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Powerful disciplinary knowledge and the status of geography in Finnish upper secondary schools: Teachers' views on recent changes

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Abstract

The article examines the status of geography education within Finnish upper secondary schools. During the past few years, there have been many reforms which have affected how much geography ought to be taught and the teaching methods for doing so. In this article, the general aims of the upper secondary geography and content of the compulsory geography course are analysed from the perspective of powerful disciplinary knowledge. The empirical data set was collected through an online survey, which was filled out by 63 Finnish geography teachers in September 2017. The results show that even though the compulsory course in geography was regarded as being important and student-oriented, teachers felt that there were too many geographical phenomena to teach and too many time-consuming digital methods to be used. Teachers highlighted the importance of critical reflection and geographical thinking in the aims of geography curriculum, and they had a positive attitude towards emphasis on current issues in the compulsory course. Many respondents expressed their concern about the fragmented character and the illogical structure of the course. The compulsory course has its focus on global risks and therefore, students have to study the consequences before the causes. The required information on physical and human geography is studied later in optional specialisation courses, which the respondents saw as a major problem. Overall, even when the aims of the curriculum support the ideas of powerful geographical knowledge relatively well, limited time for studies in geography threatens students' access to powerful knowledge in geography education.

Keywords: Curriculum, Geography Education, Geography Teachers, Powerful Disciplinary Knowledge, Upper Secondary School, Finland

1. Introduction

What is the role and meaning of geography education for young people? Why do we – geographers and geography educators – think that “geography matters”? How do geography teach-

ers see the status of their subject in this day and age when many complex problems such as climate change need to be solved (or at least reacted to)? Teacher educators have to consider these questions carefully in the process of transform-

ing their disciplinary knowledge into school education. We have found these questions to be especially relevant in Finland after several major changes which have affected the status of geography in our schools.

It has been noted by many researchers how challenging it is to produce a reliable overview on the status of geography in different national settings (e.g. Brooks, Gong and Salinas-Silva, 2017). At the same time, the importance of data- and evidence-based studies of geography education (Bednarz, Heffron and Huynh, 2013) and the need for international comparative research (e.g. van der Schee, 2014) have been highlighted. We hope that our article, even when it is based only on one national context, could open up some ideas for conducting research on the same issues in other countries.

In this article, our aim is to shed light on the current situation of geography education in Finland by analysing findings from a survey in which upper secondary geography teachers wrote about their views on what they considered to be the core of their subject. We will analyse the teachers' ideas from the perspective of powerful disciplinary knowledge. To do that, we start by describing the Finnish educational context and the main changes that have occurred as background to this article. After that, there is a brief overview on the studies of powerful knowledge in geography education, followed by description of the data that have been gathered and the methods used. Results of the survey are then analysed from two perspectives: first, the main aims of the geography curriculum are described and teachers' evaluations of these aims have been interpreted from the perspective of powerful knowledge and second, teachers' views on the changes are interpreted from the perspective of the subject itself as well as its effects on teachers and students.

2. Geography education in Finland

In Finland, national framework curricula are updated about every tenth year. Before the National Agency for Education starts the curriculum planning process of the curriculum, the Government decides how the lesson hours should be distributed between the range of sub-

jects. In the framework curriculum, the value base of the education system and the main objectives and core content of subjects are defined. These are then applied and further developed by education providers, usually local authorities and the schools themselves, which draw up their own local curricula. The Finnish core curricula for basic education (grades 1 to 9) were last defined in 2014 and for general upper secondary schools in 2015.

2.1 General aims of the curriculum

The educational aims that provide the base for the national framework curricula are designed to be applied in all school subjects. The relationship between these broader aims and discipline-based subjects has varied from time to time. In the current framework, the curriculum for Finnish upper secondary schools, underlying values that are mentioned include equality, equity, wellbeing and democracy. Students are regarded as active subjects in the learning process; their participation and agency should thus be emphasised (Finnish National Board of Education, 2016, p. 25).

Skills and competencies have often been highlighted in education policy documents internationally; for example, in the so-called 21st century skills defined by the OECD, the importance of lifelong education has been stressed. These skills have been reasoned on the grounds of future life; that is, to be able to act effectively both at work and in leisure time, people are thought to need a new kind of flexibility and willingness to develop their capabilities during the course of their life (Ananiadou and Claro, 2008). Therefore, the 21st century skills are seen as important elements in school education.

