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Subject-specific abilities – Formulating goals in geography in school

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Abstract: This article analyzes and discusses the construction of the Swedish syllabus in geography for compulsory school in relation to how knowledge is perceived in the curriculum. The process of making the syllabus and the intentions behind the concept of subject-specific abilities in the policy documents constitutes an important aspect. The article also discusses subject-specific abilities in national and international contexts and subject-specific abilities is compared with other related terms, such as abilities, skills, and competence. The research was conducted through qualitative methods: review and analysis of official and internal documents and interviews with stakeholders involved in the process of formulating the policy documents. The results are organized in six steps to describe the process of making the syllabus, and through different intentions of the abilities in the process. The six steps and the intentions are a foundation to analyze zones of conflicts and to investigate how knowledge in school geography can be understood in the making of the syllabus.

KEYWORDS: CURRICULUM STUDY, EDUCATIONAL SCIENCES, GEOGRAPHY EDUCATION, SWEDEN

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Introduction

In March 2009, the Swedish Parliament made a political decision (protocol 2008/09, s. 83) to approve the proposal of Clarified goals and knowledge requirements – new curricula for the school (SOU, 2008/09, s. 87). At the same time, the Department of Education in Sweden instructed the Swedish National Agency of Education (SNAE) to produce a new curriculum and new syllabuses for compulsory schools (U2009/312/S). The government thus determined, via the Department of Education, framework and conditions to which the SNAE must conform. The SNAE was then responsible for planning and operating the process, inviting professionals in subject didactics and teaching for this. In the process of making a new curriculum, a new term for knowledge was introduced: subject-specific abilities. The process of making these subject-specific abilities was supposed to be democratic and involved several stakeholders, which had different intentions and views on the process. In this article, the process of making the syllabus with the abilities and the intentions of the various stakeholders are research materials.

As the above indicates, subject-specific ability is a relatively new concept, constructed and inserted into the curriculum of 2011, for compulsory and upper secondary school. Even so, the curriculum and the syllabuses formed in 2011 may be viewed as a revision of structure and clarity, rather than a revision of the cognitive approach in school. Hence, the cognitive approach in the new curriculum still rests on the definition of knowledge in Swedish schools from 1992 (SOU, 1992, s. 94). Four aspects that are dependent on each other are central in that view of knowledge: facts, understanding, skill, and familiarity. The Swedish National Agency for Education (SNAE) has elected to use subject-specific abilities to describe the cognitive approach in school in relation to the subjects. These abilities are meant to function as goals in the teaching, and also include the four aspects of knowledge. The implementation and realization of abilities in the process of making the 2011 syllabus in geography was made by several stakeholders. These stakeholders influenced how the syllabus in geography came to be. The purpose of the present article is to problematize this process in order to gain a deeper understanding of the geography syllabus in relation to different intentions and experiences.

Aims and research questions

This article aims to reveal the making-process of the syllabus in geography with subject-specific ability in geography as goals (Lgr11) in relation to different stakeholders' experiences and intentions. The article also aims to discuss and analyze the results in terms of zones of conflicts and consequences for understanding the syllabus. Thus, the article aims to analyze the stakeholders' experiences of the process of making a syllabus with subject specific abilities, and also to analyze the comprehension of stakeholders' intentions behind the concept subject-specific abilities in geography in Swedish curriculum 2011 (Lgr11).

Research questions in focus were:

- What did the process of making the syllabus in geography entail, from the perspectives of different stakeholders and emphasis on subject-specific abilities, and what zones of conflict can be acknowledged in that process?
- How do different stakeholders describe their intentions with subject-specific abilities in geography and what consequences does this have for interpreting the policy document in school geography in Sweden?

Background

The curriculum

A curriculum is about organizing the surrounding world (Lundgren, 1989), and a central part of curriculum theory concerns what may be defined as knowledge (Deng and Luke, 2008). The knowledge written into a subject in school is organized in the curriculum against a background of different assumptions about the subject and about knowledge in school. Research with a base in curriculum theory is about visualizing these assumptions and this structure.

The concept of a *curriculum* has different implications in different contexts. In Sweden, the concept is traditionally associated with the official curriculum document, while in other contexts it might be associated with a broader interpretation that could also include the unofficial curriculum, and this might incorporate the teacher's teaching in relation to the curriculum. In the present article, *curriculum* refers to the official document that stipulates what the school must teach.

The occurrence of a so-called 'concealed curriculum' has been thoroughly studied in Sweden. It was initiated by Donald Brody (1981) and inspired by related terms like *the hidden curriculum* (Jackson, 1968). Research into the concealed curriculum has primarily centered on what actually occurs in real life in operating schools. The official curriculum functions as a policy document for the school and its teachers, and research has mainly concerned how this relates to what occurs in practice in teaching. The present article highlights the intentions and the processes behind the official curriculum rather than the concealed curriculum in schools.

According to Doyle (1992), a curriculum may comprise different levels. The first level – *the institutional level* – deals with the interaction between school, culture, and society (policy level), and includes the construction of the curriculum; that is, choosing contents and goals (programmatically level). The second level – *the classroom level* – concerns the teacher's work with the curriculum and what happens when "the curriculum meets reality" in school. The curriculum analysis in the present article refers to *the institutional level*.

Deng and Luke (2008, s. 69) reported on three different perceptions of knowledge in relation to the curriculum. The first perception is labeled *disciplinary knowledge* and correlates to the categorization of knowledge in different disciplines, carried out in order

to understand and explain the surrounding world. The second perception is about *practical knowledge*, which entails using the knowledge in reality. The third perception – *experiential knowledge* – means contemplating knowledge in relation to experience and implication. In this manner, knowledge is linked with the person knowing something and to the different contexts and situations people encounter.

In summary, the basis of this article involves visualizing assumptions and structure in relation to knowledge in the curriculum on an institutional level (Doyle, 1992) and, therefore, also analyzing the policy documents rather than the *hidden curriculum* (Jackson, 1968). However, the policy document is constructed in a context with different stakeholders' intentions. Thus, the analysis of the curriculum on the institutional level includes different perceptions of knowledge (Deng and Luke, 2008) in relation to the stakeholders' intentions. The stakeholders' perceptions of knowledge in geography can be made visible in their intentions, and also affects what is included in the abilities and the syllabus as a whole, and thus the outcome of the syllabus and how the syllabus and the abilities can be understood.

The curriculum in geography education

In Sweden, research in geography education can be related to studies about the curriculum (for examples, see Molin 2006 and Wennberg 1990) In a more recent study about geographical knowledge in the curriculum (Lgr11), Örbring (2017) concluded that geographical knowledge defined by geographical thinking (Jackson 2006) and geographical advantage (Hanson 2004) is implicit in the subject-specific abilities in geography in Sweden:

The statements of educational abilities – and subsequently the related view of knowledge of geography in Swedish state schools – include thinking geographically and geographical advantage, both of which are expressed implicitly in curriculum documents. How teachers interpret these stated abilities is therefore significant, as this will determine how thinking geographically is represented in the teaching process. (Örbring 2017, s. 148)

Molin and Örbring (2016) also wrote about learning progressions in the curriculum in Sweden.

In the British context of geography education, there is a distinction between curriculum design and curriculum making (Brooks, C 2006, s. 77). The context (macro-level) of teaching and learning is set by the curriculum design, and the curriculum-making is the implementation of the curriculum in school by teachers and students. Lambert (2015) also separated curriculum thinking from curriculum making. Other significant studies of the curriculum in geography education in the UK are Rawling (2001) and Graves (1979). Rawlings gave various players – including state ministers, geography educators, the national media, and citizen groups – significance in the debate, setting the geography in the making of the curriculum as a policy document. She described it as a battle between these players, a battle of deciding which geography should be in the curriculum. She also concluded that no one gets exactly what they want; instead, it is the conflicts and compromises that shine through the processes.

There have been a few studies about curriculum making in geography education in the UK (see Lambert and Morgan 2010, Lambert and Biddulph 2015, and Mitchell 2016). Curriculum making could be compared with subject didactics, subject matter didaktik or Fachdidactic. Kansanen (2009, s. 31) described subject-matter didaktik as: "... how to combine subject matter or content with general didaktik and arriving at an optimal way to teach and study a particular subject." This means that both curriculum making and subject matter didactics concern how the teacher and students interpret and use the curriculum in school. The present study concentrates on assumptions and intentions of the curriculum on a policy level, which can be vital for the curriculum making or subject matter didactics. Hence, the teachers' interpretation of the curriculum design depends on their understanding of it.

