Significance of Argumentation Tasks in Vietnamese Geography Textbooks Following the Competency-based Curriculum Reform

Thanh Tam Nguyen[1] & Alexandra Budke[2,*]

[1]Social Education Department, Dong Thap University, Vietnam

[2]Institute for Geography Education, University of Cologne, Germany

*Correspondence: Institute for Geography Education, University of Cologne, Germany. E-mail: alexandra.budke@uni-koeln.de

Received: April 13, 2022 Accepted: May 24, 2022 Online Published: June 30, 2022

doi:10.5430/jct.v11n5p28 URL: https://doi.org/10.5430/jct.v11n5p28

Abstract

This article focuses on the promotion of argumentation skills in Vietnamese geography teaching, which are not only relevant for understanding subject contexts but also for evaluation and critical reflection processes. An earlier study in this context showed that limited argumentation tasks are incorporated into the central medium of instruction, the textbook, and that this competence is rarely promoted in the classroom (Nguyen, 2018). However, a curriculum reform and revision of textbooks is currently taking place in Vietnam, alongside a liberalisation of the textbook market. As the main goal of the reform is competence orientation, this article examines the extent to which the importance of promoting argumentation competences through specifications in the new curriculum and tasks in new textbooks have increased in comparison to the previous study. The results suggest that there are few developments in this area, which are further discussed in the conclusion, in the context of the global challenges for implementing competence orientation through curricular.

Keywords: geography education, argumentation, school books, geography curriculum, Vietnam, competencies

1. Introduction

Argumentation has been found to play an important role in the cognitive and metacognitive learning processes (a.o. Pinto, Iliceto & Melogno, 2012) and supports the development of communicative and critical thinking (Hasnunidah, Susilo, Irawati & Suwono, 2020). It can also help in the development of scientific literacy (Songsil, Pongsophon & Boonsatien 2019). According to Budke and Meyer (2015, p. 14), developing argumentation skills enables learners to understand and produce oral and written arguments in various subjects. Learners can apply these argumentation skills not only within the lessons but also to their communities. By using argumentation, pupils can develop competencies such as opinion formation, critical thinking, self-reflection and analysis of social values, maturity and moral development (Haro, Noroozi, Biemans & Mulder, 2020). Argumentation also supports the development of skills such as the ability to interact, compromise and reach a consensus, the capacity to withstand contradiction and different views, the ability to find peaceful solutions, as well as the development of personality. Analyses of such argumentation skills are being conducted in various subjects around the world (a.o. Sriraman & Umland, 2014; Budke & Meyer, 2015; Songsil, Pongsophon, Boonsatien & Clarke, 2019; Mizrahi & Dickinson, 2020).

Due to its great social importance, the facilitation of argumentation skills is incorporated into school teaching in many countries and is studied in the context of different subjects (e.g. Simon, Erduran & Osborne, 2006; Knudson, 1992; Gronostay, 2019). For geography teaching, which deals with key societal problems such as climate change, environmental pollution, large disparities between rich and poor and conflicts over resources, the teaching of argumentation skills is particularly important to enable discussion around different perceptions of involved actors and sustainable solutions where different arguments have to be compared (Maier & Budke, 2018).

A study on the implementation of argumentation in geography teaching in Vietnam found that argumentation was not included in the curricula and that in the main medium of instruction, the textbook, predominantly included knowledge reproduction tasks and few argumentation tasks. Classroom observations also showed very few argumentation sequences (Nguyen, 2018). However, the deficient in argumentation tasks may have changed recently

due to decisive educational policy changes that have been made in Vietnam., with new competency-based curricula implemented in geography education since 2018. Thus, Vietnam is now in line with a change in educational policy direction that resulted in the definition of key competencies for lifelong learning by the European Union in 2009 (EU, 2006; Gordon et al., 2009). The basic idea is that education should not produce inert knowledge, but competencies that can be used to solve problems. This approach aims to ensure that students are able to face and cope with new challenges arising from globalization in a rapidly changing and highly interconnected world as they become adults. Such competences are increasingly the focus of attention of educational research when assessing the quality of education systems (Wilhelm, 2019). Argumentation competencies are central to promoting the EU-defined competencies of critical thinking, problem solving, and decision making (Gordon et al., 2009). Although the implementation of competency-based curricula is spreading worldwide (e.g. Murararaneza, Mtshali & Mukamana 2016; Kabombwe & Mulenga, 2019), there are few studies that focus on the extent to which these new curricula have led to a change in the promotion of competencies through instructional media and in the classroom. This article focuses on the implementation of such a change in Vietnam, which is currently implementing new competency-based curricula and reforming its textbooks.

The new geography curriculum focuses on competencies that focus on developing the pupil's knowledge of geography, as well as the ability to find geographic information and to apply knowledge and skills from geography lessons to their daily lives. In order to teach competencies in geography lessons, teaching media, among other things, must be designed through which competences can be promoted. The main teaching medium in Vietnamese geography lessons is the textbook. Since the 2020-2021 school year, textbooks are slowly being changed to conform to the curriculum reform, with the textbooks for Grade 1 (primary school), Grade 2 (primary school) and Grade 6 (secondary school) have been revised. This process will be continued in 2023 for Grade 3 (elementary), Grade 7 (secondary school) and Grade 10 (highschool). A full suite of new textbooks for all grades will have been fully introduced in 2025.

Alongside the curriculum reform, the textbook market has also been deregulated. Prior to the reform, textbook production was state-controlled with one publishing house able to produce the textbooks. One geography textbook per grade was produced for the whole of Vietnam, which included pre-structured the lesson plans. Following the reform, the textbook market was opened up and there are now three books for each grade from three competing publishing houses.

We are particularly interested in the incorporation of argumentation within these new textbooks, which has led to the following research question: Has the Vietnamese curriculum reform and the subsequent competition-oriented opening of the textbook market lead to a change of the textbooks in terms of the importance of promoting argumentation competencies among pupils? Thus, the importance of argumentation in the competency-based curricula and in the new textbooks is investigated in this study with the aim of answering this question.

This article has five parts, the state of research on argumentation in general and in relation to geography teaching is presented in the theory section. The third section includes the methodology for textbook analysis. Here, the focus is on task analysis, as tasks guide learning and are particularly suitable for promoting specific competences such as argumentation. The main results are shown in the fourth section and are subsequently discussed in the final part of this article, with a focus on answering the main research question for this study.

