoconference and were recorded by the recording function after the consent of the participants. Afterwards, they were transcribed into text form.

4.3. Data Evaluation

The interview transcripts were analysed according to the qualitative content analysis method of Mayring [49] with the help of the MAXQDA coding software and then communicatively validated in an exchange with research assistants at the Institute xx. The formation of categories for the evaluation of the interviews was validated communicatively in that categories were found and defined with a total of seven doctoral and post-doctoral students of geography education, using one interview as an example. The Cohen's-Kappa value was not calculated, as the majority of the categories could be easily assigned. Figure 1 presents examples of the different deductive evaluation categories, including the interview questions outlined in the Appendix A which were used to obtain statements in this content area and coded interview quotations. However, the formation of categories did not only take place deductively, by obtaining categories from theory and the current state of research, but also inductively. An example of inductive category formation is the

category “Differences between lower and upper secondary schools”. During the interview analysis, it was found that many respondents made a distinction between the status and functions of writing in lower and upper secondary education. This category now has the sub-themes “functions of writing”, “importance of writing” and “writing-tasks”. For the interpretation and the reference back to the statements of the participants, these were equipped with codes, which indicate the gender (m/f/d), the respective federal state of the school (Ni = Lower Saxony, N = North Rhine-Westphalia, B = Brandenburg, T = Tokyo), the type of school (Gym = grammar school, Ges = comprehensive school, Rea = secondary school), whether they teach lower secondary and/or upper secondary (U = lower secondary, O = upper secondary, UO = both) as well as a numbering (1,2) for the same characteristics. With regard to the evaluation of the question of which didactic functions the respondents ascribe to writing in geography lessons, the qualitative statements were assigned to the theoretical compilation of functions in Section 3 and evaluated quantitatively. This serves to determine which functions are often mentioned and thus important to the teachers and which are rarely or not at all mentioned. In the evaluation of the statements on the importance of writing in geography lessons, factors such as how much writing is done, to what extent writing is considered an element that promotes knowledge, and to what extent writing is actively pro-moted in lessons are included, based on the categories of Decker and Hensel [13]. This approach is chosen in order to compare the teachers’ attitudes to previous research and to be able to derive implications for teaching practice.

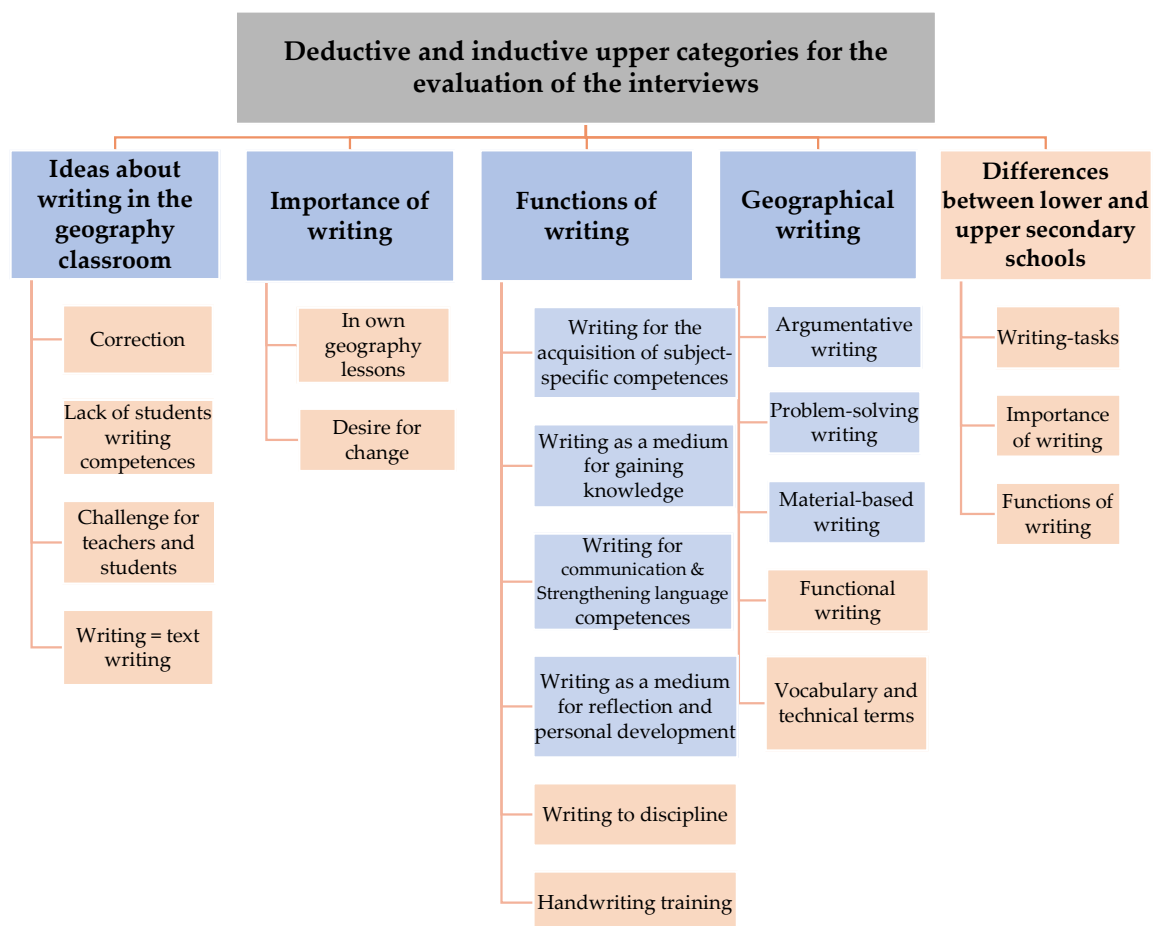


Figure 1. Category system for the evaluation of the interviews (source: own representation) Note: The blue fields show the deductive evaluation categories derived from the theory. The orange fields show inductive categories that were frequently mentioned several times during the evaluation of the interviews. More detailed sub-categories are not included in this presentation, as they are explained in more detail in Section 3 and in the Section 5.

5. Results

The results chapter is divided into three sub-areas: Associations, functions and significance of writing in geography lessons. The aim is to give an overview of the most diverse ideas of the teachers and to present the most relevant and frequently mentioned concepts on the topics.