Michael Young and David Lambert (2014) described different kinds of curriculum and advocated a knowledge-led curriculum. These three different kinds of curriculum scenarios can be seen as a heuristic device and are described through Future 1, Future 2, and Future 3. The three different futures are further explained below.

Future 1: "Knowledge is largely treated as largely given, and established by traditions ... It tends ... to be associated with one-way transmission pedagogy..." (2014:59)

Future 2: "Knowledge was no longer treated as given and not open to change but seen as 'constructed' in response to particular needs and interests." (2014, s. 59–60)

Future 3: "... locate knowledge in the specialist fields and as consequence, does not treat knowledge as 'given' but fallible and always open to change though the debates and research of the particular specialist community" (2014, s. 67). And, "It follows that Future 3 curriculum rejects *the a-social givenness* of school subject knowledge associated with Future 1 and the skepticism about subject knowledge associated with Future 2" (2014, s. 67).

Future 3 curriculum is regarded as a knowledge-led curriculum; that is, a curriculum that goes beyond students' experience and meets the disciplinary knowledge in a balance between Futures 1 and 2. In the Geocapability project (Lambert, Solem and Tani, 2015), the idea of a knowledge-led curriculum (Future 3) has been situated in a geography education context. The project rests on the theories on capability of Nussbaum (2013) and Sen (1995), but also involves the theories on powerful knowledge of Michel Young (2008). Geocapabilities mainly involve communication about purposes and goals in geography in school; consequently, the concept of capability is viewed in a subject-related context:

...but capabilities, as we understand it, are not the same as general competences or free-floating critical thinking skills. The transformative potential of a university education is based on the individual's acquisition of disciplinary knowledge... (Lambert, Solem and Tani, 2015, s. 725).

Other curriculum-related studies in geography education have been conducted in contexts other than Sweden and the UK. One example is Petér Bagoly Simó's (2014) study about sustainable development in the geography curricula in Germany, Romania,

and Mexico. Other examples include Casinader (2016), Bednarz, Heffron, and Solem (2014), Cemalettin (2008), Keighren et al. (2017), and Lee and Butt (2014).

Knowledge in different contexts

Several terms are used nationally and internationally in relation to knowledge in school. Terms such as ability, skills, competence, and taxonomies can be related to aspects of knowledge in subject-specific abilities and are therefore relevant to the present article.

Ability

The concept of ability can be linked to different implications. Sternberg (1998) distinguished between two different perceptions of ability: one correlates ability to something innate and static, such as in psychology, while another connotes it as something that can be developed. According to a definition in a dictionary for research in geography education, ability “describes the capacity to perform given tasks or skills...” (Butt, 2000, s. 1). Spatial ability is yet another association. In *Learning to think spatially* (National Academies, 2006), the concept of *spatial ability* is described as follows: “Spatial ability is conceptualized as a trait that a person has and as a way of characterizing a person’s ability to perform mentally such operations as rotation, perspective change, and so forth” (National Academies, 2006). That book also refers to three categories of spatial ability: “spatial perception, mental rotation, and spatial visualization”. In the present study, the term ability should be regarded as defined in the context of the curriculum in Sweden and in relation to the view of knowledge in school in Sweden. In that way, the term is constructed and defined in the making of the policy document of 2011 in Sweden and based on the view of knowledge in the report *School for cultivation* (SOU, 1992, s. 94).

Skills

Phil Wood (2013) lifted the discussion around geographic skills and how these may be defined. He focuses on whether skills should be viewed as separate units or as being linked to a subject-specific context. One definition of subject skills might be when people use their knowledge in a specific subject (such as geography) in processes. Such geographic skills might in this sense be fieldwork, usage of maps and diagrams, explaining, interpreting, and solving problems. Graham Butt (2000, s. 169) wrote: “In geography education debate has previously occurred as to whether skills are generic and not narrowly applicable to a specific subject or discipline.”

Competence

The concept of competence is an established international term that relates to knowledge and goals. It has primarily been used in connection with lifelong learning in, for example, the EU’s key competences (EUT L394/2006) and in the OECD (DeSeCo, 2001). The EU’s key competences comprise KSA, which stands for knowledge, skills,

and attitudes. Forsberg (2009) described these key competences as transferable, multifunctional, and imperative preconditions for an individual's actions. They can also be domain-specific and domain-comprehensive. Carlgren, Forsberg, and Lundgren (2009, s. 82) wrote that the four forms of knowledge, which make up the foundation for knowledge in the Swedish school, differ from the EU's key competences in that they include, for example, skill in the knowledge concept, while the key competences comprise knowledge + skill and attitude. A report by Eurydice (2002) described Sweden's and other countries' relation to the curriculum and the competence concept, stating that the competence concept on the whole is implicit in the curriculum. Butt (2000, s. 34) described competence in relation to geography education as: "The ability to perform a specific task, or skill, to a given standard."

Taxonomies

Taxonomies used in education are linked to a systematic classification of knowledge in various ways. Examples are the SOLO taxonomy (Biggs and Collis, 1982), which classifies qualitative knowledge and Bloom's original (1956) and revised taxonomies (Anderson and Krathwohl, 2001), classifying knowledge in the cognitive domain. The original taxonomy by Bloom divided knowledge into six levels in a hierarchic and linear manner, while the revised version is two-dimensional and supplemented with meta-cognition, albeit with a hierarchic order between the dimensions. For studies about taxonomies and geography education, see for example: Bijsterbosch et al. (2017), and Jo et al. (2010).

Knowledge and curriculum in school in Sweden

The report *School for cultivation* (SOU, 1992, s. 94) describes the different forms of knowledge in Swedish schools. They can be summarized as facts, skill, comprehension, and familiarity. These forms of knowledge are dependent on each other and not placed in any hierarchical order. The cognitive approach forming the foundation for the subject-specific abilities is also socially constructed, contextual, and functional. According to Carlgren (2009), the most distinctive feature of the cognitive approach established in *School for cultivation* is that contextually linked knowledge is positioned in interaction with formal knowledge in the curriculum. Thus, the contextual knowledge is knowledge in relation to the world and is expressed in the concept of *familiarity*.

Carlgren (op. cit.) made a distinction between the empirical and the formal cognitive approaches. The empirical cognitive approach – that is, the approach that a teacher uses in practice – does not always agree with the formal approach. For example, teachers might regard facts as less complicated than other aspects of knowledge. The present paper deals solely with the formal cognitive approach.

The Swedish curriculum (SNAE, 2011a) consists of (1) fundamental values and tasks, (2) overall goals and guidelines, and (3) syllabuses and knowledge requirements. The subject-specific abilities are in the third part, which means that there are subject-specific abilities in all subjects. There are four subject-specific abilities in the subject of geography:

- To analyze how natural processes and human activities form and change living environments in different parts of the world.
- To explore and analyze the interactions among people, society, and nature in different parts of the world.
- To make geographical analyses of the surrounding world, and evaluate the results by using maps and other geographical sources, theories, methods, and techniques.
- To assess solutions to different environmental and development issues, based on considerations concerning ethics and sustainable development (the Swedish National Agency for Education SNAE, 2011a, s. 150–151).

In the text *Knowledge assessment in school: praxis, concepts, problems, and possibilities* (SNAE, 2011b), ability is defined as: “All forms of knowledge are encompassed by the broad knowledge concept *ability*. The concept ability is thus used for various forms of knowledge in this publication, and the word *knowledge* is, synonymously with the concept ability, used for all forms of knowledge.” The various forms of knowledge referred to here are linked to the cognitive approach established in the curriculum of 1994, and are valid also for the curriculum of 2011.

The SNAE’s proposition (2010, s. 17), conducted on commission of the government (2009), describes the roles of the purposes and the subject-specific abilities in the syllabus: “The text about the purpose ends with the long-term goals, which are stated by the sentence ‘The teaching of the subject xx shall provide the pupils with the prerequisites for developing the ability to...’. The long-term goals are formulated as subject specific abilities and are founded on the text about purpose. Aspects of this text, not to be used for grading, are however removed from the goals. The long-term goals are rules of action and are thus directed toward the teaching. They do not state fixed knowledge levels or demands on the pupils” (SNAE 2010, s. 17).