2. State of Research on Argumentation

In this section a brief overview of the theoretical basis of argumentation and insights into relevant empirical findings on the use of argumentation in education is given. The importance of argumentation in education is shown and the application of it in geography lessons is presented.

2.1 What is Argumentation?

Habermas (1999) focused on the rational discourse between persons: One argues in order to represent one's own position or to satisfy a need for justification by means of giving rational reasons. Among other things, this can serve to convince a counterpart of one's own position or also to represent one's own position as rational (e.g. Kopperschmidt, 1995; Klein, 1980). Argumentation "ideally implies conditions of equality of the interaction partners and the openness and negotiability of validity claims" (Weingarten & Pansegrau, 1993, p. 131). Many works have focused on the definition of argumentation. According to Dale Hample, "*an argument is the face-to-face exchange of messages, especially those conveying reasons, in contemplation of actual or potential disagreement*" (2003, p. 439). Shirley Simon et al. (2006) showed that the substance of an argument consists of claims, data, evidence and backing.

Van Eemeren (2014) reviewed the meaning of argumentation in different languages and susequently defined argumentation as *"a communicative and interactional act complex aimed at resolving a difference of opinion with the addressee by putting forward a constellation of propositions the arguer can be held accountable for to make the standpoint at issue acceptable to a rational judge who judges reasonably"* (2014, p. 7). According to Rapanta et al. (2016), argumentation can serve as a way of thinking, teaching and collaborating. Budke et al. (2020, p. 109) described "*argumentation as a problem-solving process in which a disputed assertion is to be refuted or confirmed by justifications*".

Toulmin (2003, p. 97) provided a basic structure of an argument, which consists of data (D), warrant (W), backing (B), qualifier claim (C) and rebuttal (R) (see fig. 1). In the concept described by Toulmin, an operator is often added to indicate the degree of validity in the validity relationship. This process may be identified by words such as "mandatory", "certainly" or "probably". Furthermore, according to Toulmin (2003, p. 97), exceptions under which the validity relationship is irrelevant are often defined. Ultimately, support (additional data) is often cited, which is intended to prove the validity relationship.

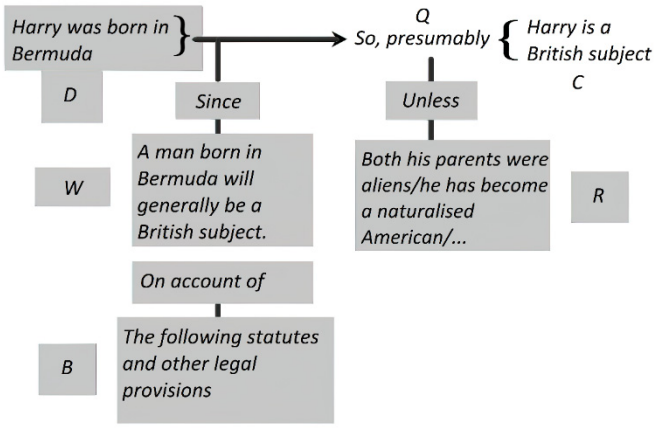

Figure 1. Toulmin's Graphical Representation of an Argument (2003, p. 97) (D is data, W is warrant, B is backing, Q is qualifier, C is claim and R is rebuttal)

The structural argumentation analysis is the most common methodological approach to analyze the quality of argumentation. (e.g., Lam, Hew & Chiu, 2018; Abdollahzadeh, Amini Farsani & Beikmohammadi, 2017; Stapleton & Wu, 2015; Riemeier, Aufschnaiter, Fleischhauer & Rogge, 2012; Simon et al., 2006; Basel, Harms & Prechtl, 2013; Zohar & Nemet, 2002; Chase, 2011; Knudson, 1992). Existing studies have normally examined the extent to which arguments used by students are complete (basic structure) and considered complete arguments to be better than incomplete ones (e.g., Aufschnaiter, Erduran, Osborne & Simon, 2008; Lam et al., 2018; Gronostay, 2019). In addition, structural analysis has often been used to determine the number of arguments in a text (e.g., Benetos & Betrancourt, 2020; Basten, Kraft & Wilde, 2017) and the internal complexity of arguments. Within this approach, the more argument elements are provided, the better the argument (e.g., Basel et al., 2013; Aufschnaiter et al., 2008; Chase, 2011). In this study, structural analysis is used to identify argumentation tasks in geography textbooks (see methodology section).

2.2 Argumentation Competence in Education

Since argumentation has such great social significance, the skills to understand it and to be able to produce it should be acquired during the school years. Students are prepared for different types of argumentation in the various school subjects according to subject-specific goals, objects and perspectives. A number of studies have shown that argumentation can be used within every subjects taught in school (Budke et al., 2020; Rapanta & Macagno, 2016; Erduran et al., 2015).

Following Weinert's (2001, p. 27) general definition of competence, argumentation competencies in the school context mean "that students have skills and abilities to understand oral and written argumentation in various subject contexts, to produce their own argumentation, and to respond appropriately to argumentation in interactions with others, and also that they have the associated motivational, volitional, and social readiness to use these argumentation

skills successfully and responsibly in variable situations" (Budke, 2013, p. 360). From the Common European Framework of Reference for Languages (cf. Council of Europe, 2001), the sub-areas of argumentation competence mentioned in this definition can be derived. Argumentation reception can be distinguished from argumentation production and interaction. These three areas can be found in oral and written language (cf. Budke et al., 2010).

For subject teaching, the importance of argumentation is justified in two respects: Argumentation competence is seen, on the one hand, as a goal in teaching and, on the other hand, as a foundation for the development of other important competencies such as assessment competencies, subject-specific competencies and social competencies (Budke &Meyer, 2015, pp. 12-14).

Aargumentation is seen as particulary for learning success in science didactics and mathematics, understanding of technical concepts, and individual knowledge construction has been studied and documented (including Aufschnaiter et al., 2008; Clark & Sampson, 2008; Mercer, Dawes, Wegerif & Sams, 2004; Duschl & Osborne, 2002; Driver, Newton & Osborne 2000).