In Finland, recent trends in educational debates have included an emphasis on cross-curricular themes and problem-based learning to enhance students' active role in constructing knowledge in collaboration with others. In the current framework curriculum for basic education, multidisciplinary learning modules are to be organised at least once a year for all the students, while for upper secondary students, integration is organised in the form of cross-curricular themes that are planned to for imple-

mentation in school subjects but also in the thematic courses that every school must offer. These themes represent educational aims and challenges that have special social significance. The themes include (Finnish National Board of Education, 2016, p. 89):

- active citizenship, entrepreneurship, and the world of work,
- well-being and safety,
- sustainable way of life and global responsibility,
- knowledge of cultures and internationality,
- multiliteracy and the media, and
- technology and society.

The majority of school lessons are organised within separate subjects. Some schools have piloted the organisation of their teaching in a cross-disciplinary way (Sahlberg, 2017). This has been noted in the international media: some misunderstandings about the current situation in Finnish schools have been emphasised and repeated. Perhaps it is relevant here to mention that Finnish schools have not scrapped discipline-based subjects (Finnish National Agency for Education, 2016). Nevertheless, the role of the subjects and their relationship to skills and competence are needed to be thought.

2.2 Recent changes in geography curriculum

From the viewpoint of geography education, there were two major changes in the new curricula. Firstly, for primary schools, “geography” disappeared from the titles of the subjects: biology and geography had previously been taught as one subject for students in the 5th and 6th grades, while during the first four years, geography had been integrated with biology, physics, chemistry and health education in the subject called “Environmental and Natural Studies” (Finnish National Board of Education, 2004). In the current curriculum, geography has been integrated within the subject “Environmental Studies” during the first six years (Finnish National Board of Education, 2016). In lower secondary schools, geography kept its status as an individual subject.

Secondly, the most dramatic changes occurred in the core curriculum for the upper secondary education: geography that had previously had two compulsory courses (on physical and human geography, respectively) and two national specialisation courses (one on the geography of global risks and another one on regional study). Now there is only one compulsory course and three national specialisation courses. The specialisation courses are such that every school has to offer them, but they are optional from the students’ perspective. The new compulsory course is entitled “The World in Change”. The main objectives of the course are defined from the student’s perspective:

“...the student

- *gathers experiences that deepen his or her interest in geography and the geographic way of perceiving and examining the world*
- *recognises areas at risk in the world due to nature, human activities, and the interaction between nature and humans*
- *understands what kind of risks occur in different areas of the world and which factors impact these*
- *is able to compare and assess the susceptibility of different areas to risks and the impacts of the risks from the viewpoint of natural resources and development*
- *knows what kind of solutions can be used in order to mitigate risks or alleviate their impacts, and is familiar with the possibilities for predicting and preparing for risks as well as for acting according to sustainable development*
- *is able to analyse positive development in different areas in the world and the factors affecting it*
- *understands that human activity affects the viability of the globe and the well-being of people*
- *is able to use information and communication technology in acquiring, analysing, and presenting data on global issues, and to follow and evaluate critical-*

ly current regional news in different media” (Finnish National Board of Education, 2016, p. 146).

The core contents of the compulsory course include 1) “geography as a field of science; 2) key global risk areas related to the system of nature, predicting and preparing for risks; 3) key global risk areas related to natural resources and the environment, mitigating, preparing for, and adapting to the risks; and 4) global risk areas and essential development questions of the human-kind” (Finnish National Board of Education, 2016). These contents and objectives were evaluated by the geography teachers who participated our study.