The SNAE commented on the subject-specific abilities in the publication *General advice and comments on the planning and implementation of teaching* (2011c): “The purpose concludes with a number of long-term aims which are expressed as subject-specific abilities. These apply to all grades and forms the basis of the knowledge. The long term aims puts no limit on pupils’ progress. It is not possible to consider them as something that can ultimately be achieved” (2011c, s. 9), and in the following: “Teachers need to realize their aims for education by clarifying the link between the abilities that students will develop and the content that education should deal with” (SNAE 2011c, s. 13).

Method

The data was collected through documents and semi-structured interviews. Curricula, official documents, and internal documents (the latter used in the process of formulating the curriculum) were analyzed in the study. The main documents used comprised the curriculum for the compulsory school and the syllabus for geography,

years 7–9, in which the subject-specific abilities are described (SNAE, 2011a). The SNAE's official and internal document (School 2011), used in the process of formulating the curriculum and syllabus, are also central to the study. Documents in the SNAE's archive have been gathered to gain insights into the feedback from reference groups. The purpose of the latter (School 2011) was to compile information that was important for the revision of the syllabuses. Documents have also been acquired from the government via the Department of Education.

Six semi-structured interviews were conducted with identified key persons (representing stakeholders) who were involved in different parts of the process of formulating the syllabus in geography with the subject-specific abilities in focus. The interviews (A–F) were carried out by phone, recorded, and transcribed. Interviews A, B and C were carried out during 2014, and interview D, E and F were made in 2018. The time difference between the interviews arose due to more stakeholders becoming relevant for the research during the analysis of the previous interviews. That some interviews were made a few years later may have affected the outcome of the interviews as they may have forgotten aspects of the process.

Prior to the interview, the interviewees were informed that the central theme of the interview concerned the process of making the syllabus in geography and the abilities in geography. It was also made clear that the research focused on the inception of the concept *subject-specific abilities* as well as the intentions behind the writings and directives in relation to the policy documents received from the Department of Education and the SNAE. Moreover, the interviews were to be included in a qualitative research investigation (Kvale, 2009), thus contributing to extended comprehension of the intentions and the background forming the foundation for the policy documents in geography and the subject-specific abilities.

The semi-structured interviews focused on two overall questions:

- How would you describe the work process of formulating the new syllabus and the subject-specific abilities?
- What are the intentions behind instituting the concept of subject-specific ability?

An interview guide was made with the two questions in focus for each of the interviews. For an example of an interview guide, see Appendix A.

Sample

Three different institutional levels have been identified as important in the process of making the syllabus in geography. These three levels are the Ministry of Education and Research, the Swedish National Agency (SNAE) and the work team. **The Ministry of Education** is the government department, which is responsible for handling issues concerning education and research. They initiated the reform and gave the SNAE the task of making the curriculum lgr11. **The SNAE** is a central administrative authority for the public school system, publicly organized preschooling, school-age childcare and for adult education and was given the task to administering the process of making the curriculum. **The Work Team** was a group of four people assembled by SNAE to write

the syllabus in geography. These four people represented teachers, subject experts, and subject-didactic experts and wrote drafts for the syllabus that was discussed with SNAE, and, through SNAE, with reference groups and reference schools.

In these three institutional levels, key people have been involved in making the geography syllabus. Eight different stakeholders have been identified as crucial in the making of the syllabus in geography. The sample, and thus the selection of persons to interview and gathering of documents in the SNAE archive, has been made in order to represent different stakeholders in the study. These stakeholders have had considerable influence on the creation of the geography syllabus. Four stakeholders represent the whole group in the work team and two stakeholders represent the Swedish National Agency for Education. Two other stakeholders are the reference groups and the reference schools. The Ministry of Education is also a stakeholder. The ministry turned requests for an interview and referred to documents instead.

The stakeholders are presented below with abbreviations that will be used as a reference in the article. The description of the stakeholders also includes how the gathering of data has been done.

SA: Head of project of making the curriculum at SNAE. Interview A.

SB: In charge of the process of making the syllabuses in social sciences at SNAE. Interview B.

SC: Leader of the work team, associate professor in human geography and senior lecturer in didactics, representing subject didactics in geography. Interview C.

SD: Member of the work team, professor and representing disciplinary knowledge in geography. Data: Interview D.

SE: Member of the work team, teacher, and representing teachers. Data: Interview E.

SF: Member of the work team, teacher, research student, and representing both teachers and subject didactics in geography. Data: Interview F.

SG: Reference groups. Data: Comments on version of the syllabus in the writing process.

SH: Reference schools. Data: Interviews with stakeholder SA, SD, SF. No relevant documents were found in the archives about the reference schools' feedback.

SI: The Ministry of Education. Data: Official documents and email, no interviews were performed.

Data analysis

A content analysis (Cohen, Manion and Morrison, 2011, s. 559–569) was conducted to handle the data collected from documents and interviews. Characteristics in the data are used for coding text in documents and what different stakeholders express in interviews about the process and subject-specific abilities.

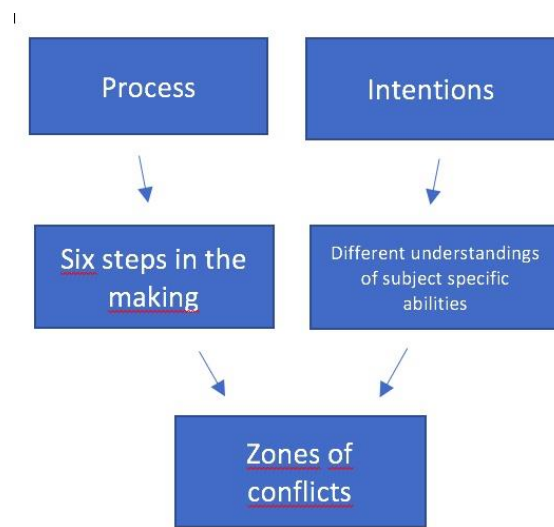


FIGURE 1

Illustration of the method of data analysis and how the different steps led to conflict zones.

The coding was sorted into two categories. The following two categories were created (process and intentions) and subcategories were created within each of the main categories. In the category process, six steps were formulated as subcategories and in the category intentions different understanding of subject-specific abilities became subcategories. These subcategories finally led me to a third subcategory: zones of conflicts. Figure 1.1 illustrates the data analysis. Through this data analysis, I have identified six steps in the making of the syllabus of geography and different understanding of subject-specific abilities, as presented in the following findings.

Findings

The making of a syllabus in geography with subject-specific abilities

From the material six steps in process have been identified, described from different stakeholders' experience. These steps are as follows:

Step 1: The National Agency for Education consults with subject experts, experts in subject didactics and organizations.

Step 2: SNAE appoint a person responsible for the work and a work team with a chair. Start the writing process.

Step 3: SNAE designate and execute a reference group to comment on the work teams' proposal. The National Agency for Education also has people who provide feedback.

Step 4: SNAE designate schools that will look and test the material.

Step 5: The National Agency for Education examines the proposal before sending it to the Ministry of Education.

Step 6: The Ministry of Education makes its own changes.

Step 1 – The National Agency for Education consults with subject experts, experts in subject didactics, and organizations

According to SA, the SNAE analyzed what the assignment – ordered by the government (2009) – entailed for them as a government body; that is, how they should deal with the request. A report had pointed out weaknesses in the previous curriculum and syllabuses, which affected the assignment of constructing new ones. The requisites were tied to changes in structure and clarity and not to any change in the cognitive approach. SA points out that the commission contained a few compulsory requests: Increased distinction, no reiterations, templates must be strict, no discrepancies between the subjects (common in previous syllabuses), improved structure, and a logic organization of the subjects and consequence in how the term *concepts* is used.

To clarify, the assignment was to greatly revise the curricula of 2011 in terms of structure and clarity, leaving the underlying starting points and theories about cognition intact. SNAE subsequently decided on a work process in several steps to tackle the contents to be written: (1) subject forums in all subject groups, (2) joint consultation with different interest groups, (3) team doing the writing, including a reference group, and (4) reference schools.

The SNAE invited subject didactics researchers from all relevant environments in Sweden to a forum in all subject groups (SA). The forum discussion concerned which contents should be regarded as urgent and pivotal. The syllabus structure was sent out to all invitees before the meeting, and a scientist was given the assignment of problematizing a discussion foundation yielding support at the onset of the forum. All subjects underwent this process. The subject forums were participating in the entire process in order to provide ideas and perspectives on the development of the syllabuses.