A study by Wuttke (2005), in which different forms of instructional communication were compared with regard to their influence on the generation of knowledge and understanding in the students, showed that high-quality argumentations in particular, through the exchange of different and justified points of view, provide diverse possibilities of connection to the prior knowledge of the students and therefore contribute to the promotion of understanding. Additionally, within each of the school subjects, students get to know subject-specific questions, which are considered worthy of argumentation. Students develop an understanding of subject-specific conclusions, types of reasoning and typical evidence, and acquire the ability to use these themselves in appropriate subject-specific argumentation. Through the use of these subject-specific forms of argumentation, different perspectives of the subjects on the world can then also be recognized and practiced by the students in the classroom. Students also learn what scientific thinking means, also known as “scientific literacy” (Jiménez-Aleixandre & Erduran, 2007). In addition, argumentation can promote the ability to evaluate subject content and the formation of students' opinions. This aspect is highlighted by the didactic studies in the social sciences (e.g. Karg, 2007; Petrik, 2007). Through argumentation, students can learn about perspectives other than their own on the issues discussed in class. They learn to refer to these, to evaluate them, to formulate counter-arguments and, if necessary, to work out a consensus.

Although there is a broad consensus among subject didactics about the didactic importance of argumentation, studies from different subjects show that many students, and even undergraduates, have problems in formulating quality argumentations (among others Abi-El-Mona & Abd-El-Khalick, 2011; Nagel & Reiss, 2016; Uhlenwinkel, 2015, Budke & Kuckuck, 2017). There is also evidence that many students have difficulty integrating counterarguments and rebuttals into their own arguments (e.g., Budke & Kuckuck, 2020; Chase, 2011; Riemeier et al., 2012), providing valid evidence to support their conclusions (e.g., Zohar & Nemet, 2002; Riemeier et al., 2012; Sandoval & Millwood, 2005; Clark & Sampson, 2008), to make material-based arguments (including Schüler, 2017) and that students lack the linguistic skills to formulate their arguments in an understandable and persuasive manner (including Petersen, 2013; Nippold, Ward-Lonergan & Fanning, 2005). One reason for these results, which have been observed in a number of different countries, could be the insufficient promotion of this competence in geography classes. For example, studies from Germany show that argumentation tasks make up a small proportion (6.7%) of the tasks in geography textbooks (Budke, 2011).

With regard to Vietnam, students are even less likely to be confronted with argumentation tasks in Vietnamese geography textbooks (Nguyen, 2018). The limited number of argumentations tasks in the Vietnamese geography textbooks can be attributed to the fact that the curriculum focused primarily on knowledge. Whether the importance of argumentation tasks has increased as a result of the current curriculum reform (MOET, 2018) is examined in this article.

3. Methods

Textbooks play an important role in Vietnam’s education system because they are used by teachers as a tool to organize lessons and to implement the curriculum. To answer the question as to whether the curriculum reform and subsequent revision of the textbooks led to a change in the importance of promoting argumentation competencies among pupils, we analysed argumentation tasks in the new History and Geography school book in Grade 6 from the three publishing companies Cánh Diều, Kết nối tri thức với cuộc sống and Chân trời sáng tạo in Vietnam. We then compared the results with the analysis of textbook tasks in older geography books (Nguyen, 2018).

Tasks are important elements of geography textbooks in Vietnam. These tasks have many funtions: encouraging pupils to engage with the subject; giving feedback on learning performance; structuring the learning process and developing the pupils' critical thinking. Such tasks have been proven to be a positive learning tool in a number of previous studies: "Tasks, which include questions, activities, or assignments, are a key tool for geography teachers as they enable students to engage with the subject" (Krause, Budke & Maier, 2021, p. 2). Tasks can also promote pupils' individual and social learning processes (Krause et al., 2021) and are a key tool for geography teachers as they enable students to engage with the subject (e.g. Bijsterbosch, 2017; Kleinknecht, 2010; Wiater, 2011). Recent research has shown that geography teachers use tasks in upper secondary education in more than 40 % of their lesson time, based on lessons in Germany and the Netherlands (Krause, 2017).

Based on Kleinknecht's (2010, p. 12) definition, tasks are a request for students to engage with the content of the subject. Keywords are used within the tasks to specify which activity the students should perform, for example: "List some factors", "Collect some sentences"; "Identify"; "Compare"; "Find information", and "Explain". These phrases are used to classify educational learning objectives according to their level of complexity and specificity, as proposed by Bloom (1956).

The argumentation tasks of interest in this article are tasks that ask students to prove or disprove a controversial claim, by linking correct evidence to appropriate validity relations (facilitation of productive and interactionist argumentation competence) or to evaluate a given argumentation on the basis of the described quality criteria (facilitation of receptive argumentation competence) (Budke, 2011, p.256). An example of such a task is given below.

"According to you, water resources are limited or unlimited? Explain your opinion?" (Kites Publishing Company, History and geography book grade 6, p. 165).

Pupils are expected to provide their own opinion of this claim in this argumentation task, as they can agree or disagree with this claim. Pupils have to use their knowledge and data provided to support their opinion.

Examples of words that can be used to formulate argumentation task analyses are: "Explain, discuss, evaluate,...". Some tasks are identified as a argumentation task by wording such as "*Acording to you, Tell;" and "Give some example for a statement…*" and request pupils to find evidence to support their claim. Furthermore, the students are required to collect data to support their statement or formulate an opinion, evaluate, take a stand, or discuss possible actions or solutions. The wording used to formulate the tasks can therefore provide an important indication as to whether argumentation should be carried out by the students. However, the exact determination of whether it is actually an argumentation task can only be done by analysing it in the context of the textbook page. For example, some assessment tasks only involve summarizing the information on the textbook page without having to provide one's own opinion. On the other hand, there are also tasks that include the word "justify" and thus at first glance are not argumentation tasks. However, by analysing the textbook pages on which they are included, the key information needed to answer the question is not provided and the students are expected to formulate their own argumentations. In argumentation tasks, pupils can share their opinion or take on and represent the opinion of a role assigned to them, explain why they believe what they believe, and try to persuade others to agree with their own claims by presenting evidence to substantiate their point of view.

The approach used in this study includes three steps. First of all, all tasks in history and geography textbooks (grade 6) of the three aforementioned publishing companies (2020) are listed, in order to be able to determine the quantitative significance of argumentation tasks in the books analysed in the second step. For each task, the name of the publishing company, the content to which the task belongs, and the page on which the task can be found are provided. Each task was also assigned to a category as to whether its focus was physical geography, human geography or human and environmental interaction. Secondly, an argumentation analysis was undertaken, in which the argumentation tasks were classified according to the actions prescribed by the tasks. The last step was the comparison of the proportion of argumentation tasks in the older books with those in the new textbooks. With the topics where argumentation tasks can be found also compared.

