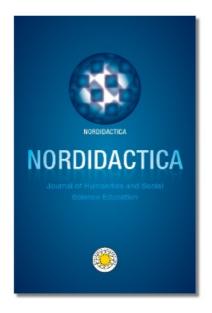# Powerful knowledge and equity: How students from different backgrounds approach procedural aspects of history in large-scale testing

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Powerful knowledge and equity: How students from different backgrounds approach procedural aspects of history in large-scale testing

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Abstract: The study takes its point of departure in two interrelated discussions on education. One addresses the extent to which education should include aspects from academic disciplines, while the second addresses observed differences between two groups of students those with a Swedish background and those with a non-Swedish background. The research question is if and how the inclusion of academic aspects in curricula is a factor behind the differences in grades and results on the national test in history. In the study, 100 student responses on one item in the national test in history are examined. Concept analysis is applied to examine the extent to which students from the two groups have command over disciplinary aspects. The model of cognitive representations suggested by Wineburg is used as a theoretical framework. The results show that there are significant differences not only between the two groups of students but also between students within the groups. The results are related to the discussion on knowledge and curriculum, on the one hand and the issue of equity in education on the other.

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Introduction

In the Swedish school system all subjects have curricula consisting of four sections that describe (1) the purpose of addressing the subject (2) a number of subject specific abilities that education should help students to develop; (3) a 'core content' that has to be addressed in the subject; and (4) knowledge requirements, describing three levels of proficiency that should be used by teachers when they grade their students. One important characteristic of the Swedish subject curricula is that they are subject specific (Sundberg & Wahlström, 2012, pp. 342-356). Research has also described the four subject curricula of history (Rosenlund 2019), geography, religious studies and social sciences (Samuelsson, 2014, p. 114) as combining the subject specific approach with disciplinary characteristics. These characteristics are visible in that these curricula stipulate that education in the subjects should address how knowledge is constructed, that is, so-called procedural aspects. This entails that students are meant to acquire what Bernstein labels as vertical knowledge discourses, defined as specialized knowledge developed within academic disciplines. The idea is that such knowledge provides students with knowledge that would otherwise be difficult for them to acquire (Bernstein, 1999, p. 161). There are cautions regarding effects on equity when such vertical knowledge is included in education. One concern is that there are groups of students that are not exposed to such vertical knowledge in their everyday life to the same extent as other groups (Beck, 2013, p. 187). This situation would then give the latter groups an advantage when it comes to learning.

In Sweden, data on educational success show that students with a non-Swedish background, on average, receive grades that are lower than those students with a Swedish background (Skolverket, 2018a, p. 1). There are two aspects of importance here. One is the presence of a disciplinary curriculum that addresses epistemological dimensions, something that has possible consequences for equity. The second is the statistical differences between students with different backgrounds. Taken together, this calls for an examination of the relationship between a disciplinary curriculum and equity in education. The purpose of the study presented in this article is to further the understanding for these differences between different groups of students regarding how they engage with vertical knowledge as expressed in the Swedish curriculum. To address this purpose, the curriculum for the subject history is chosen as the object of study. The research question directing the study is: What subject specific differences can be identified when groups with Swedish and non-Swedish backgrounds engage with procedural aspects of the subject history?

The research question will be addressed by examining the subject specific strategies that students use when they respond to one task in the Swedish national test in history for grade nine.

Curriculum knowledge and knowledge in history

The various Swedish subject curricula have been described as consisting of subject specific abilities (Sundberg & Wahlström, 2012, p. 342-356). This is the case also for

the subject of history, which is centred around four abilities that are related to eachother theoretically linked (Eliasson et al., 2015, p. 171) and recontextualized from the academic discipline of history (Rosenlund, 2019). These four abilities are: (1) use a historical frame of reference, (2) assess and interpret historical sources as a way to construct historical knowledge, (3) reflect on their own and others' uses of history, and (4) use historical concepts for analysis of how historical knowledge is constructed, arranged and used (Skolverket, 2011, p. 264). The kind of abilities formulated in the Swedish history curriculum have been addressed to some extent in history education research. A key aspect in this research is the distinction between 'first-order' and 'second-order concepts'. First-order concepts deal with context-specific historical content, such as processes, events, and people, for example, the Industrial Revolution, the First World War and Christopher Columbus. Second-order concepts deal with aspects of doing and arranging history, and they can be applied in different contexts (Lee & Ashby, 2000, p 199). One such concept is *evidence,* which is used to address how historical knowledge is created through interpretation of sources.

To further the understanding of the subject of history in general, and how it is specifically formulated in the Swedish history curriculum, the presentation above can be related to Muller's (2014, p. 255-269) discussion, where he defines three types of knowledge and discusses their relation in curriculum contexts. According to Muller, a subject consists of both propositional knowledge and 'know how' knowledge. Propositional knowledge should be understood as the products of the procedures within a discipline. Propositional knowledge in history thus, I would argue, shares many similarities with the definition of first-order concepts. 'Know how' knowledge should be understood as procedural aspects of the subject, itself consisting of two aspects: (a) inferential knowledge, which is used make connections between the propositions of the discipline and (b) the procedural knowledge, which is used to construct new knowledge, that is, the propositions of the discipline. In relation to the wording used in history education research, inferential knowledge shares important similarities with second-order concepts used to arrange historical knowledge, like continuity and change (Blow, 2011, pp. 47-55). Procedural knowledge would be similar to second-order concepts addressing how historical knowledge is constructed, like evidence (Seixas, 2015, pp 258-261).