5.1. Teachers' Associations of Writing in Geography Lessons

The respondents were asked about their associations with writing in general and then with regard to writing in geography lessons. The research aim was to get an initial spontaneous answer about associations to writing in order to be able to classify the further statements in the mindset. In the categorical evaluation system, the inductive categories "Correction", "Lack of students writing competences", "Challenge for teachers and students" and "Writing = text writing" could be identified. The study found that all teachers associated the term "writing" with writing at the text level. A large number of writing-related terms were "mistakes", "corrections" and "red pencil" in connection with a lack of—especially linguistic—pupil competences. Although teachers emphasised that writing is a challenging skill for students, the lack of competence was largely attributed to students' lack of motivation to write. One teacher commented in this context that the use of writing tasks is also associated with a high workload for her, since she first has to motivate and discipline the students and the results often do not meet the expectations:

"Okay, so from the student's point of view or as an observer, I would say that writing is always very complex for students. You have the feeling that as soon as you say 'write a text', you have to specify exactly how long it should be, otherwise you will have two sentences" (wNReaU2)

Another teacher is more specific about the challenges she perceives for the students when planning the writing product: *"So this approach with, let's say, a 'writing plan' in my head, that I know how I want to build it up and I write it and that's fine, I don't change it any more. That is something that has become very difficult" (wNGymUO).*

As reasons for this, the respondent mentions in particular the use of smartphones and digital media, where, in her opinion, writing often takes place more abbreviated and adds to her global impression in this regard: *"So writing as a competence, I think, is on the decline" (wNGymUO).*

In two cases, the relevance of handwriting for motor skills was explicitly emphasised. With regard to the teaching practice in the subject of geography, it was mentioned that writing takes up too little space in the lessons, which is due to a lack of teaching time in which a large amount of subject content has to be taught. It can be implicitly interpreted from this that the teachers are of the opinion that subject content cannot be taught quickly enough through writing tasks: *"Well, if we look at our subject. In Brandenburg, from grade seven onwards, it is usually a one-hour subject and you simply don't have enough time if you want to teach subject content" (wBGesUO2).*

Most of the respondents' associations with writing in general and with writing in geography lessons differed greatly. When asked about the general associations with writing, the lack of student competence was often mentioned. When explicitly asked about the subject-specific associations with writing in geography lessons, on the other hand, the functions of the language action and concrete examples of tasks were explained more frequently.

The evaluation of the teachers' associations with writing in geography lessons shows that the use of writing tasks is very demanding for both students and teachers. For the most part, teachers associate writing tasks in the classroom with a great deal of work. The perceived lack of writing competences of the students and the resulting unmotivated attitude interact negatively with the amount of work the teachers have to do to motivate the students to write, to discipline them and to subsequently correct the texts.

5.2. Geographical Writing

Following the teachers' associations with writing in geography lessons, they were asked what they considered to be "geographical writing" and what writing competences were relevant to geography lessons. Overall, the respondents mentioned some aspects of the definition of geographical writing and the writing requirements of geography lessons, but the impression prevails that there are still many uncertainties about this question. One respondent explained this impression as follows: *"Yes, it is totally difficult, but it is really totally interesting, because the field has really never been researched [. . .] and that is why I think there are so many things that have not yet been in the thoughts, but have been taken for granted. So what competences can I almost not say at all"* (wNReaU110).

In addition to the basic aspects, such as spelling, grammar, structure and the overall linguistic impression, competent written handling of vocabulary and technical terms was frequently mentioned as a competence criterion: *"Well, of course, it is very important, especially in the first lessons, in five and six, to write the technical terms correctly, so that you can work with them later"* (mBGesU).

There is also agreement in the statement that geographical writing is "functional" and not very creative: *"yes, but basically it would be more analytical, evaluative, descriptive text formats, less perhaps the creative ones"* (mNGymUO2). In addition, some teachers understand geographical writing as a structured tool to establish factual links and to write down processes. Three teachers emphasise that the content and the technical accuracy are more important to them than the language component: *"Yes, and perhaps comprehensibility is even in first place. Because I often understood what was meant, so I correct the language, but the main thing is that the content is acceptable. That is more important to me than the language in geography lessons"* (mNiGymUO).

Material-Based Writing

The teachers' greatest agreement regarding a definition of "geographical writing" is that most writing is material-based, as the following secondary school teacher described: *"This kind of material-based writing, that is, I have different information that I have to evaluate and bring into a meaningful context in order to present it in writing. And that is an absolutely important skill, that you manage to link the information that you can take from the materials"* (wNGymUO). Another teacher added more information about the typical processing of discontinuous texts and the resulting challenges in geography lessons:

"Maybe, what I always notice in class, which is very difficult, is that you don't actually have a text template, or if you do, very little. Because you have to draw from these discontinuous texts: Diagrams, maps, tables, data and then write texts from this information and that is the biggest hurdle for many" (mNGymUO2)

Argumentative material-based writing was mentioned by two teachers as prototypical for geography lessons:

"So I have actually always connected with it that, so to speak, geographical writing is argumentative writing. To be honest, I have always equated it with that. For example, if you have a problem in geography class, then of course you present it in a well-founded way through texts from the teacher or your own research and then form your own opinion" (wNReaU211)

Most teachers report that writing in geography lessons is always material-based. However, the teachers also had different implicit definitions of material-based writing: Most statements indicated that a source material was needed. Two teachers explain that it was "material-based writing" when at least two or three materials were available as a starting point for a student text. Furthermore, two grammar school teachers reflected on whether material-based writing was also referred to as such when students were required to reflect on texts they had written themselves in performance level three: *"Of course, in performance level 3 (Performance level 1 (present, show, note); Performance level 2 (compare, describe, justify); Performance level 3 (evaluate, reflect, argue) [41]) it is also about your own*

reflection in case of doubt, where it is not about evaluating anything, but about drawing your own conclusions based on what you have previously evaluated and analysed" (mNGymUO2).

The respondent described the embedding of material-supported writing in a sequence of tasks: According to this, in material-supported writing, materials are first evaluated and then, on the basis of this, facts are assessed and conclusions are drawn.

Overall, all teachers understood material-supported writing as writing that draws on the diversity of materials in geography lessons and thus on both continuous and discontinuous texts. One respondent understood material-based writing as the use of at least three materials as a starting point and described the difficulties students have in evaluating material—especially discontinuous texts. Because of this, according to her definition, there was hardly any material-based writing in her lessons: *"That is incredibly difficult for them, which is why I usually only have two materials and one of them is usually a text. [...] But this is also due to the fact that, in my opinion, it has really decreased enormously that the children learn to evaluate things at all"* (wNReaU2).

The analysis of the statements shows that material-based writing is of great importance to the geography teachers. Nevertheless, there are implicitly different definitions of this teaching activity, which means that it cannot be explicitly stated whether material-based writing predominantly takes place in every lesson. In addition, only one respondent attempted to name the relevant function of material-based writing in geography lessons:

"I think that if you can write well in geography, because geography has this strong reference to material and ultimately the main task, especially in school, that students have to do [...] is to evaluate material, and if you can do that well, it helps you not only in school, but also in later life. And therefore ... it is very important" (mNGymUO1)

Another secondary school teacher emphasised the relevance of this for successful writing of exams. Material-based—and for some teachers more precisely even argumentative material-based—writing was seen as a typical skills in geography teaching. However, the picture that emerges is that the concept of material-based writing is used in a very general way and that awareness of its importance and function for geography teaching is largely non-existent.