4. Results

In order to understand and classify the results of the argumentation task analysis (4.2), the competency-based curriculum reform is first introduced and the extent to which it contains specifications regarding the promotion of argumentation competence is examined.

4.1 The Curriculum Reform and its Influence on the Importance of Argumentation

The new geography curriculum in Vietnam was published in 12/2018 by the Ministry of Education training-MOET in the process of education reform. The new curriculum focuses on students' activities to develop their competences, such as independent learning, communication and collaboration, problem-solving and creativity (MOET, 2018, p.7). Pupils are encouraged to explore the topics by themselves, to improve their skills and to learn to apply the knowledge and skills.

Table 1. Competencies in the Geography Curriculum at Secondary Level (MOET, 2018) (own summary, own translation)

Competencies	Definition and Explanation
1. Geography science awareness (gsa)	
1.1 Perceiving the world from a spatial perspective	**Spatial Orientation**: know how to use different geographical tools to determine the direction; the geographical position of a place, the direction on maps; analyze the scope, size of a country. **Geolocation analysis:** analyze the influence of geographical location on natural and socio-economic processes. **Analysis of the distribution:** describe the distribution of geographical objects and phenomena. **Expressing spatial awareness:** use mind maps to describe space; spatial relationships between phenomena; describe the natural, residential and economical characteristics of a place.
1.2 Explain physical geography and human geography	**Describe Physical geography and Human geography:** Describe geographical phenomena and processes on Earth; nature of the continents; Vietnamese nature. Explain some factors affecting Vietnam's nature. • Describe the interactions between natural phenomena using diagrams. • Identify and analyze the cause-and-effect on natural components. • Describe and explain the spatial differentiation of population, destination, economy, culture, … • Find reasons for the distribution of population and economic sectors. • Describe the interactions between socio-economic phenomena • Analyze causality in human geography and apply it to your own lives **Analyze the impact of natural resources on the distribution of population and production** • Analyse natural exploitation methods in different continents. • Assess the impact of nature and natural resources on population distribution, economic development and economic structure **Analyze the impact of human society on the natural environment:** Analyze how people in different continents exploit, use and protect nature, for example in Vietnam.
2. Gathering geographical information (ggi)	
2.1 Use geospatial tools	–Find geographical content in a text; know how to title the text, know how to find geographical documents for a project. – Using maps: list elements of the map; know how to read maps, for example topographical maps, physical maps, maps to travel,…know how to use maps with another scale to determine the distance between two locations,… – Calculation, statistics: list how to measure natural phenomena and processes, use indicators on population growth, population distribution and some indicators of economic development and economic structure. – Analyze charts and diagrams: know how to read climate charts (temperature, precipitation); know how to read charts to analyse structure, scale and distribution of geographical objects.
2.2 Organizing learning in the field	Know how to prepare necessary tools before conducting field surveys; how to use some tools to make observations in the field; know how to write a report after a day in the field.
2.3 Use the Internet	Know how to get information about nature, economy and society from websites introduced by teachers; know how to identify keywords to find geographical information; know how to evaluate the information; have skills in downloading media and keeping them as a record for an assigned assignment.
3. Implementing geography knowledge and skills (igks)	
3.1 Find information and apply them	Know how to find information, data, learn about development trends in the world and in the nations; know how to apply geographical knowledge in daily life
3.2 Exploratory learning	Ability to build and develop ideas on a topic of exploratory learning; be able to present the results of exploratory learning.

The subject of Geography is also changing as part of the transformation of the education system in Vietnam. Geography is taught from Grade 4 of primary school, in which pupils are 10 years old, to high school (Grade 12 -18 years old). In primary school, Geography is taught from Grade 4 to Grade 5 as a joint subject together with History. Since the 2021-2022 academic year, Geography has also been taught in combination with History in Secondary school, which is a significant change because geography was an independent subject at this school level before that.

The new curriculum for geography focuses on competencies. These geography competencies include geographic science awareness, gathering geographical information and implementation of geography knowledge and skills (see Table 1).

The formulated competencies would theoretically allow for the integration of argumentation in the new curriculum. Argumentation can be used to improve the competencies of "Geography science awareness", which is the first competence dimension of the curriculum (Table 1). Furthermore, argumentation can be used to evaluate the impact of human society on the natural environment. For example, pupils could discuss their opinions on population distribution, including the impact of nature and natural resources on population distribution, economic development and economic structure. However, argumentation is not explicitly mentioned in the new curriculum, which suggests that this competence is not deemed to be very important. Despite this lack of explicit inclusion, some competencies in the curriculum attainment can be linked to development of argumentation skills.

4.2 Argumentation in the New Geography School Books

New textbooks, which are based on the new curriculum, were published in the academic year 2020-2021 for Grade 1. In the academic year (2021-2022) schoolbooks for Grades 2 and 6 were been developed. The process of developing new textbooks will be finished in the school year 2024-2025. Aside from the elementary school books, the history and geography schoolbook for Grade 6 is the only new geography textbook published to date and is consequently the only this book can be assessed in this study.

A new factor influences the production of textbooks in Vietnam, in addition to the curriculum reform: While there was only one publisher in the past, there are now different publishers producing books for the same grade level, with three publishing companies publishing the History and Geography school books for grade 6. These books are from the Cánh Diều, Kết nối tri thức với cuộc sống and Chân trời sáng tạo (Kites, Connecting Knowledge with Life and Creative Horizon) publishing companies. The texbooks from these three publishers have been examine in this study to explore whether each of the textbooks give a different emphasis to the promotion of argumentation skills through tasks included.