The next step in the process was to invite to joint consultations (SA). These were of different kinds. The SNAE identified which different interest groups could be linked to the different subjects. Some interest groups were subject-related, while others were of a more comprehensive character. The National Board of Health and Welfare is an example of the latter, while the Environmental Protection Agency is subject-related. Approximately 170 different organizations were invited to these joint consultations. Similarly, for the subject forums, the SNAE requested the joint consultations to participate in the entire syllabus creating process.

The subject groups and the joint consultations constituted the onset of the syllabus writing process (SA). Furthermore, the SNAE elected the subject leaders of each subject. One of the subject leaders' tasks was to carry out the subject forums and the joint consultations in these subjects. Before the syllabus writing commenced, the SNAE arranged different subject forums and joint consultations (SB). At the subject forums relating to geography and social sciences, the subject leader met representatives of universities and university colleges with physical geography and/or cultural geography.

However, the SNAE encountered difficulties in finding representatives of geography didactics. SC was engaged as an expert on the didactics of the geography subject and was asked to write a text on geography, with didactics as the foundation. The text should be about the geography of today and how the subject should be dealt with in school. This text was then discussed on the subject forums. The SNAE also arranged joint consultations. These were, in terms of geography, carried out with people linked to the subject, such as the National Association for Geography Teachers and others in their periphery, such as unions. Memoranda from all joint consultations and subject forums were subsequently entered into an IT platform. The platform was then available to the team during their work with the geography syllabus.

SC was responsible for the work team formulating the geography syllabus. She had also been asked to write a text to be used as a basis for discussion, before the syllabus work actually started (SC). Her text was discussed in several meetings on a number of occasions during a year before the writing started. It concerned how she viewed the school subject of geography. During these meetings, she met subject representatives and teachers and they discussed how the school subject geography should be designed and what it should encompass. Several of the other stakeholders (D, E and F) raised the importance of SC's pretext (SNAE 2008) in beginning of the work writing the syllabus.

***Step 2 – Appoint a person responsible for the work and a work team with a chair.
Start the writing process.***

With the forums and joint consultations as a foundation, individuals were then identified who would form a work team for the syllabus writing process (SA). The SNAE determined the framework for the composition of the team, with important features being broad competence and perspectives. The team members needed to have subject knowledge, subject didactics competence, and practical experience.

All subject leaders were part of the project group called *School 2011* (SB). The role of a subject leader comprised preparatory work, employing the right people, creating a time plan, setting the tempo, and making sure that the texts were correctly formulated.

Part of the work team's task was to incorporate subject didactics research into the new syllabuses, and also to fetch inspiration from neighboring countries (SB). The team members should be representatives with proven experience and science. The SNAE contributed with research on curriculum theory. *School 2011* (Internal document from SNAE, 2009, s. 30) states that the work team shall ask the following question: "Which subject-specific knowledge contributions can the subject proffer to the comprehensive goals?"

The chair of the work team (SC) formed a work team with three more members (SD, SE and SF) that was to jointly write the geography syllabus. SC describes the team's work process as strictly regulated by the SNAE. Written texts had to be scrutinized and commented on by quality reviewers at the SNAE. The team was also in continuous communication with SB, who was responsible for leading the work in the social sciences subjects. SF explained that it was through SB that SNAE's task was turned into

action, with the people in the work team as performers; it was SB that gave them instructions about what to do next.

According to SC, during the first meetings, the work team discussed what geography is about, and what in the subject may be regarded as important, and this laid the foundation for the abilities. Once the text on abilities was finalized, the returning comments mostly concerned technical matters in terms of the writing. SF noted that the people in the work team were mostly able to cooperate effectively and reach compromises. He also stated that they worked with goals first, then with core content, and finally with suggestions for knowledge requirements. SE agreed that the writing process started with the goals of the subject, but added that they had a lot of discussion about what to include in these goals. In this context, SE described how experience from teachers met theory from the scientist: "... and it is clear that, as a teacher, I did not have this theoretical background..."

The point at which the teacher's experiences met the researchers' theories was further discussed by SE:

... it was difficult... the academic theories stood over my teaching experience, it is probably... if one would say, it was a long time ago, but if I try to look again... it may well be that the theories came before the teacher experience... (SE)

From the perspective of representatives of the scientific theory, the introduction to writing is expressed as follows:

... we want to make a modern subject that approaches the subject as science. The school subject should approach the subject as science. (SD)

SD also talked about the role of educational theory in the process:

... there was no real educational science anchorage and connection. Without that, I wrote a PM, which was based pretty much on Wolfgang Kafka's ideas on this with ... elementary categories and fundamental categories ... Those opened quite a lot of doors for us. They did quite well. I thought when I wrote it that ... this might be too academic, too difficult but it fell in very well. (SD)

SD said that people in the work team had an influence on the writing linked to their interests and expertise: "... and I think that a key is SC's passion or what to say, SC's driving force, to do subject operatively with social connection." SD added: "I also argued that it is important with the absolute role of natural geography." According to SD, the expertise can also be open for discussion: "Some say that you have to learn the fundamental subjects before you can start synthesizing, but I don't think so ..."

According to SC, the abilities should be reflected in the knowledge requirements. However, the team was not asked to be involved in the process of defining these requirements. SC also argued that the knowledge requirements do not always comply with the syllabus content. SF and SE stated that while they were able to make suggestions for knowledge requirements, those suggestions were never adopted. SNAE wrote its own knowledge requirements without involving the work team.

...We wrote the knowledge requirements... as we felt that they needed to be written in order to adapt to the formulations we had made in the purpose text and the central content. Then, after all, there was a slight change in the knowledge requirements as the school administration coordinated formulations in all the knowledge requirements of the subjects and synched them to each other, so that the knowledge requirements would look the same,... as I recall it,... that the knowledge requirements in geography they are not really synchronized against the texts we had written. (SF)

SC described the quality reviewers as firm, giving written comments on the group's text. An example of their firmness is that each time the team included the concept of *sustainable development* in the syllabus, the quality reviewers removed it. However, it was finally included. The discussion about sustainable development is also something that other stakeholders (SD, SE, SF) have brought up as a problem in the process and an example of a conflict between the work team and SNAE. SF explained that SNAE did not initially want to include sustainable development in geography and that the work team were very concerned about including it. SD developed this thought further, arguing that sustainable development is one of "our most important operational applications of the geography subject." According to SD, the SNAE's refusal to include sustainable development in the syllabus was tantamount to saying that "it should lie naturally in all subjects."

SD also addressed another aspect of the discussion on sustainable development. According to SD, quality editors at the school board wanted to write a sustainable development, which according to SD was against the work teams' will. SD believes that the work team wanted to emphasize that sustainable development can take many different forms.

The internal document *School 2011* (SNAE, 2009) disclosed that SNAE employed four quality editors to scrutinize the produced syllabuses. Their main job was to analyze the linguistics and to ascertain that the directives had been complied with.

According to SD, another content discussion with SNAE was about field studies. SD believes that the work team wanted it, but that SNAE argued that it was legally difficult to write that the school must conduct field studies in relation to finance and safety. SD also stated that, "... we got through our argument that ... it is not about renting buses and going up to Kebnekaise or so, but here it is about using the immediate area." According to SD, a similar discussion between the work team and SNAE regarding financial issues arose on GIS, which also SE talked about: "... we cannot put forward anything that requires technical devices and so on."

Another aspect of the process that SE and SF raised is that the work team of the geography syllabus did not collaborate much with other writing groups of syllabuses in other subject. SF pointed out that there was no collaboration at all when writing the subject-specific abilities.

Step 3 – Designate and execute a reference group to comment on the work team’s proposal. The National Agency for Education also has people who provide feedback.

A reference group of 10–15 people were linked to each subject (SA). They were to offer support by commenting on the drafts produced by the team. A short amount of time was allocated to this process. The SNAE were ruled by the conditions set up by the government. “My job is to do as well as I can, given the preconditions I’m given” (SA). The syllabus was written during the fall, but the work with subject forums and joint consultations started a year earlier. The fall was divided into different work periods, during which the team delivered several drafts. The work task was very complex, and in order to ascertain the completion of the syllabuses in time, it was necessary with a strictly regulated process. When the team had completed a draft, the broader reference group made comments, but the drafts were also handed over to the subject forums and the joint consultations, and were subsequently made official to facilitate comments from the public.

SC explained that the reference group, where many had adequate subject knowledge, also contributed with comments on the written text, and also that there were no significant disagreements between this group and the work team. SD also pointed out that there were no major impacts from the reference groups.