5.3. Functions of Writing

During the guided interviews, the teachers were asked which functions they attribute to writing in geography lessons. On the basis of the theoretical compilation of the functions of writing in Table 1, a series of deductive categories were formed that identify the functionalities of the language action of writing. During the evaluation of the teachers' statements, these were assigned to the upper categories. In total, the eleven respondents named 42 functions of writing, which were assigned to the four main categories "Writing to acquire subject-specific skills", "Writing as a means of gaining knowledge", "Writing to communicate and strengthen language skills" and "Writing as a means of reflection and personality development" (Figure 2). The statements were considered in more detail within these four main categories and 14 subcategories were formed. These sub-categories are shown in Figure 3.

From Figure 2, it is clear that the teachers mentioned functions of writing in the area of communication and strengthening language competence (36%) and gaining knowledge (29%) most, and saw writing less as a medium of reflection, or recognised its importance for personality formation.

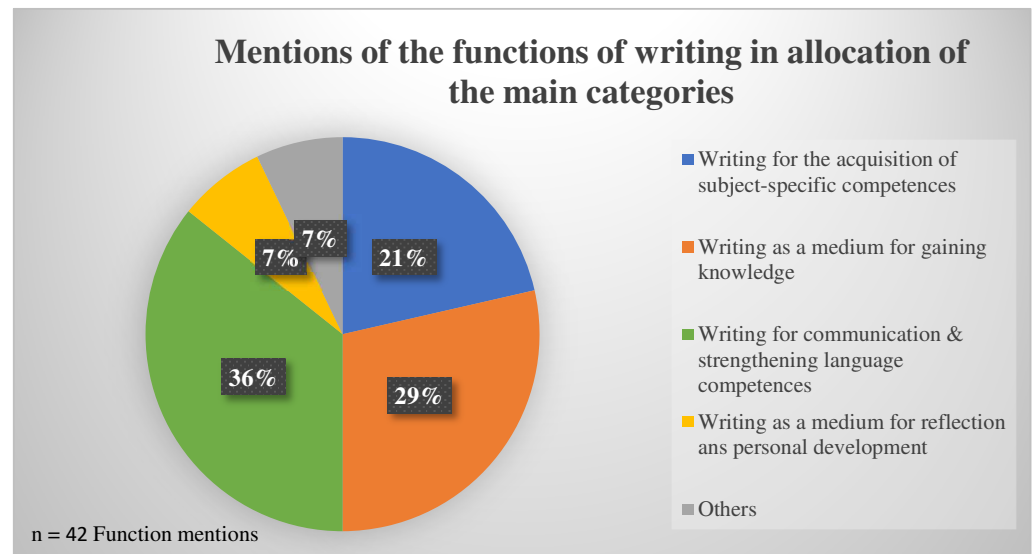


Figure 2. Distribution of mentions of the function of writing in geography lessons (source: own representation) by the interviewed teachers. Note: If a teacher mentions the same function more than once, this is counted as one mention. Thus, only the mentions of different functions of a teacher are included in the evaluation. The two inductive categories “training handwriting” and “writing for discipline” are counted under “other”.

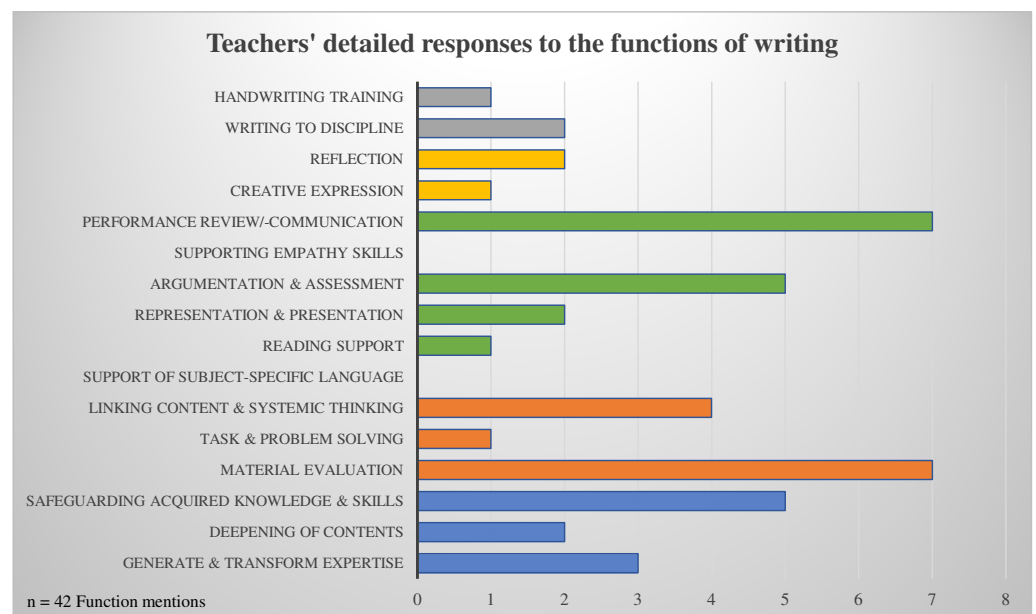


Figure 3. Distribution of the detailed functions mentioned by the 11 respondents in relation to writing in their geography lessons (source: own representation) Note: The bar colours correspond to the upper categories from Figure 3: grey = other/inductive categories, Yellow = writing as a medium of reflection and for personal development, green = writing for communication and strengthening language competences, orange = writing as a medium for gaining knowledge, blue = writing for the acquisition of subject-specific competences. (Figures 2 and 3 show a certain quantity of teachers' statements. This primarily serves to provide an overview of which functions were not recognised at all and which were recognised more frequently. Nevertheless, it must be mentioned at this point that this is not a quantitative study in which these results are representative of a large sample or can be generalised).

Figure 3 shows that there were four functions mentioned by the majority of respondents. These include material evaluation, performance review /-communication, argumentation and assessment and backup. It has already been mentioned that teachers consider material-based writing as prototypical, and the results presented in Figure 2 correspond to this. Furthermore, Figure 3 shows that a large proportion of teachers (64%) see the function of writing in performance review /-communication:

“And it is about communication, so to communicate and to show, of course also in certain situations, what you have understood of what is happening in class. And for me as a teacher, of course, it is quite concrete that I can use a written text [. . .] to see how structured the students can present things in writing and how I can perhaps support them in their thinking processes in some way” (mNGesU)

In this example, writing is seen as a means of communication between the pupil and the teacher, which serves to assess performance and diagnose support needs. If the respondents' characteristics are considered, it becomes clear that performance review was mentioned in particular by the teachers who teach at the Gymnasium and thus also at secondary level II. Here, the focus is increasingly on the written final examination, exam preparation and the measurement of performance success through the assessment of written student work. In addition to performance review, five out of the eleven teachers mentioned that writing also serves to negotiate and evaluate issues: *“Writing is actually always connected with judging and evaluating” (wBGesUO2).*

Another five out of the eleven teachers emphasised the function of writing in securing the acquired knowledge and skills (conserving function of writing). One respondent emphasised the fleeting nature of oral conversations and contrasted this with the conserving function of writing: *“Because there are also studies on the fact that things that I have written can be stored or anchored in my brain in a completely different way than things that I have only heard” (wBGesUO1).* In the course of the conserving function of writing, two teachers identified a further advantage over oral writing as through writing a more in-depth examination of content is possible.