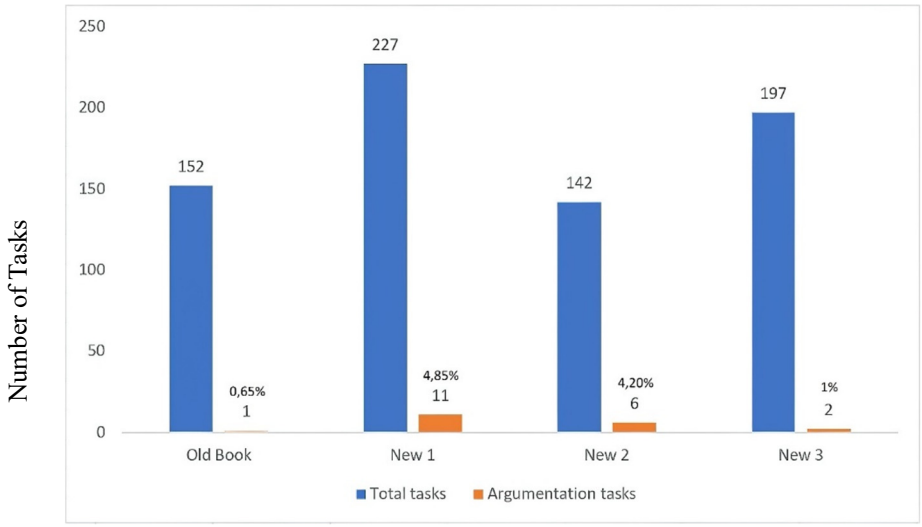

Figure 2. Number of Total and Argumentation Tasks in the Old (2006) and New Geography Textbooks for Grade 6, (own presentation) with New 1 being the Book Published by Kết nối tri thức với cuộc sống Book (2020), New 2 being the Book Published by Cánh Diều (2020), New 3 being the Book Published bu Chân trời sáng tạo (2020) and the Old Book being the Geography Grade 6 (2006)

From examining the tasks ine ach of the three textbooks, it was found that 3.35% of all tasks in the three new geography schoolbooks for Grade 6 are argumentation tasks, compared to just 0.65% in the old schoolbook for the same (see Figure 2). In the three new textbooks, the proportion of argumentation tasks in all tasks has therefore increased slightly but is still at a very low level.

In the new textbooks, 42% of the analysed argumentation tasks focused on the topic of environmental interaction, while the remaining 58% focused on human geography. The main aim is for students to creatively develop solutions to the problems discussed in class, which include pollution, water wastage, climate change and population growth. In the old textbook 45% belonged to the field of human geography, 31% on human and environmental interaction and 24% on physical geography (Nguyen, 2018, page 60). Consequently, the fact that private publishers have been able to produce textbooks since the curriculum reform leads to slightly different emphases (see figure 2).

An example of an argumentation task from one of the next textbooks is: *"Give some solutions to cope with climate change"* (Cánh Diều, 2020, page 161). In this assignment, students are asked to propose creative solutions to climate change and justify them with evidence. Since the different solutions for climate change are controversial, the students have to justify their own decision argumentatively and students can, for instance, apply their knowledge of climate change to their school or in their family. For example, agriculture in the Mekong Delta is being affected by rising sea level caused by climate change. A possible question to be answered by the students in this context would be to find and describe the best way for farmers to adapt their farms to the consequences of climate change. Another possible aspect to be discussed could be the hot weather experienced in the pupils' schools during summer: How could the teachers and pupils better cope with the local temperature?

The amount of argumentation tasks in the three new schoolbooks, which have been edited and published after the competence-oriented curriculum reform, has not changed considerably when compared to the old schoolbooks, although the curriculum has since been formulated in a competence-oriented way. However, the transfer of knowledge still has high priority and the discussion and argumentative justification of the students' work results still plays a subordinate role.

5. Discussion and Conclusion

Competency-based curricula are being introduced in schools around the world to promote basic competencies that will enable students to meet and cope with the new challenges posed by globalization (e.g. Murararaneza et al. 2016; Kabombwe & Mulenga, 2019). As few studies have focused on the extent to which these new curricula have led to a change in the promotion of competencies through instructional media and in the classroom, a study was conducted in Vietnam to add to this understanding.

For the domain of argumentation promotion, data were already available that were collected before the curriculum reform (Nguyen, 2018), which was used to compare the new competency-oriented textbooks. The inclusion of argumentation competence facilitation was determined through counting the number of argumentation tasks in the textbooks. In this way, the question could be answered as to whether the importance of argumentation competence facilitation has increased since the introduction of the competence-based curriculum. The results show that the amount of argumentation tasks has increased slightly in the new schoolbooks for Grade 6, with 3.35% of tasks being argumentation tasks in the new textbooks compared to 0.65% in the old schoolbooks from before the curriculum reform. Despite this increase, it must be noted that even after the introduction of the new curriculum, there is still little support in the development of argumentative competencies through textbook tasks for Vietnamese pupils. The new textbooks still focus on knowledge rather than development of argumentation as a skill. The textbooks mainly contain closed tasks with a specific answer, with few open tasks, such as argumentation tasks, in which the students can develop different, creative and independent solutions (Guilfoyle, Hillier & Fancourt, 2021, page 5). Additionally since, more companies entering the process of publishing schoolbooks in Vietnam, different publishers have produced different textbooks and, with regard to the importance of argumentation tasks, there are differences between the books produced. However, since the curriculum provides very detailed guidelines, the variation between publishers' leeway is also limited, which is reflected in the fact that there are only very slight differences with regard to the argumentation tasks examined. The low significance of argumentation tasks should be viewed critically, since argumentation, as has been proven in various studies, is of great importance for the acquisition of knowledge, for problem solving, for the evaluation of controversial issues or for learning the ability to find compromises (see chapter 2 and Budke, Meyer, 2015, p. 14).

The results of this study shows that a change in the curriculum in Vietnam to focus on teaching of competences does not necessarily mean that argumentation is promoted as a key competence, which means that subject content

competences, competences for evaluation and problem solving will only be partially taught. Similar results have been found for African curricula, which remain relatively close to the traditional, content-based curricula despite a move to competence orientation (Murararaneza et al., 2016, p. 5).

6. Recommendation

These result suggest that any opportunities to develop competences should be used, and argumentation tasks should be integrated into textbooks. Future studies should investigate the extent to which competences are really promoted in the classroom. Future studies could also investigate the extent to which teachers understand, support and want to implement competence orientation in their teaching.

References

Abdollahzadeh, E., Amini Farsani, M., & Beikmohammadi, M. (2017). Argumentative Writing Behavior of Graduate EFL Learners. *Argumentation*, *31*(4), 641-661.

Abi-El-Mona, I., & Abd-El-Khalick, F. (2011). Perceptions of the Nature and "Goodness" of Argument among College Students, Science Teachers, and Scientists. *International Journal of Science Education*, *33*(4), 573-605.

Aufschnaiter, C. von, Erduran, S., Osborne, J., & Simon, S. (2008). Arguing to learn and learning to argue: Case studies of how students' argumentation relates to their scientific knowledge. *Journal of Research in Science Teaching, 45*(1), 101-131.