At the same time as the curriculum reform, the matriculation examination (the national examination in the end of upper general education) has been undergoing a reform process, the aim of which is to digitalise the tests so that a range of materials can be used: video, images and audio with written texts are now included in the tasks and questions (Matriculation Examination Board, s.a.). Geomedia tools and resources are being introduced as a new set of skills for the first time both in the Finnish comprehensive school curriculum and in the Finnish upper secondary school curriculum. In the latter, geomedia are described as follows: “Versatile use of geomedia supports the student in acquiring, analysing, interpreting, and visually presenting geographic information. Geomedia refers to the versatile use of maps, geographical information system, diagrams, images, videos, literacy sources, media, oral presentations as well as other methods of acquiring and presenting geographic data” (Finnish National Board of Education 2015, p. 146). This is to say that in the Finnish context, geomedia is understood in a broader manner than just the geographic information system (GIS). Geography, German language studies and philosophy were the first subjects to change over to the new type of examination in September 2016. All the other subjects will follow, mathematics being the last one to follow the new system in spring 2019.

The changes described above have caused considerable confusion among geography teachers in Finnish upper secondary schools. While the status of the subject changed quite drastically

at the upper secondary level, teachers have been obliged to think again what the core of the subject is, and how they see its role in relation to other subjects and young people’s lives. For this article, we have analysed the feelings and thoughts that geography teachers have about the recent changes. The theoretical background for this analysis has been derived from the ideas of powerful knowledge and its applications in geography education.

3. Powerful knowledge and geography education

The idea of “powerful knowledge” for this article is derived from the sociology of education, first introduced by Michael Young (2008; Young and Muller, 2010; 2016; Young et al., 2015), and later applied in other disciplines, such as history (Nordgren, 2017) and geography education (e.g. Lambert et al., 2015; Maude, 2016). In his writings, Young (2008) highlights the need for school education to offer young people knowledge that is beyond their everyday experience. In the context of geography education, powerful disciplinary knowledge has been described by Lambert (see Stoltman et al., 2015) as evidence-based, abstract and theoretical, part of a system of thought, dynamic, evolving and changing — but reliable, testable and open to challenge, sometimes counterintuitive, existing outside the direct experience of the teacher and the learner, and based on disciplinary thinking. It is worth mentioning here though that Young’s distinction between disciplinary and everyday knowledge can also be criticised, Roberts (2014; see also Butt, 2017) has argued that students’ everyday knowledge is an essential element in geography education and therefore their personal experiences should be taken into account.

In the context of the GeoCapabilities project, Lambert et al. (2015) have identified three levels of powerful disciplinary knowledge in geography: a descriptive but also deep “world knowledge”; a critical conceptual knowledge that has explanatory power in enhancing relational understanding of some geographical ideas (such as nature/people, physical/social, local/global, etc.); and a propensity to think through alternative social, economic and envi-

ronmental futures in spatial contexts (Lambert et al., 2015, p. 732). Lambert and his colleagues (e.g. Lambert et al., 2015; Uhlenwinkel et al., 2015) have avoided defining powerful geographical knowledge because, as Lambert (2016) has mentioned response to Slater and Graves (2016), there could be a risk to be applied too literally in designing aims and contents of geography curricula. What is important in Lambert's conceptualisations of powerful disciplinary knowledge is the idea that all these levels of knowledge are needed to enhance young people's access to powerful geographical knowledge.

Alaric Maude (2016; 2017) approached powerful disciplinary knowledge from a more practical angle when he developed a typology to define powerful knowledge in the context of geography education. He based his typologies on Young's definitions of powerful knowledge and reflected the above-described three-level description by Lambert and others. These two perspectives of powerful geographical knowledge are presented in Table 1. Maude (2017), after defining his five types of knowledge, then offers an example of how these ideas can be applied in teaching some of the contents defined in the Australian geography curriculum. Maude (2017, pp. 10-11) concludes his work by suggesting: "what the concept of powerful knowledge adds to geographical education is a way for teachers to identify the types of geographical knowledge that most contribute to the development of the intellectual powers, or capabilities, of their students. Furthermore, the concept could be a way of explaining the educational value of geography to non-geographers, including those who make decisions about our subject. This might also be powerful".

Béneker and Palings (2017) have used Maude's typology to analyse Dutch student teachers' essays on the role of geographical knowledge in their subject. They had noticed earlier that the Dutch student teachers did not pay much attention to what they would like to teach or what they thought their students should learn when thinking about their ideal geography education in their schools in the near future. Instead, the student teachers were eager to concentrate on pedagogical questions and pondering how to make their other colleagues to follow same types of pedagogical choices. The reason

for this, according to Béneker and Palings (2017, p. 79) could probably be the strong role of the national curriculum and tests in defining the contents of teaching. In that context, disciplinary knowledge was easily regarded as secondary.