Other central functions, such as the promotion of systemic thinking, the generation and transformation of subject knowledge, the deepening of content and the preparation for presentations were only rarely mentioned and recognised.

Only four out of eleven teachers named the function of writing in geography lessons as a way to link content and support systemic thinking. Only one teacher presented material-based writing as a way to promote systemic thinking and as a relevant way of gaining knowledge through written production in geography lessons: *“So the main function, I think, is actually to bring a structure or a logical connection into one's own thoughts” (wNGymUO).always connected with assessing and evaluating” (wBGesUO2).*

Only three teachers identified that subject knowledge can be generated and transformed through writing. Furthermore, only two teachers mentioned the representational function of writing, which makes it possible to prepare content for a presentation (e.g., preparation through notes).

Only one teacher noted that writing positively interacts with reading support. Writing is also rarely seen as a medium of reflection or as a means of creative expression in geography lessons by the respondents. This result fits with the teachers' statements that geographical writing is more functional than creative. Regarding the partial function of reflection through writing, two teachers stated: *“But I also find, because I have German as a second subject, that simply expressing contexts in writing is totally important for training one's own thinking and reflection” (wNGymUO).* Here it becomes clear that the context of language reflection is located particularly in the subject German.

In addition to the deductive categories, two inductive categories could also be formed: Two teachers noted that writing has a disciplinary function: *“And . . . yes that it is actually the only possibility to let the pupils work individually. That they write things down, because otherwise it gets too noisy at the secondary school if you do everything orally” (wNReaU1).* Another respondent

reported that she sees the function of writing as being to train handwriting and thus emphasises a motor component that has not yet been listed as a function of writing in the literature.

In summary, the interviewed teachers understood writing to be a method that predominantly enables students to evaluate materials, assess questions, secure results and enable performance assessment. Many of the functions discussed in the scientific literature were only very rarely, or not at all, recognised by the teachers.

5.4. Importance of Writing in Geography Lessons

During the course of the guided interviews the respondents were also asked to what extent they deemed writing in their geography lessons to be important. Evaluation of the teachers' statements showed that most of the participants considered writing to be important, but that there were limitations. The importance is closely linked to the functions attributed to writing. Thus, the evaluation of the teachers' statements also showed that the importance of writing in geography lessons is most often linked to performance assessment.

One respondent explains: *"So of course, in order to acquire geographical knowledge or to be a good geographer, I don't have to be a good writer . . . I think in the school context writing is simply important because that is the form of examination"* (wBGesUO1).

Furthermore, six out of eleven teachers saw the main difference between the importance of writing in lower and upper secondary schools being that writing in upper secondary schools focuses more on assessment and reflection (performance level 3) whilst in lower secondary schools there is more of a focus on description and explanation (performance level 1 and 2).

These teachers, who were almost all upper school teachers at grammar schools or comprehensive schools, stated that writing had a significantly higher value from secondary level II onwards than in secondary level I. They noted that writing tasks take up a large part of the lessons, especially in the advanced courses, in view of the final examination to be taken. The function of writing was to prepare for the written final examination and to assess performance. One respondent identified the difference in the importance of writing between lower and upper secondary school, saying that in the upper secondary school the focus is on the final examination and thus the written examinations, and writing can also be relevant for the oral examinations: *"I would say that it is very much about simply writing things down, putting them down on paper in a well-structured way, because I think one then also assumes that if one has mastered this, then perhaps one will also manage better in the oral presentation"* (mNGesU).

One respondent argued that in lower secondary school, geographical thinking and material evaluation should first be developed independently of writing, although these actually go hand in hand and can influence each other positively: *"but for me personally it is more important to develop geographical thinking and to see how I look at material"* (mNGymUO1). Another teacher said that writing takes a back seat in lower secondary school because other challenges are more important: *"There is a bit of everyday knowledge missing. Many of them didn't know about high and low tide, and then of course I can't expect such children to explain with a diagram how high and low tide occur. There are quite different challenges that sometimes make writing take a back seat"* (wBGesUO1). However, her statement is contradictory in this context:

"For example, when discussing homework, if the language is of course so ambiguous that the train of thought is not understood . . . then that often correlates a bit with the ability to generally make geographical connections clear or to understand them. That is not at all the case, it is not only due to the ability to write, but it is often also conditional" (wBGesUO1)

Thus, this teacher is aware that subject-specific and linguistic abilities correlate with each other, but no function is attributed to writing in the context of learning. In addition, this statement highlights the aspect that in lower secondary school, writing is mainly done in homework.

Moreover, with regard to the weighting of writing tasks in the overall grade, there are clear differences between lower and upper secondary schools, and between school types. Upper secondary school teachers reported that the weighting of writing in the

upper secondary school is 50% oral and 50% written and in lower secondary school 70% oral participation. At the upper secondary level, one teacher said that there is too little time for writing in class, as with weighting of oral contributions at 50% it does not allow time for writing within class, as the written contributions are predominantly tested by the written exam. Thus, he had to give enough room for oral participation. One respondent explained that she would not place a higher value on writing either, since at her school performance weighting of 70% oral participation and 30% written assessment is provided for: *“It is often 70–30. 70 oral participation and then 30 somehow a test or the portfolios that are handed in. Of course, that’s difficult for the silent pupils, isn’t it? They are out of luck, as stupid as it sounds”* (wNRaU1). It is also clear from this comment that in the teaching practice of lower secondary school, the assessment of written performance takes place through a test and a collection of the geography folders. The same respondent added her personal feeling to this, saying that oral participation in geography lessons is more important than written participation and relates this again to performance assessment. The focus here is on speaking and active participation:

“So it can be, for example, that pupil X writes really great texts or works on/answers the tasks excellently, but does not present them at all, and pupil Y participates the whole time and then says something about what he has worked on. And then he or she would get a better grade because he or she is more active. . . . And of course I can also see that pupil Y, who doesn’t answer the question at all, has understood it, but then they participate less. That’s why the written part takes a back seat” (wNRaU1)

Another respondent felt that writing with all its functions is less important because it serves more as a “means to an end” to pursue other higher-level goals in the lessons. Here too, a distinction was made between the functions in upper school and middle school, with writing serving more for disciplining in the middle grades and for performance assessment in the upper grades. It becomes clear that here, too, the functions of writing for the acquisition of (subject) competences and for the preparation of oral contributions are not recognised, but that writing assignments were only designed to obtain products that allow for performance assessment.