Basel, N., Harms, U., & Prechtl, H. (2013). Analysis of students' arguments on evolutionary theory. *Journal of Biological Education*, *47*(4), 192-199.

Basten, M., Kraft, A., & Wilde, M. (2017). Die Bedeutung der kommunikativen Einbettung für das Bewerten und schriftliche Argumentieren im Biologieunterricht. *Bildung und Erziehung*, *70*(1), 57-74.

Benetos, K., & Betrancourt, M. (2020). Digital authoring support for argumentative writing: what does it change? *Journal of Writing Research*, *12*(1), 263-290.

Bijsterbosch, H. (2018). *Professional Development of Geography Teachers with Regard to Summative Assessment Practices*. Dissertation. Utrecht: Ipskamp Printing.

Budke, A. (2011). Förderung von Argumentationskompetenzen in aktuellen Geographieschulbüchern. In E. Matthes & C. Heinze (Eds.), *Aufgaben im Schulbuch* (pp. 253-264). Bad Heilbrunn: Verlag Julius Klinkhardt.

Budke, A. (2012). Argumentationen im Geographieunterricht. *Geographie und ihre Didaktik,* (1), 23-34.

Budke, A. (2013). Stärkung von Argumentationskompetenzen im Geographieunterricht – sinnlos, unnötig und zwecklos? In M. Becker-Mrotzek, K. Schramm, E. Thürmann & H.Vollmer (Eds.), *Sprache im Fach*. Münster. Pp. 353-364.

Budke, A., & Kuckuck, M. (2020). Kartenbasierte Argumentationen in der Geographielehrerinnenbildung – eine empirische Untersuchung zur Effizienz von Strukturierungs- und Formulierungshilfen. In: M. Hemmer, A.-K. Lindau, C. Peter, M. Rawohl, & G. Schrüfer (Eds.), *Lehrerprofessionalität und Lehrerbildung im Fach Geographie im Fokus von Theorie, Empirie und Praxis. Ausgewählte Tagungsbeiträge zum HGD-Symposium 2018 in Münster* (= Geographiedidaktische Forschungen, Bd. 71). Nürnberg, 177-190. Retrieved from https://www.uni-muenster.de/imperia/md/content/geographiedidaktische-forschungen/pdfdok/gdf_72_-_hemmer_et_al._-_lehrerprofessionalita__t_und_lehrerbildung_im_fach_geographie.pdf

Budke, A., & Meyer, M. (2015). Fachlich argumentieren lernen - Die Bedeutung der Argumentation in den unterschiedlichen Schulfächern. In A. Budke, M. Kuckuck, M. Meyer, F. Schäbitz, K. Schlüter, K., & G. Weiss (Eds.), *Fachlich argumentieren lernen*. Münster: Waxmann.

Budke, A., & Uhlenwinkel, A. (2011). Argumentieren im Geographieunterricht - Theoretische Grundlagen und unterrichtspraktische Umsetzungen. In C. Meyer, R. Henry, G. Stöber (Eds.), *Geographische Bildung* (pp. 114-129). Braunschweig: Westermann.

Budke, A., &, Kuckuck M. (2017). Argumentation mit Karten. In H. Jahnke, A. Schlottmann, & M. Dickel (Eds.), *Räume visualisieren. Geographiedidaktische Forschungen, 62* (pp. 91-102). Münster: Hochschulverband für Geographiedidaktik.

Budke, A., Kuckuck, M., Meyer, M., Schäbitz, F., Schlüter, K., & Weiss, G. (2015). *Fachlich argumentieren lernen:*

Didaktische Forschungen zur Argumentation in den Unterrichtsfächern. Münster: Waxmann.

Budke, A., Schiefele, U., & Uhlenwinkel, A. (2010). Entwicklung eines Argumentationskompetenzmodells für den Geographieunterricht. *Geographie und ihre Didaktik, 3*, 180-190.

Budke, A., Zepter, A., Königs, P., Schwerdtfeger, S., & Gebele, D. (2020). Student texts produced in the context of material-based argumentative writing: Interdisciplinary research-related conception of an evaluation tool. *Research in Subject-matter Teaching and Learning, 3*, 108-125.

Chase, B. J. (2011). *An Analysis of the Argumentative Writing Skills of Academically Underprepared College Students*. Dissertation. Chase_columbia_0054D_10083.pdf

Clark, D. B., & Sampson, V. (2008). Assessing dialogic argumentation in online environments to relate structure, grounds, and conceptual quality. *Journal of Research in Science Teaching*, *45*(3), 293-321.

Council of Europe (2001). *Gemeinsamer europäischer Referenzrahmen für Sprachen*. Berlin u.a.: Langenscheidt.

Driver, R., Newton, P., & Osborne, J. (2000). Establishing the norms of scientific argumentation in classrooms. *Science Education, 84*(3), 287-312.

Duschl, R., & Osborne, J. (2002). Supporting and promoting argumentation discourses in science education. *Studies in Science Education, 28*(1), 39-72.

Eemeren, F. H. van (2014). *Handbook of Argumentation Theory*. Dordrecht: Springer.

Erduran, S., Ozdem, Y., & Park, J.-Y. (2015). Research trends on argumentation in science education: a journal content analysis from 1998-2014. *IJ STEM 2*, 5. https://doi.org/10.1186/s40594-015-0020-1

European Union (2006). RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 on key competences for lifelong learning. *Official Journal of the European Union* (2006). LexUriServ.do (europa.eu)

Gordon, J., Halász, G., Krawczyk, M., Leney, T., Michel, A., Pepper, D., Putkiewicz, E., & Wiśniewski, J. (2009). Key Competences in Europe: Opening Doors for Lifelong Learners across the School Curriculum and Teacher Education. *CASE Network Reports No. 87*. http://dx.doi.org/10.2139/ssrn.1517804

Gronostay, D. (2019). Enhancing the Quality of Controversial Discussions via Argumentation Training – a Quasi-Experimental Study in Civic Education Classrooms. *Bildung und Erziehung*. https://doi.org/10.7788/bue-2017-0107.

Guilfoyle, L., Hillier, J., & Fancourt, N. (2021). Students' argumentation in the contexts of science, religious education, and interdisciplinary science-religious education scenarios. *Research in Science & Technological Education*. https://doi.org/10.1080/02635143.2021.1947223

Habermas, J. (1999). *Theorie des kommunikativen Handelns*. Frankfurt a.M.: Suhrkamp.