To make a further abstraction of the knowledge in the history subject, propositional and procedural knowledge can be related to Bernstein's distinction between horizontal and vertical knowledge discourses. Horizontal knowledge is characterized by being acquired and useful in specific contexts, and thus problematic to transfer to other situations. Vertical knowledge is, according to Bernstein, characterized by being developed over time in academic institutions in order to provide these with more valuable knowledge about the world. One important characteristic of vertical knowledge is that it, in contrast to horizontal knowledge, is transferrable between contexts. From a Bernsteinian perspective then, the academic discipline of history, on the one hand produces propositional knowledge that is characterized by a lower degree of verticality, since it has a low degree of transferability. On the other hand, the discipline has procedures that have a higher degree of verticality, as they are

transferrable between contexts (Muller, 2014, p 263). These vertical aspects of history are both inferential and procedural in kind. As indicated above, history education research has identified these characteristics of the historical discipline and recontextualized them into first- and second-order concepts. It is possible to view the abilities in the Swedish history curriculum as coming from this international discussion in history education research (Rosenlund, 2019, pp. 1-16). It can thus be argued that the Swedish history curriculum consists vertical knowledge discourses, which he describes as knowledge that has been accumulated over time in academic disciplines and that has to be acquired through means other than everyday experiences.

Theoretical framework

To operationalize the concepts that Muller describes as procedural knowledge, I will use a theoretical model presented by Samuel Wineburg. Building on the work of van Dijk and Kintsch (Van Dijk & Kintsch, 1983), Wineburg defines three 'representations' that historians engage with as they engage with historical sources in order to construct knowledge about the past. This process of constructing knowledge about the past based on historical sources constitutes the core of historians' procedural knowledge (Wineburg, 1994, pp. 86-93). This model will be used to concretize how Mullers procedural knowledge can be visualized within the discipline of history.

In Wineburg's framework, the most basic representation that is constructed is a representation of the text (rT). This entails how the historian, or student, understands the explicit information found in an historical source (pp. 93-95). Based on the rT, historians also construct 'representations of the event' (rE). According to Wineburg, a rE is built as the historian relates the rT with background knowledge. This meeting between the rT and the background knowledge results in an image of the situation surrounding the historical source. What this rE contains depends on the historical question, the historian's previous knowledge and the historian's rT (pp. 97-99).

A third representation is the construction of a 'representation of the subtext' (rSB), in which the historian involves inferences based on what is 'between the lines" in the source. This means that historians identify something that a source communicates that is not made explicit in the source. This can be done by addressing a source as a *human instrument.* According to Wineburg, this signifies that the historian constructs a representation that goes beyond the author's intentions with the source, and it aims at capturing characteristics of the author, such as attitudes and worldviews (pp. 120-121). In the context of this study, the concept human instrument is widened to include characteristics of the source that are not emanating from the author. As a result of this, the label *human* instrument becomes problematic, since the subtext does not necessarily emanate from the intended, or unintended, formulations of an author – as a subtext also can be inferred from other features of a source. Instead, the label *contextual artefact* will be used. One subtext that is possible to identify in the source that is a part of the item in the national test, and addressed below, is about how the time of publication affects the utility the source has for the historian.

In this study the extent to which students construct the kind of cognitive representations that are defined by Wineburg will be used as indications of how students engage in procedural aspects of history. These indications will be used to further the understanding regarding the issue of disciplinary aspects and equity.

Differences in historical proficiency

Before addressing the empirical material, the issue of group differences in historical proficiency will be discussed. Differences in educational results between language-minority students and language-majority students have been discussed in terms of being related to issues of language skills. One such aspect of the relation between language skills and educational results is that inferences in texts that are obvious for first-language learners can pose problems for language-minority students (Bernhardt, 2003, pp. 133). Another aspect where it is possible to identify differences is that language-minority students, in many cases, have a more limited vocabulary than first-language learners. This is intimately connected to language-minority students not having the same contextual knowledge as first-language learners (Schleppegrell, 2001, pp. 455). Coffin argues that the subject of history contains a number of subject specific genres that differ from each other regarding vocabulary and grammatical structures. Students are more likely to learn history if they can master these genres (Coffin, 2006, pp. 417-418).

Regarding language-minority students and the subject of history, the available research shows inconsistent results. From an American perspective, it has been shown that although differences in language abilities impact historical writing, these differences are relatively small (De La Paz 2005). In the De La Paz study, it is shown that students categorized as talented writers score slightly higher on aspects of historical accuracy and historical reasoning, while there are more significant differences regarding persuasiveness in their written texts (De La Paz, 2005, p. 150).