Lambert et al. (2015)	Maude (2016)
Deep & descriptive "world knowledge" (Level A)	Type 1. New ways of thinking about the world; meta-concepts (e.g. place, space, environment) to enhance geographical thinking
Relational understanding (geographical thinking on place/space, nature/ people, local/global, etc.); geographical thinking (Level B)	Type 2. Knowledge that provides students with powerful ways to analyse, explain and understand the world
Propensity to think through alternative social, economic, and environmental futures in specific place and locational contexts; critical thinking (Level C)	Type 3. Knowledge that gives students some power over their own geographical knowledge; how knowledge is developed and tested in the discipline
	Type 4. Knowledge that enables young people to follow and participate in debates on significant local, national and global issues
	Type 5. Knowledge of the world

Table 1. Definitions of powerful knowledge in the context of geography education.

Source: Lambert et al., 2015 and Maude, 2016.

As the result of their analysis, Béneker and Palings (2017, p. 83) noted that two-thirds of their students mentioned Maude's type 2 knowledge and half of them mentioned type 4 knowledge as important contents that students in secondary schools should learn in geography. Only one of the teacher students mentioned type 3 in the essay. Also, in Maude's (2015) own analysis of the Australian curriculum, type 3 of-

ten seemed to be missing. He argues that technical skills have been overemphasised at the expense of critical thinking and methodological skills that could enhance young people’s answer to the question “how do you know” (Maude, 2015, p. 23).

The earlier studies described above provide valuable material on which we will base our analysis. Even when our viewpoint is on geography teachers’ view of the status and contents of their subject – not in any detailed analysis of national curricula as was in the Australian case nor in teacher students and textbooks as was in the Dutch case – we will reflect our findings on these earlier studies. We believe that these different cases can help us understand the different roles geographical knowledge has in schools.

4. Data and method

Material for this study was gathered with an electronic questionnaire, which was targeted at geography teachers working in upper secondary schools in Finland. Survey comprised some background questions and three main themes: first, teachers’ views on the status, role and contents of geography in upper secondary schools; second, their experiences and opinions of the digital matriculation examination; and, third, their ideas about the role and use of different teaching materials. For this article, the first of these themes has been analysed.

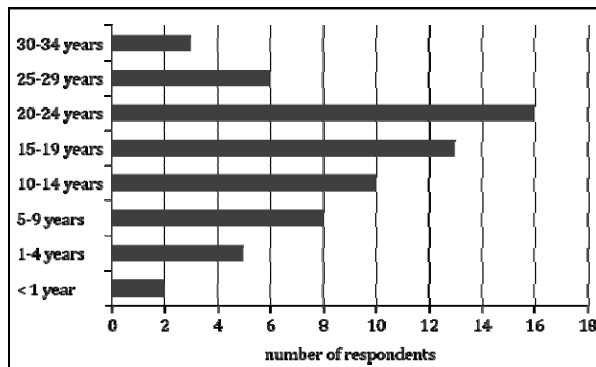


Figure 1. Number of years the respondents had worked as a teacher.

Respondents were found via the “BiGeTT” Facebook group, a closed community of Finnish teachers of biology, geography and health edu-

cation, the main aim of which is to work as a platform for sharing ideas and teaching materials. The group has about 1,500 members. We posted our request for volunteers to participate in our survey on 1 September 2017 and sent two reminders in the next ten days. A total of 63 teachers participated in our survey. The number is relatively small; there are about 400 upper secondary schools in Finland and many have more than one teacher qualified in geography. Despite this, the number of respondents was regarded as sufficient.

There was an interesting mix of respondents considering their experience of teaching. Even though the social media (Facebook) group was used as the source of the data, many teachers with decades of teaching experience were reached: 60% of the respondents had worked as a geography teacher for 15 years or more (Figure 1).