Hample, D. (2003). Arguing skill. In J. O. Greene & B. R. Burleson (Eds.), *Handbook of Communication and Social Interaction skills* (pp. 439-477). New York: Routledge.

Hanna, G., & Jahnke, H. N. (2002). Arguments from physics in mathematical proofs: An educational perspective. *For the learning of mathematics*, *22*(3), 38-45.

Haro, A. V., Noroozi, O., Biemans, H., & Mulder, M. (2020). Argumentation Competence: Students' Argumentation Knowledge, Behavior and Attitude and their Relationships with Domain-Specific Knowledge Acquisition. *Journal of Constructivist Psychology, 35*(1), 123-145. https://doi.org/10.1080/10720537.2020.1734995

Hasnunidah, N., Susilo, H., Irawati, M., & Suwono, H. (2020). The contribution of argumentation and critical thinking skills on students' concept understanding in different learning models. *Journal of University Teaching & Learning Practice, 17*(1). Retrieved from https://ro.uow.edu.au/jutlp/vol17/iss1/6

Innocent M. M., & Kabombwe, Y. M. (2019). 117 A Competency-Based Curriculum for Zambian Primary and Secondary Schools: Learning from Theory and some Countries around the World. *International Journal of Education and Research, 7*(2). February 2019. Retrieved from http://dspace.unza.zm/handle/123456789/6571

Jiménez-Aleixandre, M. P., Pereiro Muñoz, C., & Aznar, C. (2000). *Expertise, argumentation and scientific practice: A case study about environmental education in the 11th grade*. Retrieved from http://files.eric.ed.gov/fulltext/ED439960.pdf

Kabombwe, Y. M., & Mulenga, I. M. (2019). Implementation of the competency-based curriculum by teachers of

History in selected Secondary Schools in Lusaka district, Zambia. *Yesterday and Today*, *22*, 19-41. http://dx.doi.org/10.17159/2223-0386/2019/n22a2

Karg, I. (2007). *Diskursfähigkeit als Paradigma schulischen Schreibens*. Frankfurt am Main: Lang.

Klein, W. (1980). Argumentation und Argument. *Zeitschrift für Literaturwissenschaften, 38/39*, 9-57.

Kleinknecht, M. (2010). *Aufgabenkultur im Unterricht: Eine Empirisch-Didaktische Video-und Interviewstudie an Hauptschulen*. Baltmannsweiler, Germany: Schneider Hohengehren.

Knudson, R. E. (1992). Analysis of Argumentative Writing at Two Grade Levels. *The Journal of Educational Research*, *85*(3), 169-179.

Kopperschmidt, J. (1995). Grundfragen einer allgemeinen Argumentationstheorie unter besonderer Berücksichtigung formaler Argumentationsmuster. In H. Wohlrapp (Eds.), *Wege der Argumentationsforschung* (pp. 50-73). Stuttgart: Frommann-Holzboog (= problemata 135).

Krause, U., & Koster, B. (2017). Lesson Study met de Leswizard: Een gezamenlijke leeractiviteit van leraren en aankomende leraren op de werkplek. *Tijdschr voor Lerarenopleiders*, *38*, 71-83.

Krause, U., Budke, A., & Maier, V. (2021). Understanding of Developing and Setting Tasks in Geography Lessons by German and Dutch Student Teachers. *Educ. Sci*, *11*(2), 63. https://doi.org/10.3390/educsci11020063

Krause, U., Budke, A., & Maier, V. (2021). Understanding of Developing and Setting Tasks in Geography Lessons by German and Dutch Student Teachers. *Education sciences*, *11*(63), 1-20.

Lam, Y. W., Hew, K. F., & Chiu, T. K. F. (2018). Improving argumentative writing: Effects of a blended learning approach and gamification. *Language Learning and Technology*, *22*(1), 97-118.

Lin, S.-S., & Mintzes, J. J. (2010). Learning argumentation skills through instruction in socioscientific issues: the effect of ability level. *Int J of Sci and Math Educ*, *8*, 993-1017. https://doi.org/10.1007/s10763-010-9215-6

Maier, V., & Budke, A. (2018). Wie planen Schüler/innen? Die Bedeutung der Argumentation bei der Lösung von räumlichen Planungsaufgaben. *GW-Unterricht*, *149*, 16-29.

Mercer, N., Dawes, L., Wegerif, R., & Sams, C. (2004). Reasoning as a scientist: ways of helping children to use language to learn science. *British Educational Research Journal, 30*(3), 359-377.

Ministry of education training (2018). *High school curriculum*. Retrieved from https://moet.gov.vn/tintuc/Pages/tin-hoat-dong-cua-bo.aspx?ItemID=5755

Mizrahi, M., & Dickinson, M. (2020). Argumentation in Philosophical Practice: An Empirical Study. *OSSA Conference Archive, 3*. Retrieved from https://scholar.uwindsor.ca/ossaarchive/OSSA12/Saturday/3

Morawski, M., & Budke, A. (2019). How Digital and Oral Peer Feedback Improves High School Students' Written Argumentation-A Case Study Exploring the Effectiveness of Peer Feedback in Geography. *Education Sciences*, *9*, 1-28. https://doi.org/10.3390/educsci9030178.

Murarane za, C., Mtshali, N. G., & Mukamana, D. (2016). Issues and challenges of curriculum reform to competency-based curricula in Africa: A meta-synthesis. *Nursing & Health Sciences*, *19*(1), 5-12. https://doi.org/10.1111/nhs.12316

Nagel, K., & Reiss, K. (2016). Zwischen Schule und Universität: Argumentation in der Mathematik. *Zeitschrift für Erziehungswissenschaft*, *19*(2), 299-327.

Nguyen, T. T. (2018). *Implementation of Argumentation in Geography Lessons in Vietnam – an Analysis of Geography Schoolbook Tasks, Teachers' Perceptions and Quality of Pupils' Written Argumentation.* Retrieved from https://kups.ub.uni-koeln.de/8462/

Nippold, M. A., Ward-Lonergan, J. M., & Fanning, J. L. (2005). Persuasive Writing in Children, Adolescents, and Adults: A Study of Syntactic, Semantic, and Pragmatic Development. *Language, Speech, and Hearing Services in Schools*, *36*(2), 125-138.