Although there are findings that indicate that language-minority students face difficulties that first-language students do not, other research indicates there are differences between students within these groups that may nuance the picture. From a Swedish perspective, Olvegård concludes that groups of students with Swedish as a first language and students with Swedish as a second language are heterogeneous when it comes to proficiency in reading history textbooks. In this study, language-minority students were characterized as having low to intermediate proficiency, and students with Swedish as a first language were characterized as having intermediate to high proficiency (Olvegård, 2014 p. 175, 184). This indicates that there are language-minority students and students with Swedish as a first language that have the same proficiency when it comes to reading history textbooks. There is research showing that not only students with a non-majority first language experience difficulties with school related material. Moje et al. (Moje et al., 2004, p. 67) and Gee (Gee, 2001, p. 724) reveal that first-language students from some socio-economic groups demonstrate difficulties in reading and writing that are similar to those of second-language learners.

The institution that is responsible for construction of the Swedish national test in history produces a report on the test each year. In these reports, the differences in test grades between the groups are discussed in light of students varying language proficiency skills (Malmö Högskola, 2017, p. 7).

Curriculum knowledge and the issue of equity

There are some who see inclusions in curricula of the kind of knowledge that is labelled as vertical and specialized as positive (Nordgren, 2017, Wheelahan, 2007, Counsell, 2011, Lambert, 2011). This is because this kind of knowledge provides students with tools necessary to become active agents in society, and explains why it has been conceptualized as 'powerful knowledge' (Young, 2014, p. 65-88). Beck draws attention to a possible tension when it comes to including this kind of vertical knowledge into curricula. It is related to a difficulty making meaningful connections between the abstract knowledge of the disciplines and the students' own life worlds. This is because the discipline is specialized and self-referential, and can thus be perceived by students to be distant from their everyday lives.

What then is the relevance of including disciplinary approaches and verticality into history curricula? On the one hand, there are history educators who argue that an inclusion of disciplinary, or vertical, aspects in history curricula is positive (Seixas, 2015, Wilson & Wineburg, 2001, p. 139-154) because the disciplinary ways of addressing the past can also be of use for non-historians in their engagements with the past. On the other hand, the history educator Keith Barton problematizes the inclusion of procedural aspects. He argues that disciplinary approaches risk being too focused on the past and thus not addressing student's need of relevance in the present (Thornton & Barton, 2010, p. 2471-2495).

The existence of a tension between vertical aspects and students' perceptions of relevance have been addressed by Doherty, who describes a situation where students not aiming for academic schooling protested against curricular content that can be described as vertical, and thus lacking relevance for their immediate lifeworlds (Doherty, 2015, p. 705-722). Teese and Polesel present similar findings regarding mathematics and physics, where students from disadvantaged backgrounds found these subjects challenging due to their high degree of abstraction (Teese & Polesel, 2003, p. 103).

Some notes on the state of history education in Sweden

As indicated above, vertical knowledge is, in most cases, available to students only through formal education. Consequently, it is crucial that teachers have the necessary time and competencies to teach students these knowledge structures. McCabe shows that students on graduate level are hesitant approaching vertical knowledge unless they are supported by teacher instructions (McCabe, 2017, p. 325-347). Arguments in the same direction have also been made in relation to history education (Wilson, Wineburg,

2001, p. 139-154). To provide some context for this study, I will present some features that may have an effect on the teaching of procedural aspects in Sweden.

The time allotted for history education in grades 1-9 in Sweden is between 180 and 220 hours, which means an average of about 20 hours of history education each academic year (Larsson, 2017, p. 177). There are both research and inspection reports that undertake how teachers go about using these 20 hours in relation to procedural aspects of history. Both inspections and research indicate that teachers in upper-primary school lack sufficient knowledge and competencies to address the issue of procedural aspects in the classroom. Based on an observation study, Stolare concludes that one factor that can help explain a lack of procedural aspects in history education is teachers' educational background (Stolare, 2017, pp. 47-48). Samuelsson and Wendell draw a similar conclusion in a study on grade six students' responses to a source-based assignment in the national test in history (Samuelsson & Wendell, 2016, p. 495). Jessica Jarhall's research suggests that teachers in years 7-9 do not address procedural aspects of the history subject to any larger extent (Jarhall, 2012, pp. 166-167). In a survey-based study, Eliasson and Nordgren find that teachers ascribe little importance to the procedural aspect (Eliasson & Nordgren, 2016, pp. 57-58). Similar results have been shown in relation to upper-secondary history education, where procedural aspects of history were rarely addressed in teachers' assessments (Rosenlund, 2016, p. 119). Swedish history textbooks seem to offer littler support to teachers regarding disciplinary aspects (Rosenlund 2015).

The picture of history education that is presented in inspectoral reports also strengthens the image that procedural aspects are rarely touched upon (Skolinspektionen, 2015, pp. 6-7). Regarding history teachers' formal competency to teach history, approximately 75% of the teachers that taught history in grade nine in the academic year 2016/17 had the required competence to teach history (Skolverket, 2017a).