Categorisations based on the individual analyses of the data	
Researcher 1	From the perspective of geography; Teachers’ perspective; Students’ perspective
Researcher 2	From the perspective of geography; Students’ perspective; Comparison to other subject and geography courses
Researcher 3	From the perspective of geography: structure, content; Practical issues concerning teaching and studying; Students’ perspective
Presentation of the results in this article	
From the perspective of geography	General aims of the subject in relation to powerful geographical knowledge and teachers’ valuations of the aims; Teachers’ views on the content of the compulsory course
Teachers’ perspective	Teachers’ views on the structure of the compulsory course and teaching methods
Students’ perspective	Teachers’ views on how suitable the compulsory course is for first year upper secondary school students

Table 2. Categorisations based on the first round of the analysis; three researchers’ individual findings and the structure for the results presented in this article.

The questionnaire consisted of both structured and open-ended questions. Investigator triangulation was used to start the analysis of the open-ended responses; that is, three researchers read all the answers, made first observations and first categorisations individually. Three ways to construct themes were found (Table 2), but there was also a remarkable similarity of the issues that had been identified. These were then discussed together by the investigators.

In this article, we have described the respondents' views on the recent changes in the status of geography education. We analysed their ideas about how the changes have touched their work and how students study. The main focus has been placed on their thoughts about the aims and contents of geography.

5. Results

In this section, the results will be presented under three sub-themes. These themes consist of perspective of geography as a school subject, perspective of the teachers and perspective of the students. In addition, the section on the perspective of geography is divided into two parts; the general aims of upper secondary geography, and the content of the compulsory geography course. All these themes are based on the teachers' views on the issue.

5.1 From the perspective of geography

In the survey, teachers were asked to write about their views on the changes that geography had gone through in the recent changes to the national framework curriculum. The majority of the respondents (79%) regarded the change from two to one compulsory course as catastrophic; that is, some of them felt that the decision was "the kiss of death" for geography education. Some respondents argued that the decision was an indication of the blurred image of geography as an academic discipline and as a school subject for non-geographers. Next, their views on the general aims of the subject as well as their reactions to the new compulsory course will be analysed.

5.1.1 Teachers' views on the aims of geography education

In the core curriculum, thirteen aims for the geography teaching and learning are listed. We asked respondents to pick five objectives that they regarded as being the most important. Table 3 (on next page) shows teachers' answers, and the objectives classified according to the types of knowledge they represent.

According to the teachers, the most valued aims expressed in the geography curriculum concerned critical reflection and geographical thinking skills. In addition, the ability to participate actively in society was highlighted quite often. Furthermore, among the five most often mentioned aims was the aim that can be connected to deep and descriptive geographical world knowledge ("Student is able to observe everyday environments as well as describe regional phenomena, structures, and interactions in nature and human activity"). That is, all three of Lambert and his colleagues' levels of powerful disciplinary knowledge are represented in the first five aims that were mentioned by 48 per cent or more of the respondents. All the types defined by Maude are also included in the most valued aims of the subject. Compared to both Maude's (2015) and Béneker and Palings' (2017) findings, it seems that the Finnish curriculum places more emphasis on students' critical thinking skills.

However, some questions still remain concerning the levels and types of powerful disciplinary knowledge in geography education. For instance, do all of the general objectives of Finnish upper secondary geography represent powerful knowledge in the first place? For example, is the versatile use of geomedial to be understood as "deep world knowledge"? In Maude's typology, the use of geomedial has certainly to do with acquisition and evaluation of geographic data. The same question applies to the aim in which the students are seen to use geographic knowledge and skills in their daily life. The last of the aims in Table 3 is related to Maude's type 4. This is because the view of participation in society can be extended to knowing where geographers work and how they affect society via their work. Compared to Lambert and his colleagues' levels, this aim is rather difficult to put