Petersen, I. (2013). Entwicklung schriftlicher Argumentationskompetenz bei ein- und mehrsprachigen Oberstufenschüler/-innen und Studierenden. In H. Brandl, E. Arslan, E. Langelahn & C. Riemer (Eds.), *Mehrsprachig in Wissenschaft und Gesellschaft. Mehrsprachigkeit, Bildungsbeteiligung und Potenziale von Studierenden mit Migrationshintergrund* (pp. 69-80). Bielefeld: Universität Bielefeld.

Petrik, A. (2007). Kompetenzentwicklung durch Argumentation – ein Modell zur Analyse politischer Lernprozesse.

In J. Schattschneider (Eds.), *Domänenspezifische Diagnostik* (pp. 92-117). Bad Schwalbach: Wochenschau-Verlag.

Pinto, M. A., Iliceto, P., & Melogno, S. (2012). Argumentative abilities in metacognition and in metalinguistics: a study on university students. *European Journal of Psychology of Education, 27*(1), 35-58.

Rapanta, C., & Macagno, F. (2016) Argumentation methods in educational contexts: Introduction to the special issue. *International Journal of Educational Research*, *79*, 142-149. https://doi.org/10.1016/j.ijer.2016.03.006

Riemeier, T., von Aufschnaiter, C., Fleischhauer, J., & Rogge, C. (2012). Argumentationen von Schülern prozessbasiert analysieren: Ansatz, Vorgehen, Befunde und Implikationen Process-based analysis of students' argumentation: approach, proceeding, results, and implications. *Zeitschrift für Didaktik der Naturwissenschaften*, *18*, 181-200.

Sandoval, W. A., & Millwood, K. A. (2005). The Quality of Students' Use of Evidence in Written Scientific Explanations. *Cognition and Instruction*, *23*(1), 23-55.

Schüler, L. (2017). *Materialgestütztes Schreiben argumentierender Texte als Wissenschaftspropädeutik in der Oberstufe. Untersuchungen zu einem neuen wissenschaftspropädeutischen Aufgabentyp in der Oberstufe.* Baltmannsweiler: Schneider.

Simon, M., Budke, A., & Schäbitz, F. (2020). The objectives and uses of comparisons in geography textbooks: results of an international comparative analysis. *Heliyon*, *6*(8), e04420. https://doi.org/10.1016/j.heliyon.2020.e04420

Simon, S., Erduran, S., & Osborne, J. (2006). Learning to Teach Argumentation: Research and development in the science classroom. *International Journal of Science Education, 28*(2-3), 235-260.

Songsil, W., Pongsophon, P., Boonsatien, B., & Clarke, A. (2019). Developing scientific argumentation strategies using revised argument-driven inquiry (rADI) in science classrooms in Thailand. *Asia-Pacific Science Education, 5*, 7. https://doi.org/10.1186/s41029-019-0035-x

Sriraman, B., & Umland, K. (2014). Argumentation in Mathematics Education. In S. Lerman (Eds.), *Encyclopedia of Mathematics Education*. Dordrecht: Springer. https://doi.org/10.1007/978-94-007-4978-8_11

Stapleton, P., & Wu, J. (2015). Assessing the quality of arguments in students' persuasive writing: A case study analyzing the relationship between surface structure and substance. *Journal of English for Academic Purposes, 17*, 12-23.

Toulmin, S. (2003). *The use of Argument*. Cambridge: Cambridge Press.

Uhlenwinkel, A. (2015). Geographisches Wissen und geographische Argumentation. In A. Budke, M. Kuckuck, M. Meyer, F. Schäbitz, K. Schlüter & G. Weiss (Eds.), *Fachlich argumentieren lernen. Didaktische Forschungen zur Argumentation in den Unterrichtsfächern* (pp. 46-61). Münster: Waxmann.

Weinert, F. E. (2001). Vergleichende Leistungsmessung in Schulen – eine umstrittene Selbstverständlichkeit. In F. E. Weinert (Eds.), *Leistungsmessungen in Schulen* (pp. 17-33). Weinheim: Beltz.

Weingarten, R., & Pansegrau, P. (1993). Argumentationsstile im Unterricht. In B. Sandig & U. Püschel (Eds.), *Stilistik. Band III: Argumentationsstile* (pp. 127-148). Hildesheim: Olms.

Wiater, W. (2011). Aufgaben im Schulbuch. In E. Matthes, S. Schütze & J. Klinkhardt (Eds.), *Aufgaben im Schulbuch* (pp. 31-42). Bad Heilbrunn.

Wilhelm, S., Förster, R., & Zimmermann A. B. (2019). Implementing Competence Orientation: Towards Constructively Aligned Education for Sustainable Development in University-Level Teaching-And-Learning. *Sustainability*, *11*, 1891. https://doi.org/10.3390/su11071891

Wuttke, E. (2005). Unterrichtskommunikation und Wissenserwerb. Zum Einfluss von Kommunikation auf den Prozess der Wissensgenerierung. In K. Breuer, G. Tulodziecki, K. Beck (Eds.), *Konzepte des Lehrens und Lernens. Band 11*. Frankfurt a. M.

Zohar, A., & Nemet, F. (2002). Fostering students' knowledge and argumentation skills through dilemmas in human genetics. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, *39*(1), 35-62.

Textbooks Studied

Vu Minh Giang, Nguyen Dinh Vy, Dao Ngoc Hung, Dang Van Duc, Dinh Ngoc Bao, Vu Thi Hang, Phan Ngoc Huyen, Phan Thi Thanh Huyen, Le Huynh, Tran Thi Hong Mai, Hoang Anh Tuan, Phi Cong Viet, 2020, Lich Su va Dia Li, Vietnam Education Publishing House.

Do Thanh Binh, Tran Viet Luu, Nguyen Van Minh, Pham Thi Kim Anh, Nguyen Van Dung, Nguyen Phung Tam, Nguyen Viet Thinh, Do Thi Minh Duc, Kieu Van Hoan, Ngo Thi Hai Yen, 2020, Lich Su va Dia li, Hanoi Pedagogy University Publishing House.

Ha Bich Lien, Nguyen Tra My, Nguyen Kim Tuong Vy, Nguyen Kim Hong, Pham Thi Binh, Ha Van Thang, Huynh Pham Dung Phat, Phan Van Phu, Nguyen Thi Kim Lien, Vu Thi Bac, Pham Do Van Trung, 2020, Lich Su va Dia Li, Vietnam Education Publishing House.