Context of the empirical material

In the academic year of 2016/17, a total of 107 000 students attended year nine in the compulsory school, of whom 25 000 students were categorised as having a non-Swedish background. The students included in this group were those born in countries other than Sweden and those with both parents born in countries other than Sweden.

In the statistical presentations of grades and results on national tests, the Swedish Agency for Education includes information about the proportion of students that have a "non-Swedish background". According to the official statistic, students categorized as having a non-Swedish background have lower grades than those students with a Swedish background. Regarding the merit value, students with a Swedish background have a merit value about 12 percent higher than their non-Swedish background counterparts (Skolverket, 2017b). Concerning the subject history, a difference that is similar to the overall grade point is visible. The average grade-point in history for students with a Swedish background is 14.3, while students with a non-Swedish

background have an average grade of 11.6 (Skolverket, 2017d). Regarding results on the national test in history, the National Agency for Education does not provide statistics on exactly similar samples, as the case is of merit value and grades. Here, the statistics provided are related to groups based on where the students are born. The results on national tests students show that students born outside Sweden have an average test grade of 9.5 compared to the whole population (including the students born abroad), where the average test grade is 12.5 (Skolverket, 2017c). The categories used by the Agency for Education are broad and each of them consist of students with very different backgrounds. The students are categorized by the authorities and it is possible that some of the students identify themselves differently. The reason for using the categories in this study is that they in spite of the problems that are inherent in categorizations can provide information that that is necessary for addressing issues of equity in education.

The study presented in this article takes its starting point in the statistics presented above and examines if it is possible to identify differences in the strategies that students use when answering one question in the national test in history. The national test is interesting for two reasons. First, the results have an impact on students' grades, which makes it important to increase an understanding of how different groups of students are affected by the test. Second, since the test is mandatory, it provides access to, more or less, randomly selected empirical material. In addition, the national tests in Sweden have been ascribed with an increased degree of importance for grading from the autumn of 2018. This means that students' results on the national test from the autumn of 2018 will have a significant impact on the students' grade in the respective subjects (Skolverket, 2018b).

Methodical considerations

Before explaining the sampling and the methodical considerations it is necessary to give a brief background. Students with a first language other than Swedish can take a course in Swedish that is adjusted to be more accessible for these students, this course is titled *SvA*. Students with Swedish as a first language take the course in Swedish that is titled *Sv*. To be eligible for the course SvA, students need to meet one of the following requirements: (a) have a first language other than Swedish, (b) have Swedish as a first language but have been studying abroad, or (c) be an immigrant student that communicates with one parent in a language other than Swedish. In the academic year 2016/17, a total of 17 000 students in grade nine took the course Sv, with 300 of these categorized as having a Swedish background (see category (b) above) (Skolverket, 2017d).

In Sweden, schools are randomly allotted a test in one of the subjects subsumed under the label social-science subjects: geography, history, religion and civics, meaning that 25 percent of the students in Sweden take the national test in history. Schools are also obliged to submit the national test in history for students born on a specific date. In 2017, there were 716 student history tests submitted.

As mentioned above, statistics are presented by the Agency for Education on grade levels and test results where language minority students are singled out. On the tests that are submitted, the schools should provide information regarding what course in Swedish the students are taking. In order to examine the group of students that are characterized as having a non-Swedish background in the Agency's statistics, I sampled tests from 50 students taking the SvA-course, as it is probable that a large number of the students fall into category (a) or (c). It is likely, though, that students who have a non-Swedish background and whose language skills are considered to be of reasonable quality are allowed to take the course Sv. Consequently, there is a risk that a number of students with a non-Swedish background are missing from the population from which the sample is drawn. To examine students who the statistics labelled as having a Swedish background, a sample of 50 students were drawn from students reported as taking the course Sv. As discussed, it is likely that some students with a non-Swedish background are present in this sample.

Concept analysis was chosen as the method for processing the information in the responses. This means that a deductive approach was applied and that relevant parts of each response was coded to different categories that was formulated based on previous research (these categories will be presented in more detail in relation to the empirical analysis). A use of such pre-defined categories can lead to a situation where important characteristics remains invisible. This drawback is balanced by the fact that the study is focused on examining how the students address the content of the formulated categories, which are based on rigorous research in history education. The material was divided into two groups: students taking the Swedish course for first-language learners and students taking the course Swedish as a second language. The quotations coded to each of the categories were then examined to establish the qualities that characterized each of them and to see if there were any differences between the two groups of students.

Analysis of student responses

The national test in history consists of two sections taken on two different occasions, usually two consecutive days. The two sections are similar in terms of types of tasks and content. In the test, there are both multiple choice items (MC) and constructed response items (CR) that address the procedural aspect of history. The present study is based on students' answers to a CR-item, where students are asked to discuss why a source is trustworthy in relation to research on a specified historical process. The first sentence in the quotes from each students is incorporated from the item. To distinguish this introductory sentence from the students' responses, it is not, as with the rest of the quotes, presented in italics. I cannot reveal the details regarding the content of the task because of the classified nature of the test (Skolverket, 2018b). Consequently, important aspects have been anonymized and are described with alternative expressions; these are placed within brackets.