The objective of the teaching and learning of geography is that the student... (Finnish National Board of Education, 2016)	Number of teachers mentioning the objective among the 5 most important ones (n = 63)	Type of powerful geographical knowledge (Lambert et al., 2015)	Type of powerful geographical knowledge (Maude, 2016)
<i>...is able to critically reflect on topical events in the world and the factors that affect them</i>	50 (79%)	C	3: critical reflection; 4: topical events
<i>...develops his or her geographic thinking skills and perceives the world and its diversity</i>	47 (75%)	B	1: thinking skills; 5: world's diversity
<i>...acts as an active global citizen who takes a stance on local, regional, and global issues and promotes sustainable development</i>	31 (49%)	C	4: participation in society
<i>...is able to observe everyday environments as well as describe regional phenomena, structures, and interactions in nature and human activity</i>	30 (48%)	A	2: regional interactions
<i>...is able to observe and assess the status of natural and built environments, changes occurring in them as well as human well-being locally, regionally, and globally</i>	30 (48%)	B	2 regional changes; 4 natural and built environments
<i>...develops an interest in geographic data and is motivated to follow current events around the world</i>	29 (46%)	A	3: geographic data; 4 current events
<i>...understands, interprets, applies, and evaluates geographic data as well as utilises geo-media diversely in acquiring, analysing, and presenting data</i>	28 (44%)	A?	3: acquisition and evaluation of geographic data
<i>...understands the meaning of regional development and is able to consider potential solutions for problems of inequality</i>	27 (43%)	C	2: regional development; 4: consideration of solutions
<i>...is able to use geographic knowledge and skills in daily life</i>	14 (22%)	A?	3: use of geographic knowledge
<i>...understands the meaning of human rights, and appreciates cultural diversity</i>	12 (19%)	C	5: cultural diversity
<i>...is familiar with methods of regional planning and is able to participate and be involved in developing his or her immediate environment</i>	8 (13%)	C	4: participation in society
<i>...understands what is characteristic of geography as a field of science</i>	1 (2%)	B	3: geography as a discipline
<i>...knows which professions and work duties require geographic competence</i>	1 (2%)	C?	4: participation in society

Table 3. Teachers' opinions on the importance of the main objectives of upper secondary geography in the Finnish national curriculum and types of powerful knowledge the objectives represent.

in place. All these questions above have been marked with a question mark in Table 3.

5.1.2 Content of the compulsory geography course

The teachers perceived that the current compulsory course is mainly built upon a former specialisation course from the previous curriculum entitled “A World of Hazards” (Finnish National Board of Education, 2003). However, there were differences of opinion about the ideal content of the new compulsory course; some of the respondents were longing for the former course on physical geography while some others would have preferred human geography to be defined as the compulsory course. One respondent was concerned about the similarities between the upper and lower secondary courses. Additionally, one teacher felt that the compulsory course in geography was too reminiscent of the two compulsory courses in biology. The teacher in question thought that the students would not learn thinking skills in natural sciences well enough because the curriculum emphasis was on different sorts of hazards and environmental problems.

When considering the new, compulsory geography course entitled “The World in Change” (now the only one), the majority of respondents (69%) perceived its aims and content in general as being well-constructed. The themes of the course were seen as interesting and current for young people, and thus teaching was seen as being easy to plan and to be motivating and student-oriented. For instance, one teacher perceived that “it is a good thing that we can discuss the phenomena that appear in the news and media with the students during the course”. Some teachers also mentioned learning place names and using different geomedias as good perspectives in this course.

However, even when the content of the course was seen as being important, many respondents (32%) expressed their concern about the fragmented character and the illogical structure of the course. In addition, some (11%) felt that there were too many topics and geographical phenomena to teach during one course. The teachers commented on this, for instance, as follows: “There are lots of things in one course and

it may cause an information overload for the students especially when the contents are not taught very deeply”.

5.2 Teachers’ perspective

Because the compulsory course in geography was seen as being filled with many topics and, therefore, fragmented, what easily followed was the view that geographical phenomena are not taught profoundly. Many respondents (43%) underlined that this leads to a situation in which the consequences of geographical phenomena – such as climate change, tropical cyclones, and volcanic eruptions – are taught before their causes. For instance, one of the teachers wrote that “students do not know how rain or wind are generated but they should know how hurricanes affect different places on Earth”. This is also in contrast with the respondents’ most valued aim, that in the particular aim it is stated that students should be aware of geographical events in the world and “the factors that affect them” (Table 3). This can also be seen to affect the learning outcomes if students are not familiar with basic geographical concepts, theories, or causal connections.

In addition to the problem of having too many topics, teachers described how a lot of time was spent using and practising with technological apparatus. For instance, some teachers (13%) wrote that making diagrams with computers can be challenging and time consuming. One teacher argued that “students have the impression that studying geography requires a great deal of expertise in statistics and technology”. This view is linked to the fact that the matriculation examination in geography is digitalised. For example, in September 2017, students were asked to draw a climate diagram using a computer based on material given out in the matriculation examination in geography. Some of the respondents compared geography exams to other subjects and argued how geography teachers had turned into ICT teachers who had to concentrate too much on technical issues at the expense of their own subject.