One teacher said that his students demand writing in order to prepare for the exam.

Another respondent mentioned the function of writing for securing and communication. It therefore had a high value in his geography lessons: *“Well, a blackboard is very important to me, it is important to me that the students take notes”* (mNiGymUO). On a scale of one to ten, ten being ‘super important’, he ranked the importance at seven: *“Well, writing is used for communication and I think it is very important overall. So the importance is in the range of seven”* (mNiGymUO). He also noted that he attaches great importance to handwriting in particular.

Some teachers noted that writing and writing tasks have become more important recently, especially in the context of online teaching and homeschooling. It was mentioned that writing occurs more frequently within distance learning, and thus the importance is temporarily higher than in face-to-face teaching. One respondent explains: *“that is the only thing I see from the student”* (mNiGymUO). Another teacher added that, through the use of digital media and the Internet, writing texts loses importance and sums up: *“Well, I sometimes fear that writing as a whole is increasingly taking a back seat. But I still think that writing is an absolutely indispensable skill that one should have. And that is actually, I think, a big task at the moment”* (wNGymUO).

In addition to the statements about the importance of writing in geography lessons, the teachers also gave different factors as explanations for their integration of writing tasks in lessons. Many respondents complained about the lack of time, overly strict curricular guidelines and a deficit in the didactic implementation of text writing in their training. One respondent explained that she also did not have the time to have students write in class because the framework curricula were packed with subject content that had to be taught. Another respondent complained that the curricula hardly include writing and focus on oral. She mentioned that she found writing very important, but perceived it as a challenge that it is not addressed in teacher training: *“But not how to really write texts and what sense it makes and that*

argumentative texts are also important, so to speak, and that forming opinions and educating people to become responsible citizens and such things are not at all important. Absolutely not” (wNReaU2).

The teachers were also asked about their satisfaction with their current integration of writing in geography lessons. Only four respondents stated that they would like to use more writing tasks in their lessons.

6. Discussion

The guiding research question of the present study, whether writing is an unreflective routine—where “unreflective” in this case is synonymous with “not didactically thought through” and “not being aware of the functions and goals”—is discussed in the following chapter. First, the research results are discussed against the background of the theoretical foundations.

First, the study addressed the question: What are the perceptions and attitudes of geography teachers towards writing in the geography lessons? With regard to this question, it was clear that most teachers’ understanding of writing referred to text writing in an undifferentiated way, with no differentiation between different types of texts. The fact that no differentiation was made between writing at the word, sentence and text level is problematic in that the different didactic functions that can be achieved with writing at the different levels will be insufficiently recognised and used in assignments. Writing at the word level, for example, can consolidate subject concepts by making and combining keywords and prepare text production, and at the sentence level, for example, simple subject concepts can be explained [6] (p. 60). The understanding of writing as “text writing” contradicts study results as subject lessons writing is mostly very basic at the word and sentence level [6,13,50]. One explanation could be that the teachers practice writing at the word and sentence level as a routine and cannot assign any didactic functions, and therefore only mention the text level.

Furthermore, it became apparent that the teachers classified writing in geography lessons more as functional for knowledge acquisition and performance testing and not as creative. The teachers did not further differentiate the term “creative”. Consequently, based on the teachers’ statements it can be interpreted that writing is classified as reproduction of content and text production is not understood as a creative process. This contradicts the fact that in geography lessons, issues should be negotiated creatively in many ways: In the area of space and conflicts, for example, students can consider different roles and learn about the perspectives of different actors in order to subsequently evaluate and judge a conflict from multiple perspectives. This can be done in argumentative texts. Many teachers felt that argumentative writing was essential and typical for geography lessons but saw less of a creative aspect to it. From this, it can be interpreted that the teachers’ image of the term “creative writing” is possibly limited to “free story writing” and that argumentation is not seen as a form of creativity.

The associations of the surveyed geography teachers with geographical writing also revealed that material-based writing is seen as typical in geography teaching. This is in line with the study results of Budke [6] (p. 67), according to which 90% of the writing tasks in geography lessons are material-based. However, when looking at the teachers’ statements, it was found that they were uncertain when attempting to define material-based writing. It became clear that material-based writing was seen as writing in which information from materials was linked in a new text. Thus, teachers were not fully aware of the goals and possibilities that could be pursued through materials-based writing.

Subsequently, it was investigated which educational functions the teachers attributed to writing in geography lessons. The teachers did not identify that writing serves to promote subject language, although this is stated in theory [12,43,44]. Particularly in the context of language-sensitive geography teaching, this seems to be a gap in knowledge that needs to be closed in teacher education. Teachers need to be made more aware of the positive link and interaction between writing and the learning of specialised language, so that they can integrate this appropriately into their lessons and students can benefit. The

same applies to the issue of promoting reading skills through writing [14,15,37,45], which was hardly mentioned by the participants. In addition, the teachers did not identify that writing can develop students' empathy skills [29,30,40,46], which are relevant, among other things, to the development of a multi-perspective approach to geographical issues.

Our study shows that a total of only nine out of a total of 42 function mentions (21%) regarding the function of writing can be classified in the area of the acquisition of professional competencies. Here, the theory states that writing is particularly suitable for generating and transforming subject knowledge [5,28,35,36], deepening content [5,37] and can contribute to securing subject content through its conserving function [5,30,38–40]. Considering that the teaching of subject competences is a central goal for geography lessons, the result is rather sobering.

In our study and in the study by Thürmann, Pertze and Schütte [28] (p. 18), the function of writing to discipline was mentioned. This is interesting because it did not appear in the theoretical research on functions, but it seems to be a proven means with relevance in teaching practice.

The present study showed that teachers most frequently identified the function of writing as used for performance assessment. A look at the curricula for social sciences of all school types also shows that writing is mentioned in the context of performance communication and review, and Czapek [12] (p. 10) also notes that written performance in particular determines the final grade. It also became clear that the weighting of writing tasks for the final grade increases in upper secondary school, where writing is increasingly used to prepare for the written final examination. Decker and Hensel [13] (p. 50) also explained that writing competence is closely linked to examination success.