The work team has made 26 drafts (versions) of the syllabus that the reference groups were given access to (SNAE archive). Of these, the reference groups commented on six drafts: versions 1, 5, 8, 13, 20 and 25. The first drafts contain a purpose only. The syllabus then grows to include both central content and suggestions for knowledge requirements at a later stage. The knowledge requirements are then not used by the SNAE. The reference groups’ feedback has been about the topics shown in Table 1.

SUBJECT-SPECIFIC ABILITIES – FORMULATING GOALS IN GEOGRAPHY IN SCHOOL

David Örbring

TABLE 1

Compilation of comments from the reference groups sorted by the different versions of the syllabus of geography written by the work team.

<p>Version 1</p> <ul style="list-style-type: none"> • New proposals for goals, reformulations of goals, how do goals relate to purpose? • Criticism of the concept of habitats (livsmiljöer) • Express interaction rather than division • Need for text that students can also understand • The concept of time should be given more space • Define concepts such as sustainable development and interdisciplinary science • Write consequences more clearly in the purpose • Incorporate the concept of reference frame • More about becoming passionate about the subject and the earth • Link the three dimensions of sustainable development to a greater extent • More content related to people's everyday lives • Clearly emphasize that people's world views may differ • Introduce concepts such as conflicts of interest and representation 	<p>Version 5</p> <ul style="list-style-type: none"> • Continued criticism of the concept of habitats (livsmiljöer) • Continued desire to include the concept of conflicts of interest • Include more scale levels than just local and global • Suggestions for various tools as methods • Easier to read and clearer connection between goal and purpose 	<p>Version 8</p> <ul style="list-style-type: none"> • The goals can more clearly cover the purpose, but also comments that they are good. • The person, the individual, the child has disappeared from central content • Good that a geographical reference frame has been drawn up, but it is not so clear in the goals • More of the spatial perspectives in the content, as well as doing spatial analysis digitally • Sustainable development can be further developed - with, for example, energy issues • Provide more detail about the role of geography for cities and community planning • Discussion concepts such as boundaries • Criticism of describing our world as "unique" • More of the geographical language • Point out touch points with other topics • Suggestions for what the habitat (livsmiljöer) should contain
<p>Version 13</p> <ul style="list-style-type: none"> • Objectives and goals become better and better, good balance • Criticism of the term "unique" in relation to the subject of geography, • Comments on the knowledge requirements - good level, complicated, questioning interest as basis for assessment, criticism of formulations and parts that are not included • Missing concretization • Geography is about both the connection between natural geography and cultural geography and what can be included in the respective subject • Suggestions for what habitats (livsmiljöer) should contain • Problems with sustainable cities • Discussion of geographical data • More about data over the Internet 	<p>Version 20</p> <ul style="list-style-type: none"> • Clear with heavy reading • Content too extensive • More about humans as actors in the content • Use of certain concepts that may be too complicated • The purpose is too long • Continued criticism of the use of the concept of habitats (livsmiljöer) • Cartography in an abstract sense in 4-6 • Questions about the progression between 4-6 and 7-9; for example, regarding climate • Good that the interpretation of sustainable development has been broadened • Calls for consistency between SO subjects • Continued criticism linked to the fact that the step between the local and global is too great • The global can become clearer with regard to resource issues • Explain what is meant by environmental ethical issues in everyday life • Introduce the concept of NGOs • Some comments about the knowledge requirements – do not correspond correctly with core content, and regarding formulations and concretions 	<p>Version 25</p> <ul style="list-style-type: none"> • Clearer text and good goals • Much better in several points • Too much content in central content • The actor's perspective can be highlighted more clearly, but comments are also included • The progression between the stages is better, but also certain content does not differ between stages • Knowledge requirements - how to interpret terms, questions about progression between requirements • Continued discussion on habitats • Time is clearly stated for the purpose, why? • Explain what is meant by acceptable living environment. • Calls for touch points with other topics • Word choice and wording about risk and threat prevention.

Table 1 shows summarized comments broken down into different content in the different versions of the syllabus of geography. All versions were written by the work team. The versions that are presented in the figure cover all versions that were commented on by the reference groups. This means that the other versions were not given any feedback according to the archive.

Several members of the reference groups believed that the versions had changed for the better. Some critical comments are left in all versions, such as those related to the concept of habitats. In the English translation of the syllabus the word *habitat* is not used; instead, the term *living together* is used, which does not provide the basis for the same discussion. In the Swedish contexts the term “livsmiljöer” generated comments about suitable terms that match the meaning of the geographical content. It can also be seen that the reference group has noted that spatial concepts can be clarified in different ways.

A time perspective is brought up as missing in the first versions and, later, when it is included, is disputed by others in the reference group; this shows that the reference group can be contradictory. Another aspect of criticism that continues through the versions regards scale perspective, meaning making it more nuanced than just local and global. Also mentioned is the absence of parts of the geographical framework in goals (which is subject-specific abilities).

The knowledge requirements were also commented on. The versions of knowledge requirements that were commented on by the reference group were suggestions from the work team, but were not used in the final version of syllabus. As noted earlier, it was SNAE that wrote knowledge requirements without the work team.

Other aspects that are visible in the reference groups' feedback include the level of complexity, connections to everyday life, and concretization.

Step 4 – Designate schools that will look at and test the material

Another step was to link subject reference schools to the process (SA). Between 20 and 30 reference schools were attached to each subject. In these schools, teachers with subject knowledge would read, discuss, and give feedback on the suggested syllabuses. In total, approximately 500 schools were linked to the work process.

Thus, the work teams received ample feedback to respond to (SA). Team members were told that this was a challenge of magnitude, although SA argued that this procedure was better than the alternative, which was isolating the work team from the surrounding world.

SF talked about how compilations of feedback from the different groups of teachers affected their work process:

... We were sinking and screwing and tripping a lot of wording to take into account the views that have come in. Oh, especially this one, a discussion that I remember very strongly, it was the fact that the students had to have room to be actors, to do things, not just participate in the various planning processes of the community... (SF)

However, SF added that there were no major disagreements between the reference schools and the work team.

SD pointed out that the reference schools were involved in discussing whether field activities should be included in the syllabus and that they raised counter-arguments that were linked to time and money.

Step 5 – The SNAE examines the proposal before sending it to the Ministry of Education

When the work team had finished, the SNAE checked the results before handing over the suggestion to the government (SA). The government then made a decision; that is, the syllabuses were processed in the government offices. It is clear that the government made changes to the syllabuses, which meant that different political considerations and viewpoints changed the syllabus to some extent. In geography, this meant that the syllabus in the SNAE version had a broader and more global perspective, while the government changes made it more nationally centered, for instance by focusing more on Sweden and the Nordic countries.

Thus, a framework was determined containing requirements that the SNAE had to comply with in their work with the syllabuses (SA). Nonetheless, it was possible to affect some parts of the process. Reports were sent out to allow comments from authorities, organizations, and education institutions. The SNAE has attempted to interpret what the assignment of formulating new syllabuses denotes, as it is a government authority. SA said that "...nothing is free from interpretation", so the SNAE needed to interpret what the assignment entailed in definite terms.

The assignment led to changes to the policy documents for both compulsory schools and upper secondary schools (SA). A great deal of work was required in order to attain a coherent school system. The structures of compulsory and upper secondary school differ, which generated some challenges. The former has subject plans that stretch over nine years, while subjects in the latter contain courses. The question of whether the two school levels could have the same kind of goals was discussed, and a number of variations were suggested, testing whether goals fitting the compulsory school would fit the upper secondary level as well. An analysis was conducted with the attempt to achieve unity. This coerced the SNAE to formulate goals beyond the explicit content.

SA related that to be able to establish a structure and a concept of knowledge, a process was initiated to gain insight into research, theories, and the usage of knowledge, both nationally and internationally. The competence concept was an obvious topic, and the SNAE wanted to acquire a deeper understanding of this. They gave a number of scientists the assignment to problematize the competence concept, by investigating its foundation. How did it evolve? Which interpretations existed? Scientists were also requested to analyze knowledge as phenomenon in order to elucidate the options in the work with the new curriculum and the new syllabuses. Resolving challenges such as how to define knowledge in terms of competences was central. The results contributed to the SNAE's conclusion that usage of *competences* in the curriculum and the

syllabuses are not appropriate and desirable. Thus, they chose another approach to clarify which comprehensive knowledge the educational system should generate.