The item begins with a short text:

A historian is writing an article about [a social actor and a historical process]. She considers the book [the title of the book] is trustworthy. What reasons can she give for her assessment of the source?

In the item there is photograph of the book mentioned in the introductory text together with a caption: "[Name of the author] wrote a book in [year X] called [title of the book]. The picture shows the title page of the book."

Responses to this item were chosen because the item encourages students to address procedural aspects of history. This makes it possible to draw conclusions about how students address vertical knowledge and to what extent they construct representations of the text (rT) and the event (rE).

To examine how students from the two groups in the study engage with the historical source, their answers will be related to Wineburg's model of cognitive representations. Three aspects of the model will be addressed and they will be presented in the following empirical sections. In section (1) I will discuss how the students that construct explicit representations of the text use these representations to establish representations of the event. In section (2), two ways that students use the sourcing strategy will be presented. In (2a), the focus is on how students use characteristics of the author to construct a representation of the event, and in (2b), the discussion is about how students use the time of the sources construction to create a representation of the subtext.

(1) Are explicit 'representations of the text' used to construct 'representations of the event'?

In this section, I will discuss how students from the two groups who make explicit references to the visible features of the source relate these to interpretations of the source. The responses discussed here are the 23 that was coded as making explicit rT. These answers was in turn coded as either explicitly relating the rT to a rE. To address the issue of trustworthiness, the students have to engage with the source and, in Wineburg's words, construct one or a number of cognitive representations. In this study, a representation of the text (rT) is defined as a discussion where a student makes explicit references to visible features of the source. For many students, this kind of a representation is not made explicit; their inferences are based on implicit rT. There are, however a number of students in each group that are explicit with their rT. Moreover, these students use two main strategies as they approach the issue of the book's trustworthiness.

One of these strategies is to relate one or several visible features of the book to the issue of trustworthiness and leave it at that. A second strategy is to establish connections between the visible features of the book and inferences based on the source, and to relate one or both of these two aspects to the issue of the source's trustworthiness.

The following quote is an example of the first strategy, where Student 337 presents a number of visible features of the source. The student does not make any inferences based on these visible features.

> The source is trustworthy because *there is a publisher mentioned in the corner
> of the book. The words are spelled like they did in the past. The book is not
> written with computer. It costed 10 öre. It has a signature, and it is probably
> not in mint condition. (337 SvA)*

Student 337 describes features of the source that are visible to the eye. This
description is left as the sole argument to support the book's trustworthiness. I construe
the strategy to address the visible features of the source as a first step in engaging with
it. In relation to Wineburg's model of cognitive representations, this strategy would be
a concrete example of a student constructing a representation of the text (rT). In the next
quotation, Student 154 uses the visible features to make inferences, which in turn are
used to support the issue of trustworthiness.

> The source is trustworthy because *there is a picture that shows that it existed.
> The book had an author that is printed on the book, as a source, and the author
> is a [social characteristic of the author] that lived at a time when [the student
> mentions the historical process] and that makes the book more trustworthy as
> the author knew what it was like because the author experienced what it was
> like back then. (154 Sv)*

Student 154 begins with a description of a number of visible features: there is an
image of the source and the name of the author is printed on the book. Based on this
descriptive statement, the student goes on to make inferences, one of which is that the
author belongs to a certain social group that was affected by the historical process. This
inference is, in turn, used as an argument for the book's trustworthiness. In relation to
the model of cognitive representations, this strategy indicates that students are
constructing a representation of the event (rE). This is a result of the students engaging
with the book by combining their rT with their background knowledge. It is in this
process that a representation of the event (rE) related to the book is beginning to emerge.
This characteristic is not present in answers from students applying the strategy that is
exemplified in the quote from Student 337. What Student 154 does can also be described
as an example of an application of the second-order concept of contextualization.

There is a similarity between the first strategy, applied by student 337, and the basic
level of the progression model proposed by Lee and Shemilt, as the students seem to
equate the content of sources with the past (Lee, Shemilt, 2003, p. 13-23). The similarity
lies, as I see it, in that those applying this strategy seem to believe that there is no need
to go beyond establishing the authenticity of the source in order to address the issue of
trustworthiness. These students do not seem to engage in discussions that touch on
issues of epistemology. The students that share strategy with Student 154 approach the
source in a different way: they go beyond discussing issues of authenticity and make
inferences that are used in a reflection regarding the trustworthiness of the book. That
these students argue that characteristics of the author are important for the source's
trustworthiness is an indication that they are considering issues of epistemology. This
can be related to higher levels of Lee and Shemilt's progression model.

When the two groups of students that are in focus in this study are compared
regarding the two categorises described above, there are differences in how students
from the two groups relate to the historical source.