The teachers we interviewed often mentioned that students are not motivated to write texts and therefore integrating writing tasks is a challenge that requires a lot of work for the teachers (motivating the students, correcting etc.). Students' motivation to write in science lessons has been identified as low in previous research too [7,28]. In this study, we also looked at the attitude of the teachers and recognised that they also have little motivation for setting and didactically accompanying writing tasks, thus suggesting that the reluctance of students and teachers to write-related tasks may be mutually dependent. If we now consider the aspect that the most frequently mentioned function of writing by teachers is performance assessment and that this is seen as a functional and less creative means by teachers, it is not surprising that students are likely to associate examination situations with text writing and thus show little motivation in this regard. At this point, ways must be found to make writing more attractive for students and teachers. In order to increase the motivation of the students and thus also of the teachers, motivating writing tasks should be formulated that are related to everyday life, arouse concern in the students and at the same time are not too demanding. In order to check how students deal with writing tasks and whether the level of difficulty is appropriate, it is important that teachers look at the students' texts and give feedback. At the same time, teachers' diagnostic and feedback skills regarding students' text products need to be developed.

In addition to the many mentions of performance assessment, writing for material evaluation was also frequently mentioned. Theoretical work shows that this can help to link subject content, deepen understanding and create new trains of thought [42] (p. 14). As a result, task and problem-solving processes [5,28,29,35] and systemic thinking [4,20] can be fostered. In geography lessons, material-supported and problem-solving writing has a special function, as this serves to gain a multi-perspective picture of an issue [41] (p. 28), which is indispensable for the assessment of, among other things, conflicts over the use of space and for strengthening the pupils' competence to act. An empirical study by Schwerdtfeger and Budke [7] showed that material-based writing is a great challenge for students and that they have particular problems with integrating and linking relevant information and geographical spatial references, as well as with text preparation and the linguistic formulation and structuring of arguments. Accordingly, teachers should guide and accompany this language action more intensively didactically [7] (p. 31ff).

Finally, based on previous results, we were able to gain an impression of the importance teachers attach to writing in geography lessons. Our study shows that the majority of the respondents generally attach a high value to writing in geography lessons. This differs from the study by Decker and Hensel [13] on the importance of writing in the subject lessons, who stated the value was low because there is a lack of curricular guidelines that offer orientation for didactic implementation. However, the importance of writing is seen by most of our interviewed teachers in relation to the class levels (lower vs. upper secondary level) and the associated function of performance assessment. In this context, the importance of writing is perceived as less in lower secondary school, since important foundations for writing should be laid there in the subject lessons. Several teachers see writing as contradictory to subject-specific learning and thus statements such as: “In Brandenburg, from grade seven onwards, writing is usually a one-hour subject and there is simply not enough time and if you want to convey or teach subject-specific content, then ... and the framework curricula are still filled to the brim, then you can’t really afford to allow students to try things out” (wBGesUO2). In general, the impression that the teachers have little awareness of the functions that writing has beyond performance assessment is reinforced through this study.

One respondent complained that there is no explicit preparation in teacher training for dealing with writing tasks in geography lessons. Thürmann, Pertze, Schütte [28] (p. 28) also observed a similar point in their study; that teachers lack knowledge of writing education. Therefore, it is suggested that improvements are made in this area and the integration of the topic into university teaching would be appropriate, so that didactic confidence in dealing with writing tasks in geography lessons can develop and be implemented. Philipp [42] already found when researching the function of subject learning through writing that there is a large discrepancy between the demand of language-sensitive subject teaching and the use of writing for subject learning. He argues for greater awareness of the issue and implementation in everyday university life. Steinhoff [5] (p. 33) added that writing tasks are mostly used in class in an unreflective and non-differentiated way according to the learning level of the students. If the respondents’ statements on the functions of writing and the use of writing tasks in geography lessons are considered, it can also be noted here that there is little knowledge and awareness of writing not serving solely as a “means to an end” for achieving a higher-level teaching objective, but that the action itself promotes knowledge. Thus, it can be summarised that writing seems to be an unreflective routine in geography lessons for the majority of the teachers we interviewed.

In further course, the research method and design will be discussed. From the current state of research on the topic of functions and significance of writing in geography lessons (cf. Section 2), no studies exist, and therefore that there is a research gap. For this reason, an explorative-qualitative procedure using guided interviews was chosen as the survey method in order to open up this new field of research. In this context, guiding questions served to provide a common thread in the conversation and offer orientation to both the interviewer and the interviewee. Within the study, finding interviewees was the biggest hurdle. Geography teachers from about 80 schools in Germany were invited by email to take part in the interview. In the end, however, only a few teachers were found through personal contacts who agreed to participate. At this point, it must be emphasised that these are expert interviews, as the teachers speak from their own experience in teaching geography. The study is not quantitative and representative but collects qualitative data primarily to generate hypotheses for subsequent work in this field. Strengthening argumentation and assessment skills are ubiquitous components of the university teaching practised at the institute, and the mention of these skills by interviewees suggests that teacher training can influence the extent to which teaching actions can be didactically justified. A further limitation to the generalisation of the results is the fact that despite an intensive approach, no elementary school teacher could be found who was available for an interview, which was actually planned within the framework of theoretical sampling.

Despite the small sample, the intensive guided interviews provided a lot of data and insights into the mental concepts of the interviewees. The content-analytical categories that were created show the breadth and the characteristics of the teachers' perceptions of the functions of writing in geography lessons, which can be generalised. A critical aspect of the methodology is the understanding of the term "writing". Teachers consistently understood writing as "text writing" and thus did not recognise some other functions (e.g., bullet points, notes). Thus, the results of the following study have to be understood against the background of "text writing". This mindset also influences whether teachers assign a high or low value to writing in their lessons. At this point, it would have been interesting to ask more explicitly about their own definition of writing and to explain that writing on the word and sentence level as well as on the text level was all relevant. The following should be concluded from the results

It is necessary to inform teachers about the functions of writing in geography lessons and to support them so that they can use these functions through their lesson design. Their awareness of the importance of writing in class should be raised so that they do not see writing tasks as a time-consuming obstacle in their lessons, but as a profitable tool for the development of subject-specific competences.

Author Contributions: Conceptualization, S.S. and A.B.; methodology, S.S.; validation, S.S. and A.B.; formal analysis, S.S.; writing—original draft preparation, S.S.; writing—review and editing, S.S. and A.B.; visualization, S.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy reasons.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Interview questions (source: own representation).

Ideas about writing in geography lessons

What associations/thoughts do you have about writing? And in geography lessons?

Geographical writing

What writing competences do you find particularly important for geography lessons? How would you define geographical writing?

Functions of writing in geography lessons

How would you describe your current integration of writing tasks in the geography lessons?

What functions does writing serve in your geography lessons?

To what extent do the students in your lessons write in a material-based way?

To what extent are written texts included in the performance assessment in your lessons?

What are the differences between the function/didactic goals of writing in lower and upper secondary?

What differences are there in the weighting of writing assignments between lower and upper secondary?

Importance of writing in geography lessons

What is the importance of writing in your geography lessons?

What value do you think writing should have in geography lessons and why?