SA described the syllabuses as eclectic and pragmatic, meaning that research cannot provide answers to all questions arising in the work by formulating new syllabuses. Nonetheless, it is important to peruse the research and the different perspectives, but also to fit them inside the assignment framework. With this as a starting point, the SNAE must form their framework. Accordingly, a syllabus will not be based on consistent theories but on an eclectic approach. For instance, divergences between scientists due to different research perspectives might have an influence. If research on subject didactics ruled, it would lead to major divergences in different subjects.

SA also argued that there were no individual authors, although one person in each team was responsible for the group's work and for the writing. The produced texts continuously received feedback, which enabled the SNAE to implement and safeguard the fundamental work with knowledge approach and concepts. SA commented on this with a phrase that came to symbolize the work process: "We had to build the ship while sailing it".

Step 6 – The Ministry of Education makes its own changes

In an attempt to move away from the traditional in syllabuses as well as in teaching, the work team argued for new ideas (SC). Traditional teaching moves from local to global; in this case, from Sweden to the Nordic countries to Europe and, finally, to the world. In contrast, the work team suggested that the world should be dealt with at a much earlier stage in school. However, the government and the Department of Education did not comply with this suggestion, and changed the writing prior to publication; a decision that was not anchored in SC's work team. In the final version, changes had been made particularly in the syllabus for Years 4–6, in which the parts concerning Sweden and the Nordic countries had been extended.

SF described the changes that the Ministry of Education made as follows:

... there were changes back to what we wanted to move away from. It did not turn out well from our starting point ... A big change was that you closed the rest of the world for the subject of geography, except Sweden and Europe, the rest of the world is not introduced until high school... While we had a more open attitude to what in the world geography is about... (SF)

Another change by the Ministry of Education that concerned SF was excluding the word *fair* in relation to living conditions. SF said: "... It shows the political charge such texts have. When the word fair disappears when it comes up at the department level."

SD and SE also mentioned the following changes:

... in geography they pulled the rug from under us then,... it was that we had to get rid of what we teach about Småland, Östergötland and devote all time to especially Grades 4–6 ... almost all the valuable time you spend on these old landscape skills. Then my target image was that we should not write the word landscape at all. Which was extremely painful, because it is one of our most important concepts ... But we succeeded, we got through it all the way to

the point where it ends up, at the State Council then, which immediately changes and add. (SD)

... that's the shock that comes when this comes in print. I think it was shocking actually and it actually applies to both religion and geography, both of the subjects that I was involved in ... I would probably say that you can make a good similarity between them, you tried in both subjects without really having talked to each other about it, we probably tried to make it global or to be able to zoom in and zoom out ... But it was removed in both subjects in some way. (SE)

The Ministry of Education (SI) responded by email that “There were no major differences in the curriculum in geography decided by the government and the proposal for the syllabus that the SNAE presented.”

Intentions with subject-specific abilities

According to SA, the SNAE believes that it is essential to have some sort of comprehensive common focus about how we think about knowledge in an educational system, and also what kind of knowledge the pupils should develop in this system. Establishing what *subject-specific abilities* should entail and what the concept should include is unquestionably linked to establishing goals and knowledge requirements in school.

The interview with SA shows that the SNAE needs to be consistent in its use of concepts when structuring knowledge in the curriculum and the syllabuses. However, the different kinds of knowledge concepts are burdened with different connotations. A consequence of this is that how we talk about knowledge has now become an important issue in the work process. In its work the SNAE is obliged to use the cognition approach, which is the foundation of the school, as a starting point. This is stated in the report *School for Cultivation* (SOU, 1992, s. 94). It is clear that this signifies knowledge in various forms that interact, are in need of each another, and do not have a hierarchic order. This is important when setting goals. These should not be sequenced in a hierarchal order and should entail a knowledge progression straight through the syllabuses, facilitating analyses, reflecting ability, and developing comprehension right from the start. This would not mean building a progression between the different knowledge perspectives, but rather acquiring a qualitative perspective of knowledge. This forms the foundation for the whole idea of progression in the syllabuses.

SA argued that the cognitive approach in the Swedish school is not easy to understand in relation to the ongoing knowledge discussions in the rest of the world; for example, in terms of competences in the EU. This becomes obvious in the diverging knowledge divisions. Dividing competences into different elements, as in the Bologna process, was not feasible with the knowledge perspectives of the curriculum. In Sweden, the knowledge concept incorporates skills, while in other instances there is a division into knowledge and skills. This was one of the reasons behind the choice of the SNAE to use the term *ability* rather than *competence*. However, SA argued that using the concept of subject-specific ability is the SNAE's way of handling the problem.

The discussion about knowledge and its linkage to competences was also brought up in *School 2011* (2009, s. 28): “During recent years the concept of competence has been gaining ground, also making its entry into the context of education. This is exemplified by the EU’s and the OECD’s work on key competences. The concept of competence is absent in the Swedish curricula, but the knowledge perspective forming the foundation of the curricula is close to being the most common interpretation of the competence concept; that is, knowledgeably and committedly participating and acting in a practical situation. The SNAE chose not to insert the competence concept in the assembled curricula for the compulsory school and corresponding school forms. The reason for this is an aspiration to limit the number of terms expressing knowledge, and that the curricular conceptual apparatus is fulfilling current needs. Introducing yet another expression for knowledge would not improve the clarity.”

According to SA, were Bloom’s revised taxonomy and the cognitive process dimension close at hand when working with structure of the knowledge and goals in the new curricula and syllabuses. However, the former has clear limitations; for instance, it does not deal with knowledge of a craftsman’s skills.

The SNAE was inspired by Bloom’s revised taxonomy, but needed to expand it in order to tackle practical knowledge (SA). SA feels that this resulted in the SNAE not being able to package everything into cognitive aspects. Bloom’s taxonomy is used to create a foundation, to rethink, and to insert knowledge in a structured manner into the different subjects. Bloom’s taxonomy does not necessarily have to be used in full in all subjects; it is up to the work teams to decide which parts are important to their subject.

It is the task of the SNAE to find expressions for goals (the subject-specific abilities) that are applicable to the whole compulsory school, from Year 1 to Year 9 (SA). According to SA, that is an incredible scope. Instead of *competence*, they opted for *abilities* as a term for goals. They did this against the background that teaching, based on *knowledge about* or *knowledge to*, might be directed toward different forms of knowledge, which is undesirable. In order to handle this pragmatically, and to find an “umbrella” concept, ability was chosen. This choice was made on the basis of the school being expected to support the pupils in their efforts to develop, for example, comprehension of and knowledge about. SA argued that using the concept of ability leads to purity and clarity.

SA also claimed that the ability concept has an unfortunate connotation, as it is innate rather than developable. Abilities, as they are used in the curriculum and in the syllabuses, are developable. Thus, teaching matters.

SA also argued that the abilities are linked to the content. While it is possible to talk about ability at a comprehensive level, this does present a problem; that is, it would be more or less the same knowledge that develops the same aspects. The work teams have formulated goals – that is, abilities – in their subjects, and many groups have made relatively similar interpretations. Aspects like reasoning and analyzing recur from different perspectives. However, SA claimed that abilities cannot be characterized without linkage to the subject, which means that they do not exist in a generic form. Abilities are always subject-contextual. It is possible, SA said, to identify knowledge from concrete to general, but one cannot characterize from subject-specific to general.

Consequently, abilities cannot be developed at a general level – they are, by definition, contextual.

The handling of the cognitive approach and the concepts linked to it are described in *School 2011* (2009, s. 32–33) as follows:

In the syllabuses, the concept of ability shall be used to express the broad knowledge perspective of the curriculum. Using the concept of knowledge in its 'naked' form shall be avoided for clarity reasons, since many might read and understand it as facts and understanding. The concept of competence shall not be used in the syllabuses or in the knowledge requirements. The combination of the concepts of knowledge and skill must not be used, since skill – according to the definition given in the curriculum – is a subdivision of knowledge.

The concept of knowledge shall only be used in combination with attributes that limit its meaning. Writings to be used are:

- *Knowledge about – expresses facts and understanding*
- *Knowledge to or in – expresses skill*
- *Concepts may also be combined: knowledge about and skills to/in, e.g.*

'...developing knowledge about materials and skills to use these...'
However, avoid formulations like '... develop knowledge and skills about materials...'

Further examples of concept combinations not to be used are:

- *Knowledge and understanding*
- *Skill and ability*

Rather, write: knowledge about and comprehension of. The concept of ability shall not be combined with any of the knowledge forms: facts, comprehension, skill, or familiarity.