5.3 Students' perspective

Despite the many problems that the teachers identified in the present status of upper secondary geography, many of them highlighted motivational aspects of studying current global issues in the compulsory course. Many respondents mentioned that students were interested in the themes of the course. For instance, one teacher wrote: "This interesting course could be a gateway to deeper geography courses". In addition, some teachers mentioned how the compulsory course offered students the opportunity to learn and study from their own perspective; for them, the learner-centred approach seemed important.

Few respondents (3%) were concerned about the possibility that young people could find focus on hazards too heavy and depressing. For example, one of the teachers wrote that "hazard geography is not particularly suitable for 16-year-olds because the course focuses on rather negative phenomena without any wider background knowledge". Some teachers mentioned how the first geography course at the upper secondary school should spark students' interest and motivate them to continue their studies by selecting voluntary specialisation courses in geography.

In addition, some of the respondents (6%) were worried that the students' geographic thinking skills were not yet at the level of comprehending the complexity and diversity of regional development. One teacher wrote: "Many of the students are not yet mature enough to adopt development issues properly. Their opinions are rather simple and black-and-white. It would be better to look at the diversity of development issues with the second-year students". Nonetheless, one teacher estimated that the compulsory course in geography is more or less easy to pass and also student-centred.

6. Conclusion: Powerful knowledge in the upper secondary school?

In this article, we have described and analysed the changes that Finnish upper secondary school geography has gone through during the past few years. Among other things, these changes include a decrease in the number of

compulsory geography courses and a digitalisation of the matriculation examination in geography at the end of general upper secondary education.

The majority of the teachers perceived the aims and content of the compulsory geography course in general as being well-constructed. In addition, the respondents thought that course to be important and student-oriented. However, the teachers felt that they were not able to teach about geographical phenomena – and especially their causes – deeply enough because of the lack of time. This was due to the reform of the upper secondary geography curriculum to comprise only one compulsory course in geography rather than two mandatory geography courses previously. This reform has naturally had its impact on the content of the current compulsory course. In addition, some teachers thought that the digital methods to be used during the course were too time-consuming. This view is related to the digitalisation of the matriculation examination at the end of the upper secondary school.

Based on the respondents' views, the most valued aims in Finnish upper secondary geography are expressed through students' critical and geographical thinking skills such as reflecting on current geographical phenomena and the factors that affect them. According to Lambert et al. (2015), this type of powerful geographical knowledge has to do with the "propensity to think through alternative social, economic, and environmental futures in specific place and locational contexts". This in turn is parallel to Maude's (2016) typology in which this type of powerful geographical knowledge "enables young people to follow and participate in debates on significant local, national and global issues". Although the teachers valued this sort of powerful knowledge in the Finnish upper secondary geography education the most, it seems to be challenging to fulfil these aims in practice because many teachers felt that the content of the compulsory course is fragmented and illogical and because of the limited time for studying geography.

The data set for this article was gathered only one year after a curriculum change. Until then, Finnish geography teachers had a tradition of teaching upper secondary geography courses in

a long-established way: the first course had been on physical geography and the second on human geography. The new curriculum of 2015 and its compulsory course of geography has meant a considerable change in teachers' thinking about geography as a subject; the change has made them reflect on their own habits of teaching geography. In its mid-term review in 2017, the Government decided to reform the general upper secondary education in Finland. One of the aims is to "enhance the quality of education and learning outcomes", which will be done by making some changes to the framework curriculum (Ministry of Education and Culture, 2018). The number of the compulsory courses for geography will not be increased, but there is an opportunity to re-think the aims and contents of the subject once again.

The atmosphere of change and the strong feeling that geography has been weakened as a subject probably had an influence on the respondents' answers. It would be important and also interesting to gather new data a few more years after this change: Have the teachers succeeded in planning and implementing the compulsory course to be attractive and solid, and even more importantly, what feedback have students started to give? What knowledge should geography education offer to them? Does geography still matter then?

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