What differences do you see between lower secondary and upper secondary in the importance of writing in geography lessons?

References

1. Decker, L. *Wissenschaft als Diskursive Praxis. Schreibend an Fachlichen Diskursen Partizipieren*; Gilles & Francke: Duisburg, Germany, 2016.
2. Decker, L.; Siebert-Ott, G. Sprachensible Bildungsräume gestalten—Eine Professionalisierungsaufgabe der Lehrer/-innenbildung. In *Fachbereich Germanistik und Kunstwissenschaften. DaF-/DaZ-/DaM-Bildungsräume: Sprech- & Textformen im Fokus*; Philipps-Universität Marburg: Marburg, Germany, 2018. Available online: <https://archiv.ub.uni-marburg.de/es/2019/0025/pdf/daf02.pdf> (accessed on 22 November 2021).
3. Jakobs, E.-M.; Lehnen, K. *Berufliches Schreiben. Ausbildung, Training, Coaching*; Peter Lang: Frankfurt am Main, Germany, 2008.
4. Becker-Mrotzek, M.; Roth, H.J. Sprachliche Bildung—Grundlegende Bildung und Konzepte. In *Sprachliche Bildung—Grundlagen und Handlungsfelder*; Becker-Mrotzek, M., Roth, H.J., Eds.; Waxmann: Münster, Germany, 2017; pp. 11–36.
5. Steinhoff, T. Lernen durch Schreiben. In *Deutschunterricht in Theorie und Praxis (DTP)*; Feilke, H., Pohl, T., Eds.; Schneider Hohengehren: Baltmannsweiler, Germany, 2014; Volume XIV, pp. 331–346.
6. Budke, A. Bedeutung des argumentativen Schreibens im Geographieunterricht im Kontext aller Schreibtätigkeiten—Eine empirische Studie auf der Grundlage von Unterrichtsbeobachtungen. In *Argumentieren und Vergleichen. Beiträge aus der Perspektive Verschiedener Fachdidaktiken*; Budke, A., Schabitz, F., Eds.; LIT Verlag: Berlin, Germany, 2021; pp. 57–76.
7. Schwerdtfeger, S.; Budke, A. Reference to Materials in Written Argumentations of Students in Geography Lessons. *J. Curric. Teach.* **2021**, *10*, 20–35. [\[CrossRef\]](#)
8. Prain, V.; Hand, B. Coming to Know More Through and From Writing. *Educ. Res.* **2016**, *45*, 430–434. [\[CrossRef\]](#)
9. Klein, P.D.; Boscolo, P. Trends in research on writing as a learning activity. *J. Writ. Res.* **2016**, *7*, 311–350. [\[CrossRef\]](#)
10. Schmölzer-Eibinger, S. Sprache als Medium des Lernens im Fach. In *Sprache im Fach. Sprachlichkeit und Fachliches Lernen*; Becker-Mrotzek, M., Schramm, K., Thürmann, E., Vollmer, H.J., Eds.; Waxmann: Münster, Germany, 2013; pp. 25–40.
11. Roll, H.; Bernhardt, M.; Enzenbach, C. *Schreiben im Fachunterricht der Sekundarstufe I unter Einbeziehung des Türkischen*; Waxmann: Münster, Germany, 2020.
12. Czapek, F.-M. Denken und Schreiben in Zusammenhängen. Eine vernachlässigte Aufgabe im Geographieunterricht. In *Praxis Geographie*; Westermann: Braunschweig, Germany, 2014; Volume 4, pp. 10–14.
13. Decker, L.; Hensel, S. Zum Stellenwert des Schreibens im Fachunterricht der gymnasialen Oberstufe—Empirische Befunde und schreibdidaktische Konsequenzen. In *Kölner Beiträge zur Sprachdidaktik*; Becker-Mrotzek, M., Jost, J., Pohl, T., Schindler, K., Eds.; Gilles & Francke Verlag: Duisburg, Germany, 2019; pp. 49–62.
14. Graham, S.; Hebert, M. Writing to read: A meta-analysis of the impact of writing and writing instruction on reading. *Harv. Educ. Rev.* **2011**, *81*, 710–744. [\[CrossRef\]](#)
15. Graham, S.; Kihara, S.A.; MacKay, M. The effects of writing on learning in science, social studies, and mathematics: A Meta-Analysis. *Rev. Educ. Res.* **2020**, *90*, 179–226. [\[CrossRef\]](#)
16. Ministerium für Schule und Weiterbildung. *Kernlehrplan für Die Gesamtschule Sekundarstufe 1 in Nordrhein-Westfalen*; 2011. Available online: https://www.schulentwicklung.nrw.de/lehrplaene/lehrplan/71/KLP_GE_GL.pdf (accessed on 21 March 2022).
17. Leisen, J. Lesen ist Schon Schwer Genug, Dann Auch Noch Schreiben? Gründe und Strategien für das Schreiben(lernen) im Physikunterricht. 2008. Available online: <https://docplayer.org/14163756-Lesen-ist-schon-schwer-genug-dann-auch-noch-schreiben.html> (accessed on 21 March 2022).
18. Budke, A.; Kuckuck, M. Sprache im Geographieunterricht. In *Sprache im Geographieunterricht. Bilinguale und sprachensible Materialien und Methoden*; Waxmann: Münster, Germany, 2017; pp. 7–38.
19. Clarke, J.; Dale, J.; Marsden, P.; Davies, P.; Durbin, C. Tackling lower ability students' writing skills. *Teach. Geogr.* **2003**, *28*, 56–59.
20. George, J.; Clarke, J.; Davies, P.; Durbin, C. Helping students to get better at geographical writing. *Teach. Geogr.* **2002**, *27*, 156–160.
21. Davies, P. Improving the Quality of Students' Judgements through "Assessment for Learning". *J SSE-J. Soc. Sci. Educ.* **2009**. [\[CrossRef\]](#)
22. Osborne, J.; Erduran, S.; Simon, S. Enhancing the quality of argumentation in school science. *J. Res. Sci. Teach.* **2004**, *41*, 994–1020. [\[CrossRef\]](#)
23. Morgan, A. Argumentation, geography education and ICT. *Geography* **2006**, *91*, 126–140. [\[CrossRef\]](#)
24. Budke, A.; Schiefele, U.; Uhlenwinkel, A. I think it's stupid is no argument—Some insights on how students argue in writing. *Teach. Geogr.* **2010**, *35*, 66–69.
25. Budke, A. Argumentationen im Geographieunterricht. *Geogr. Ihre Didakt.* **2012**, *40*, 23–34.
26. Budke, A.; Uhlenwinkel, A. Argumentation. In *Metzler Handbuch 2.0 Geographieunterricht*; Rolfes, M., Uhlenwinkel, A., Eds.; Metzler: Braunschweig, Germany, 2013; pp. 11–16.
27. Krohmer, M.; Budke, A. Teaching Routines in German Geography Classrooms: A Case Study in North Rhein-Westphalian Gymnasiums. *Soc. Sci. J.* **2021**, *8*, 432–451. [\[CrossRef\]](#)
28. Thürmann, E.; Pertze, E.; Schütte, A.U. Der schlafende Riese: Versuch eines Weckrufs zum Schreiben im Fachunterricht. In *Schreiben als Medium des Lernens. Kompetenzentwicklung durch Schreiben im Fachunterricht*; Schmölzer-Eibinger, S., Thürmann, E., Eds.; Waxmann: Münster, Germany, 2015; pp. 17–45.
29. Ludwig, O. Funktionen geschriebener Sprache und ihr Zusammenhang mit Funktionen der gesprochenen und inneren Sprache. In *Zeitschrift für Germanistische Linguistik*; De Gruyter: Oldenburg, Germany, 1980; pp. 74–92.