SA's description of the intentions of subject-specific abilities can be summarized as follows:

- They constitute teaching goals.
- They are developable and can consequently not be connoted as innate.
- They are not general but subject-specific. They can only be practiced in a subject context.
- They are founded on the cognitive approach in the *school for cultivation* and shall cover all knowledge forms (facts, comprehension, skill, and familiarity).
- They express the subject purpose in different ways that are anchored in *disciplinary, practical, and experiential knowledge*.

The syllabus purpose is divided into several parts. This construction is shown in *School 2011* (2009, s. 33–34). The introduction is linked to a motivation for the subject

being present in school. The second part is linked to subject-specific knowledge qualities. Furthermore:

The text on purpose may contain subject-specific, assessable qualities that do not recur in the goals. It concerns qualities that are significant to the subject, but are not being included in the grading. Note that this must transpire only to a very limited extent.

The subject-specific skills follow directly upon the purpose. There must be a clear correlation between the purpose and the goals, and the goals must be expressed as subject-specific abilities. The goals must not limit the pupils' knowledge development, and shall be long-term. They must also be realistic; that is, the teacher must be able to fit in the goals during the allotted teaching time. The goals shall form the foundation for grading, but must not restrict the teachers' pedagogic freedom. The knowledge requirements in the syllabus shall express a level of knowledge that correlates to the subject-specific abilities and the central content (School 2011, 2009, s. 34–37).

According to SC, the SNAE supervised the process and the structure while she and the other team members worked with the content. The framework was the same for all subjects in social sciences. The subject-specific abilities were part of the framework. SC explained that they started writing a text to be interposed, and went on with a purpose. Based on the purpose, the content was chosen. After finalizing the purpose, a number of abilities were determined. SC claimed that no directives were given for the desired number of abilities, and there were no clear guidelines in terms of what the subject-specific abilities should entail, which is also emphasized by stakeholders SD and SF. This made it possible for the writing team to discuss and make their own interpretation of what is meant by subject-specific abilities and what they should comprise. SD described how the work team relates to introductory text in relation to the subject abilities. He argued that the abilities cannot be understood in their entirety without the introductory text in the purpose.

The prevailing interpretation of the subject-specific abilities in the geography subject is founded on different purposes of the subject (SC). The abilities also correlate to the whole world, meaning that no limitations are prescribed in relation to the different abilities.

Ability 1 is linked to geography as a comprehensive subject – nature's own processes – and the activities of humanity are linked into one unit, dictating the living conditions in the whole world.

Ability 2 centers on local and global, and the ability to compare. Interaction in the different parts of the world is also central. The national evaluation of the compulsory school 2003 (SNAE, 2004) inspired SC when formulating this ability. In a problem concerning geography and relationships, upper secondary school pupils attained the same results as pupils in Year 5 at compulsory school. The authors of NU03 concluded that school is inadequate at teaching about relationships, and too few comparisons are made between local and global issues.

Ability 3 is based on transforming geography into a laboratory subject, and was inspired by Dewey's theory "Learning by doing" (1938, 1997). Field studies also fit in here.

Ability 4 is linked to education in sustainable development and theorizing around this. SC argued that the geography subject is made for this, as it is a cohesive subject that contains both physical and cultural geography.

SD expressed that subject abilities should not be perceived as "... ability slips from the concept of facts, content-wise such can become a surface finish that is only about a general reasoning regarding the ability to reason, but not really knowing what one is reasoning about." SF describes that the abilities "... would reflect an integrated geography subject, so that we do not divide it into natural geography and cultural geography, for example, but rather the ability to see the connection between the different parts of the subject." SE also talked about how the abilities should be perceived: "... that the subject is related to the ability, it is not something that stands for itself..."

SD also points out that the intention was that Ability 4 should be about "being able to conduct impact assessments and values based on this fact about spatial conditions..." SF connects Ability 4 to the constitutive values in school.

The intentions of stakeholders show different understandings of subject-specific abilities and, together with the identified six steps of making the syllabus (that was shown earlier), five zones of conflicts can be made visible and determined. These zones of conflicts will be presented below.

Zones of conflicts

Zones of conflicts can be identified in the making of the syllabus in geography and the making of subject-specific abilities. The zones of conflicts are based on analysis of the results presented in the making of a syllabus in geography with subject-specific abilities and intentions with subject-specific abilities. The various stakeholders had different roles in the making processes, but the interaction between these stakeholders was not without conflicts. Several different conflicts zones can be identified in the present study, as discussed below.

Politic and science

The process of making the curriculum has different aspects that need to be fulfilled within a democratic society. The making of a curriculum should be a democratic process, so the final version of the curriculum is a political responsibility. However, within the process, different stakeholders can have different understandings and point of views that can also affect the outcome of the curriculum as a policy document. This becomes visible when the Ministry of Education changes and adds to the proposal of the curriculum without asking for advice from SNAE or the work team. Several stakeholders talk about their shock and dissatisfaction with the changes the Ministry of Education made.

SNAE has also received the assignment to write a new curriculum from politicians who specified what framework they will have. SD described how the SNAE tries to find

as much freedom as possible within these frameworks. SA uses democratic process as an argument to make it clear that science is part of the process, but that it is also about politics. The democratic process that SNAE creates to write the syllabus must contain parts that highlight science, experiences, and what the people want the children to learn in school.

The intention from SNAE of choosing the term ability is connected to not choosing competence. SNAE decided not to use competence and instead chose the term ability for knowledge in school. SNAE was influenced by the EU instructions of terms to use and not to use concerning the key competences. This influence, then, can be seen in an international political context.

Teacher experience and subject expertise

In the work team, there were representatives of teachers (SE, SF) who would ensure that experience also becomes a factor in the writing process of the syllabus. There were also representatives of subject knowledge (for example, SD). Meetings between these stakeholders were described in different ways. The teacher described it as being heavily focused on science, especially at the beginning of the work, and that experience was inferior to science. The teacher's experiences were listened to at a later stage and influenced the writing, albeit in a subordinate position.

The reference schools also expressed difficulties, based on practical and financial factors, with the syllabus proposals provided by the work team. This means that, in the teacher's experience, there are also parts that are based on what can work practically and what cannot, based on their own experiences.

Diverse subject expertise and subject didactic expertise

The subject of geography is interdisciplinary and is represented in the academy by both natural sciences and cultural sciences. SD is an expert in natural geography and has a lot of influence in the work team. He also expressed that natural geography is a very important part of geography. The reference groups also provide feedback that there is a desire for more geography linked to urban and social planning. This meeting between different subject voices provides a basis for certain parts of a topic to be highlighted more than others, depending on the experts involved in the writing process.

The reference groups had for example persons representing subject expertise, subject didactic expertise and both. Table 1 shows that the comments from the persons in the reference groups can be contradictory and that they comment on different aspects, for example the time aspect, certain words or level of complexity.

Communication and steering

The communication between the SNAE and the work team was sometimes insufficient. The work team had no clear idea about the SNAE's intentions with subject-specific ability. For example, SC did not get information about the theories and ideas behind the concept of subject-specific ability and no clear guidelines of what the

abilities should entail. SA, from SNAE, describes that Bloom's taxonomy is a foundation to work with the syllabus, but also that it should not be used in full manner and that it is up to the work team to decide how to implement it.

The work team was also excluded from the writing of the knowledge requirements, which created disappointment and possible gaps between subject-specific abilities and knowledge requirements.

Subject interests and general interests

Subject-matter experts in geography and geography teaching would like to push geography and what is important in geography. There are other related goals that are primarily pursued by SNAE, but should also be the focus of the work team. These objectives are more general, such as that the syllabus should be made clearer. The fact that the SNAE's wrote its own proposal for knowledge requirements instead of the work team's proposal can be seen as a desire by SNAE to meet more general goals, while the dissatisfaction of the work team with the written knowledge requirements in the final proposal can be seen as an expression of an interest in geography.

There is also a discussion about the amount of core content in a subject. On one hand, this discussion reflects the desire to include everything that is important in geography, while on the other it shows a consideration that the students should have time to read many other syllabuses as well.