TABLE 1

Presence of explicit rT and rE in students' responses

Course	No explicit rT	rT is explicit but not related to rE	rT is explicit and related to rE
SvA	39	10	1
Sv	38	3	9

A substantial number of the students do not explicitly address the visible features of the book. In many of their responses, these features are present, but implicit. What is of interest here is those students who explicitly address the visible features in their answers. As seen in Table 1, there are about as many students in each group that explicitly address the visible features of the book. How they go about using these descriptions in a discussion about the book's trustworthiness differs between the two groups. Ten SvA-students and three Sv-student make stand-alone statements about the visible features of the source, while one SvA student and nine Sv-students make inferences based on the visible features and their own background knowledge. These inferences are then used as arguments to support the trustworthiness of the book.

Therefore, there are a larger number of students taking the course Sv whose engagements with the visible features of the book also lead to a construction of a representation of the event (rE), in comparison to the students taking the course SvA. These results can also be understood in light of the progression model on evidence suggested by Lee and Shemilt, presented briefly above. This is because the difference found between the groups may be a result of there being a larger number of students in the SvA-group that address the source as a true image of the past, as they seem to be satisfied with establishing the source's trustworthiness with references to its degree of authenticity.

(2) The sources construction process and the issue of trustworthiness

Contextualizing the book – by adding background knowledge about the historical process to make sense of a rT, as exemplified in the previous section – is one process where students construct a rE. A second process that adds to a construction of a rE is when students use their knowledge about the book's author when discussing its trustworthiness: a strategy labelled as sourcing.

Sam Wineburg has identified 'sourcing' as an important strategy used by historians when they engage with a historical source (Wineburg, 1991, pp. 79-80). Sourcing entails that the historian acknowledges the construction process of the source and the implications this process has for the interpretations done based on the information in the source. The responses was coded and separated into groups based on if they addressed relevant characteristics of the author and, in a second step, if the

characteristics was related to a rE or a rSB. In the empirical material in this study, it is possible to identify two strategies students use when they reason about the source's construction process and its impact on the degree of trustworthiness. One strategy is visible when students use sourcing in relation to characteristics of the person who is attributed as the author of the book. A second strategy is that the time of publication of the book is emphasized as important for its trustworthiness. I will in the following discuss these two ways to approach the historical source and relate them to the model of cognitive representations

(2a) Characteristics of the author

Fifty-six students (see Table 2 below) do not acknowledge characteristics of the author as important for the issue of trustworthiness, with ten of whom not submitting an answer on the item. Among the remaining 44 students, two ways are used to discuss the issue of trustworthiness. One, used by 22 students, is to use some characteristic of the author in discussions about trustworthiness. Ten take the course Sv, and twelve take the course SvA. The second strategy is to include some characteristic of the author into the answer and relate it to some historical example from the historical process. This is identified in answers from 16 Sv-students and 6 SvA-students.

The two ways to address characteristics of the author result in the constructions of rE of varying qualities, which will now be described and discussed. In the following quote, Student 350 claims that it is important that the author has a certain social characteristic.

> The source is trustworthy because *[the author] is an [X, a social characteristic of the author] that has written the book, and if it is an X that writes about X's, it becomes more trustworthy because X's often stands up for each other. (350 SvA)*

Here, the student argues that the social characteristic of the author is a factor that increases the trustworthiness of the book. Since this statement is so general and unspecific, it could be relevant to many different historical contexts. In the following quote, a student also includes some contextual information about the author that is relevant for the historical phenomenon.

> The source is trustworthy because *the author was an [social characteristic of the author] that lived in late 19th and early 20th century. [The author] wrote the book in the year X, and was involved before [an important event of the historical process] was introduced in year X. The [a movement involved in the process] played a key role for the [historical process] and [the author] was part of this organisation and wrote the book while the [historical process] was underway. (175 Sv)*

At the beginning of the answer, Student 175 states that the book can be considered trustworthy because the author has a certain social characteristic. In the following sentences, the student uses background knowledge – the author's participation in the historical process, its connection to an important historical event and that the author

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wrote the book – to motivate why the author's social characteristic increases the degree of trustworthiness.

As mentioned above, historians construct representations of the event (rE) of the historical event at hand by combining background knowledge and the information that they extract from the source. The rE is used to turn the often fragmented information found in a source to a useful image of the historical phenomenon at hand. One aspect of constructing a rE is to consider the source as a contextual artefact, where the construction process of the source, more than the content in the source, is considered.

While there is no connection between any background knowledge and the information from the source with Student 350, there is such knowledge present in the latter quote from Student 175, who adds background knowledge about the historical process and that a certain group was working for change in a specific time in history; thereby, an image of the author and the event begins to take shape. As the student also acknowledges that the author participated in this struggle, we get an additional piece of knowledge with which we can build this image. So, the students that do not bring such background knowledge into their answers do not present us with any rE. Instead, the students in this category presents us with a more general statement about how authorship can be related to the issue of trustworthiness. Such knowledge is of course of value, but the students do not engage in constructions of rE.

Regarding these ways of addressing the issue of who the author of the book is, there are some important differences between the two groups of students.