30. Ossner, J. Prozessorientierte Schreibdidaktik in Lehrplänen. In *VS Verlag für Sozialwissenschaften*; Baumann, J., Weingarten, R., Eds.; Schreiben: Wiesbaden, Germany, 1995; pp. 29–50.
31. Klein, P.D. Reopening inquiry into cognitive processes in writing-to-learn. *Educ. Psychol. Rev.* **1999**, *11*, 203–270. [[CrossRef](#)]
32. Klein, P.D. Knowledge construction in collaborative science writing: Strategic simplicity, distributed complexity, and explanatory sophistication. In *Studies in Writing: Vol. 28, Writing as a Learning Activity*; Klein, P.D., Boscolo, P., Kirkpatrick, L.C., Gelati, C., Eds.; Brill: Leiden, The Netherlands, 2014; Volume 28, pp. 300–326.
33. Newell, G.E. Writing to learn. In *Handbook of Writing Research*; MacArthur, C.A., Graham, S., Fitzgerald, J., Eds.; The Guilford Press: New York, NY, USA, 2006; pp. 235–247.
34. Tynjala, P.; Mason, L.; Lonka, K. Writing as a learning tool: An introduction. In *Studies in Writing: Volume 7: Writing as a Learning Tool: Integrating Theory and Practice*; Rijlaarsdam, G., Tynjala, P., Mason, L., Lonka, K., Eds.; Kluwer Academic Publishers: Dordrecht, The Netherlands, 2001.
35. Schmölzer-Eibinger, S.; Thürmann, E. *Schreiben als Medium des Lernens. Kompetenzentwicklung Durch Schreiben im Fachunterricht*; Waxmann: Münster, Germany, 2015.
36. Anseits, N.; Steinhoff, T. Schreiben und fachliches Lernen im Sachunterricht. In *Kölner Beiträge zur Sprachdidaktik*; Becker-Mrotzeck, M., Jost, J., Pohl, T., Schindler, K., Eds.; Gilles & Francke Verlag: Duisburg, Germany, 2019; pp. 49–62.
37. Schüler, L. Materialgestütztes Schreiben argumentativer Texte. Untersuchungen zu einem neuen wissenschaftspropädeutischen Aufgabentyp in der Oberstufe. In *Thema Sprache—Wissenschaft für den Unterricht*; Rothstein, B., Ed.; Schneider Verlag Hohengehren GmbH: Baltmannsweiler, Germany, 2017.
38. Britt, M.A.; Rouet, J.-F. Learning with Multiple Documents. Component Skills and Their Acquisition. In *Enhancing the Quality of Learning: Dispositions, Instructions, and Learning Processes*; Kirby, J.R., Lawson, M.J., Eds.; Cambridge University: New York, NY, USA, 2012; pp. 276–314.
39. Feilke, H. Text und Lernen—Perspektivenwechsel in der Schreibförderung. In *Schreiben als Medium des Lernens. Kompetenzentwicklung durch Schreiben im Fachunterricht*; Thürmann, E., Schmölzer-Eibinger, S., Eds.; Waxmann: Münster, Germany, 2015; pp. 47–72.
40. Fix, M. *Texte Schreiben. Schreibprozesse im Deutschunterricht*, 2nd ed.; Schöningh: Paderborn, Germany, 2008.
41. Deutsche Gesellschaft für Geographie e.V. Bildungsstandards im Fach Geographie für den Mittleren Schulabschluss. Mit Aufgabenbeispielen. 2020. Available online: https://geographie.de/wp-content/uploads/2020/09/Bildungsstandards_Geographie_2020_Web.pdf (accessed on 6 December 2021).
42. Philipp, M. *Materialgestütztes Schreiben. Anforderungen, Grundlagen, Vermittlung*; Beltz Juventa: Weinheim, Germany, 2017.
43. Bergeler, E. Lernen durch Eigenständiges Schreiben von Sachbezogenen Texten im Physikunterricht. 2009. Available online: <https://tud.qucosa.de/api/qucosa%3A25064/attachment/ATT-0/> (accessed on 21 March 2022).
44. Davis, F.; Parker, R. *Teaching for Literacy: Reflections on the Bullock Report*; Agathon Press: New York, NY, USA, 1978.
45. Hirvela, A. *Connecting Reading & Writing in Second Language Writing Instructions*; University of Michigan Press: Ann Arbor, MI, USA, 2004.
46. Rothfuss, U. Die Sprache als Werkzeug der Persönlichkeit. Kreatives Schreiben und Kommunizieren als Schlüsselqualifikation. In *Schlüsselqualifikationen für Studium, Beruf und Gesellschaft. Technische Universitäten im Kontext der Kompetenzdiskussion*; Robertson-von Trotha, C., Ed.; Universitätsverlag Karlsruhe: Karlsruhe, Germany, 2009; pp. 427–433.
47. Kardorff, E.; Steinke, I. *Qualitative Forschung. Ein Handbuch*; Rowohlt Taschenbuch Verlag: Hamburg, Germany, 2010.
48. Dimbath, O.; Ernst-Heidenreich, M.; Roche, M. Praxis und Theorie des Theoretical Sampling. Methodologische Überlegungen zum Verfahren einer Verlaufsorientierten Fallauswahl. *Qual. Soc. Res.* **2018**, *19*, 26. [[CrossRef](#)]
49. Mayring, P. Qualitative Inhaltsanalyse. In *Handbuch Qualitative Forschung in der Psychologie*; Mey, G., Mruck, K., Eds.; VS Verlag für Sozialwissenschaften: Wiesbaden, Germany, 2010.
50. Pineker-Fischer, A. *Sprach- und Fachlernen im Naturwissenschaftlichen Unterricht. Umgang von Lehrpersonen in Soziokulturell Heterogenen Klassen mit Bildungssprache*; Springer VS: Wiesbaden, Germany, 2017.