Discussion

The present study revealed inadequacies in the procedure of formulating the curriculum at the macro-level. A proposition of a new curriculum was remitted on a democratic basis to the public and different reference groups. However, the government made changes without anchorage at the SNAE or the team working on the syllabus. This means that political standpoints affected the final curriculum and syllabus in geography. The present study has revealed that parts of the curriculum did not undergo the procedure of ascertaining that science and experience form the foundation for the produced curriculum and syllabuses. However, the subject-specific abilities in geography were not altered, and thus follow the original proposition of the SNAE. Understanding of the syllabus is affected by the changes made at a later stage at the political level. These changes were not in line with the overall idea that the work team had envisaged. The SNAE's decision to make knowledge requirements without the involvement of work teams also affects the understanding of the syllabus. The work team's intention was that the goals (subject-specific abilities) could not be understood fully without the purpose (introductory text) and that the work team idea of geography expressed in the purpose and goals should form the basis for core content and knowledge requirements. The core content had changes that affected this intention from the work team. For example, core content was added about Swedish landscapes and when teaching about the world should begin that affected how geography should be taught. Also, the knowledge requirements made by the SNAE without the work team

had subject abilities as their basis without introductory text, which could affect the relation between knowledge requirements and the intention of the work team. This is also clear when the work team expressed discontent about the knowledge requirements in the final version.

The processes of changing national policy between 1980 and 2000 in UK are imbued with different players that discussed what geography should be included, who came to conflict and did not reach compromises. In the end, these different players are often not satisfied with the outcome. In a similar way, the present study can reveal different stakeholders' involvement in making a national policy (syllabus in geography) and how they interact. Also, in the context of creating a geography syllabus for 2011 in Sweden, there were conflicts, compromises, and discontent with the outcome.

The concept of subject-specific abilities being determined by the SNAE, and subsequently filled with contents during the work with the curriculum and syllabuses of 2011, implied that the ability concept was defined in relation to this context. However, it should be noted that several stakeholders in the work team (those writing the syllabus) experienced that they did not receive any theoretical anchorage of the framework from the SNAE about what the subject-specific ability should entail. Consequently, it was not feasible to hold a deeper discussion about what the SNAE intended for the subject-specific abilities to entail. Consequently, the term was open for interpretation within the work team. Instead, the SNAE used quality reviewers and subject coordinating project leaders to ascertain that the abilities followed the intentions. This means that the subject-specific abilities in geography were, in reality, based on different purposes of geography, which in turn formed the foundation for the team's conclusion of what is central in the geography subject.

The work team using *disciplinary knowledge* and *practical knowledge* to formulate the subject-specific abilities was conceived by their work with the different abilities. Abilities 1, 2, and 4 stressed *disciplinary knowledge*, while Ability 3 was clearly oriented toward practical knowledge. All four abilities can also be linked to *experiential knowledge*, which shows similarities to the knowledge aspect *familiarity*, and which was part of the SNAE's intentions with the subject-specific ability concept.

The tension related to subject-specific contra general goals is of interest in relation to the results and purposes of the present study. The results clearly showed that subject-specific abilities need to be determined in relation to the more comprehensive goals in school, but must at the same time be subject-specific. Subject-specific abilities also have a clear role in the formulation of knowledge requirements; that is, what shall be assessed in the subject. Consequently, the content expressed in the abilities will affect the setting of the knowledge levels in the subject, as well as in the teacher's planning of the teaching.

Several aspects affected the formulation of the subject-specific abilities, such as demands on clarity and a desire to establish a concept for goals that would capture the cognitive approach in school and what is central in a subject. Many years of the subject must be covered and the cognitive approach in relation to other terms, such as competence, must be included. From an international perspective, the concept of *subject-specific abilities* differs from that of *competence*, but does actually include the

latter. The part of the abilities that encompasses practical knowledge and familiarity is creating the difference between the two concept definitions. Choosing to use the term *subject-specific abilities* was influenced by how the Swedish school is dealing with the cognition approach in relation to the term *competences*. A central difference between *subject-specific ability* and the EU's *key competences* is that the cognitive approach forming the foundation for *ability* encompasses theoretical and practical knowledge (the four knowledge forms) in the subject, while the *competence* concept interprets knowledge, skill, and attitude as separate entities. In a Swedish school context, the term *skills* are incorporated into *subject-specific abilities*. When reflecting on the correlation between subject-specific and general, *abilities* expresses subject-specific purposes/goals in a subject, hence showing a resemblance to *geocapabilities*. In the *geocapability* project, it is vital to communicate what is central in school geography. This can also be said to be the point of subject-specific abilities; that is, emphasizing the goals and purposes of having geography as a school subject.

The subject-specific abilities can be discussed in relation to being part of a Future 3 curriculum. The view of knowledge in Swedish schools, with the four knowledge aspects, forms a foundation for the abilities to contain both theoretical and practical knowledge. In this way, the abilities, combined with central content and knowledge requirements, can provide the conditions for obtaining a so-called knowledge-led curriculum. However, at the classroom level the teacher should also teach based on the syllabus, and this is when the students are given the opportunity to develop new knowledge in geography. In this way, the teachers' interpretations and use of the syllabus also become a central part of a knowledge-led curriculum.

The central point in the discussion on *subject-specific abilities* was that *ability* must be regarded as subject-specific. The intention behind using the concept *ability* was to express subject-specific *goals*, but the Swedish cognition approach has incorporated *ability* as a form of knowledge per se, or as a knowledge form of subject-specific abilities. Although Bloom's revised taxonomy has inspired and influenced the work with the curriculum, there is tension concerning the hierarchy that is expressed between the two dimensions in his taxonomy, and the absence of such hierarchy between the four knowledge forms expressed in the subject-specific abilities of the new curriculum.

The concept of *ability* as something innate does not conform to the concept of *subject-specific abilities*, as these are developable. There is no starting point in the term *subject-specific ability* for the term *geographical thinking and geographical advantage*, but it may be implicitly included. There is a risk that the implicit parts of geography in the abilities can be missed at the classroom level; that is, in the subject didactics and in what can be called curriculum-making.

Conclusions

The construction of lgr11 can be divided into the following six steps, which included different stakeholders that affected the outcome of the curriculum. These steps lay part of the underpinning for finding different zones of conflicts.

Step 1: The SNAE consults with subject experts, experts in subject didactics and organizations.

Step 2: Appoint a person responsible for the work and a work team with a chair. Start the writing process.

Step 3: Designate and execute a reference group to comment on the work team's proposal. The SNAE also has people who provide feedback.

Step 4: Designate schools that will examine and test the material.

Step 5: The SNAE examines the proposal before sending it to the Ministry of Education.

Step 6: The Ministry of Education makes its own changes.

Subject-specific abilities can be utilized to formulate goals in relation to a national cognitive approach in school. The use of this term is affected by the demands on clarity and by the Swedish school's cognitive approach in relation to international concepts such as competence. The SNAE had given its opinion on what subject-specific abilities should entail, but the work team had its own perceptions, which also shaped the writing of the subject-specific abilities. The subject-specific abilities are of vital importance to the formulation of knowledge requirements.

Five zones of conflicts can be identified from the stakeholders' experiences and intentions in the making-process of the syllabus and the subject-specific abilities: (1) politics/science, (2) teacher experience and subject expertise, (3) diverse subject expertise and subject didactic expertise, (4) communication and steering, and (5) subject interests and general interests.

Science, experience, and politics are central parts in the formulation of the curriculum and also in the zones of conflicts. This becomes visible in different ways and has consequences for interpreting the policy document in school geography; for example, certain political decisions did affect the construction of the final curriculum. Other examples include experience from teachers becoming subordinated to science in work teams' writing process, different scientific ideas becoming visible in the reference groups' feedback, and communication and steering leading to knowledge requirements that are not synched with the work teams' intentions.

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Appendix A – Interview guide

General questions:

Who are you?

What role do you have?

Involved in the making of curriculum in geography 2011, what was your role there?

The work process of making the syllabus:

- How do you experience the making of the syllabus?
- What the structure looked like for the work process.
- Structure in science relationships.
- Experience in relation to science, teacher experience.
- Your influence in relation to others, groups etc.
- Feedback, interaction.
- Changes, interaction.
- Information about different things, what was problematic.
- Consequences of work process.
- Relative to other topics.

How the concept of capabilities came about:

- View of knowledge in your work
- Linked to the view of knowledge in school from 1994 and previous syllabuses
- How did you interpret it?
- Relationship – abilities, core content and knowledge requirements

Intentions and consequences

- The view of knowledge in the abilities.
- Teaching in relation to steering documents.
- What do you associate your abilities with, what is the purposes with abilities?
- Consequences of changes, interpretations, structure.
- Substantial, cross-disciplinary.
- Connotations.
- How should they be used, teachers.
- Overall / factually.
- Skill/ability.