TABLE 2

Students acknowledging characteristics of the author

Course	No characteristics acknowledged	Characteristics acknowledged	Characteristics acknowledged and used in rE
SvA	34	10	6
Sv	22	12	16

A substantial number of students do not address characteristics of the author in their discussion on the book's trustworthiness. This is an indication that they are not familiar with the strategy of sourcing. As seen in Table two, there are students from both groups that acknowledge that the author is important in an evaluation of the book's trustworthiness. However, the majority of these students are in the Sv-group. Moreover, many of the Sv-students motivate why the author is important, by adding contextual information to the discussion. Consequently, a high number of students in the Sv-group combine the information they find in source with their background knowledge about the historical process. Thereby, the knowledge that results from addressing the source as a contextual artefact contributes to the representation of the event (rE).

(2b) The source's time of construction

The part of Wineburg's model labelled representation of the subtext (rSB) addresses how an historian identifies and uses information that is not spelled out and thus has to

be read between the lines. For Wineburg, a rSB consists of inferences that emanate from information that was not meant to be transferred by the source. In the context of this study, one instance where students need to construct a rSB is evaluations about the trustworthiness of the book as a historical source. The reason is that there is no straightforward, self-evident answer to the question of whether a historical source is trustworthy in relation to a certain historical question; instead, the degree of trustworthiness has to be inferred by the students. In discussions on trustworthiness, a sign of quality is how well students substantiate their claims, and I will in this section examine how the students use the time of the book's publication to do this. I choose this aspect to examine students' rSB, because establishing the time of creation of an historical source often is essential when evaluating its degree of trustworthiness (Wineburg, 1991, p. 73-87).

When students acknowledge the importance of the publication time of the book, the arguments emanate from the notion that the source is trustworthy because the book is constructed at the same time as the historical process. This is an indication that the students are aware that the time between a historical phenomenon and the construction of a source can have importance for the historian, or student, interpreting it. It is possible to identify two strategies that students use to address the time of publication of the book. The first strategy is to acknowledge the importance of the book being published during the historical process and to substantiate this with some relevant historical example. With this first strategy the relation between the established rSB and the issue iof trustworthiness is implicit. The second strategy is to establish a more thorough rSB and use it explicitly to substantiate the discussion about trustworthiness. Both ways of addressing the time when the source was constructed will be exemplified in the following.

In the first quote, Student 696 adds some background information in relation to the mentioning of the book's time of construction.

> The source is trustworthy because *the book was written in the year X and in those days the [important aspect of the historical process] in Sweden was not fair. (696 SvA)*

Student 696 mentions two phenomena that are of interest here: the year of the book's publication and an historical example – an aspect with a key role in the historical process. The historical example, albeit vaguely described, is connected to the publication year and is implicitly used to substantiate the claim of trustworthiness.

The second strategy that students use to address the source's time of construction is exemplified in the next quote.

> The source is trustworthy because *it is a primary source as it is written by [name of the author] and it is written about her own thoughts. It is written in a time when [social characteristic] did not have [important aspect of the historical process], so the source shows how society was back then. (14 Sv)*

Here, Student 14 addresses the issue of trustworthiness by relating it to the time of publication and a number of historical examples. The time of publication is referenced implicitly as the student places it temporarily before an important change within the

historical process. One important aspect in this quote that is not present in the former is that Student 14 makes an explicit formulation where a rSB is used to substantiate the claim for the book's trustworthiness. The subtext in this quote is the information that is identified by relating the time of publication, the historical examples and the question posed by the historian with each other. To construct a rSB, this information has to have a catalyst, and the catalyst in this case is the issue of trustworthiness. This catalyst prompts the student to extract a subtext – something that is not spelled out in the source – saying that it is important to take into account that the book was written during the historical process that the historian is writing about. This rSB is then made visible as this information is put to use by the student, as she states, "the source shows how society was back then." Student 696 also constructs a rSB, as she makes a connection between the book's construction and the historical process. However, this rSB is not visualized or utilized in the same way as the rSB constructed by Student 14.

TABLE 3

Students acknowledging the book's time of publication

Course	No use of the time of publication	The time of publication is implicitly used in rSB.	The time of publication is explicitly used in rSB
SvA	30	16	4
Sv	26	11	13

As seen in Table 3, a substantial number of students in both groups do not address the book's time of publication in their answers. This is interesting, since, as mentioned above, the date of construction generally can be considered a central aspect of a source's trustworthiness. However, the focus here will be on the students that address the publication date of the book as important for its trustworthiness. As seen in Table 3, the number of students in each group who use the time of publication is lower in the SvA-group: with 20 students, compared to 24 students in the Sv-group. There is also a difference regarding how the time of construction is addressed in the two groups. More students in the Sv-group make the rSB visible, as they show that they construct a rSB and relate it to the issue of trustworthiness.

Conclusions

In this concluding section of the article, I would like to address two aspects of how students use procedural aspects of the history subject. The first addresses how students construct cognitive representation of the historical event (rE) at hand, while the second addresses how they construct cognitive representations of a subtext (rSB) in the source. Related to constructions of a rE, the results show that a substantial amount of students fail to construct this kind of cognitive representation. This difficulty for students is visible in a number of ways, Firstly, there are students that fail to develop explicit representations of the text (rT) into the more complex rE. Secondly, about fifty percent

of the students do not use characteristics of the author as a way to establish a rE that can be used to address the issue of trustworthiness. Moreover, the results show that a substantial number do not establish and use representations of a subtext (rSB) to discuss the issue of the book's trustworthiness. These results are seen as indications that a large number of students in year nine in the Swedish school system do not have command over central procedural aspects of the subject history. Following the theoretical framework adopted in the study, this means that the patterns presented can be formulated on a more general level: some of the students do not have command over vertical knowledge that is present in the Swedish history curriculum.

Though it is important to note that a large number of the total sample struggle with constructions of cognitive representations, one must also note that students taking the course Sva are overrepresented among these students. This is seen as an indication that students with a non-Swedish background are facing more difficulties in gaining command over vertical knowledge than students with a Swedish background. There are, however, reasons for a nuance, as the results show that there are in-group differences: there are students with a non-Swedish background that do construct and use cognitive representations and there are students with a Swedish background that do not. This indicates that the differences regarding command over vertical knowledge cannot be explained only by differences in language skills; aspects that are intimately connected to the subject of history must also be taken into account.

The differences between the two groups of students can be understood in light of the tensions proposed by Beck (2013), that certain groups of students may be disadvantaged when vertical knowledge is included in education. That there are students from both the SvA and Sv courses who seem to be affected by this tension calls for a discussion that addresses both groups. Such a discussion needs to engage with the formal curriculum and the national test, on the one hand, and various aspects related to history education, on the other. I will in the following initiate such a discussion.

Regarding the Swedish history curriculum, it consists of four abilities. Each ability is to be given equal attention at all grade levels: grade one to grade nine in elementary school, and also in upper-secondary school. It might be the case that addressing many complex components concomitantly in the sparse time allotted for history education results in an history education that attempts a lot, but accomplishes little.

The results also bring the issue of history teaching to the forefront. That such a substantial number of students struggle with constructions of cognitive representations and that second-language learners seem to struggle more than first-language learners indicate that the alignment between what happens in Swedish classrooms, on the one hand, and what is prescribed by the curriculum and what is asked for in the national tests, on the other, is lower than desirable. As one central characteristic of vertical knowledge is that it has to be acquired from someone that already has a command of it, the low degree of alignment calls for a discussion about the state of history education in Sweden. On a policy level, the 20 hours each year allotted for history education in Sweden should be considered (Larsson, 2017), and it is necessary to ask what is possible to achieve regarding a successful teaching of vertical knowledge in that relatively short amount of time.

Related to the issue of time, there are indications that Swedish history teachers, on average, are disinterested or unqualified to address the vertical aspect of history (Nordgren and Eliasson, 2016; Jarhall 2012, Skolinspektionen 2015).

A combination between sparse time and a low level of both qualification and interest among teachers is hardly the most fertile soil for teaching vertical knowledge to adolescents. If the content of the curriculum is not (a) addressed in history education or (b) within the competency of the teachers, the risk indicated above – that some students become more disadvantaged than others – is likely to be high.

There are, however, a number of students that do construct cognitive representations and, in doing this, put them to use in constructive ways on the national test. This can be seen an indication that there are teachers that have both the required competence and interest in addressing the procedural aspects of history in the classroom. One complementary factor that can help explain this is that put forward by Beck (2013). The difference between and within the groups might then be understood as a consequence of a situation where students from certain societal groups encounter outside the classroom the kind of vertical thinking that is present in the history curriculum. If so, students belonging to these groups become better equipped to understand what is addressed in history class and what is asked for in the national test.

The presence of vertical knowledge in the curriculum is one factor that can help explain why students with a non-Swedish background have lower grades than students with a Swedish background. If this is regarded as a problem that should be addressed, the discussion presented above provides a number of possible routes to follow. First, if the time allotted for history education was to be increased, it would be a necessary, but not sufficient, factor that would facilitate a stronger alignment between the curriculum and history education. Since time alone is insufficient, the issue of equity also requires a constructive match between what is prescribed on a policy level in the curriculum and what is enacted in the classroom by teachers' competence and willingness to address the kinds of knowledge present in the curriculum; propositional, inferential or procedural knowledge. One way to address this on the policy level could be by sequencing of the four abilities that the history curriculum is centred around. If one or two of the abilities are addressed early on in education, and the remaining abilities are added later, it could have two advantages. One advantage would be that teachers in the early years would be able to concentrate on teaching in relation to one or two abilities, thereby restricting the amount of aspects that should be addressed in education. A sequencing would also increase the possibility of matching teachers' competencies to the curriculum, as teachers in elementary school do not study as much history at teacher education as teachers that are educated to teach in secondary education. A possible disadvantage with a more detailed sequencing, that it may risk diminishing the intended theoretical coherence of the curriculum (Eliasson, 2015). Such a risk could be discussed in terms of the period in which the theoretical coherence should be considered: within a school year, within a school level (ISCED, 2011) or within history education as a k-18 enterprise.

One important caveat is that the results that are presented in this article provide only some pieces to a jigsaw that requires more pieces to get a fuller picture of equity in

history education. More pieces could be provided by examining how students engage
with the propositional and inferential aspects of history.

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