

What might students need to learn to reason on
Causation regarding specific subject-matter in the
subject of History?

An investigation into student understanding for the causes behind the
scramble for Africa

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1. Introduction

A qualitative History-education has to transmit a solid foundation of historical knowledge to students but our demands must extend beyond that. Sadly international- as well as Swedish research shows that teaching all too seldom conveys the methodology of the subject or its interpretive nature. Instead History is often treated as a fixed narrative of a nation's past that students are expected to memorize and reproduce on examinations (Barton & Lestvik, 2001; Rosenlund, 2016; VanSledright, 2010). This approach creates various problems. One originates in the very nature of the subject, due to its interpretive character it is hard to decide what actually is the "best" or most "truthful" narrative. Another problem is that memorizing large portions of historical knowledge without understanding the methodology of the subject could lead to cramming and a lack of meaning. Finally, maybe most seriously, students are thereby denied the subject's rich potential to advance their interpretive and critical capabilities (Seixas, 2000; VanSledright, 2010).

The problems outlined above makes a strong case for that, to empower students, teaching should be structured round Second Order Concepts¹. This in turn raises an important educational question; what specifically do students need to learn to master such concepts? The purpose of this paper is to shed light on some aspects of that question by presenting findings from research performed among Swedish upper secondary students. In this project the researcher together with three teachers investigated what historical capabilities students' need to learn to construct historical explanations, reason on cause, interpret and use sources (Nersäter, 2014). This article will have a more narrow focus and specifically address one component of these findings namely: **What might upper secondary students need to learn to reason on Causation regarding specific subject-matter (the scramble for Africa) in the subject of History?**

2. History-didactical framework

The overarching aim within the Swedish History Curriculum is to develop students Historical Consciousness. Teaching should advance their knowledge of the past, ability to use historical methods and create understanding for how History can be used (Swedish National Agency for Education, 2011). The curriculum is inspired by two History-didactical traditions. The overall purpose for the study of History and the aim that students should be able to explain and evaluate usage of History are linked to the German didactical tradition. But qualifying students' historical consciousness also means to familiarize them with the methodology of History where Causation is an important ingredient. Here the curriculum connects to the more disciplinary oriented Historical Thinking-tradition (Eliasson, 2014). There are connections between these traditions. Both emphasize that a relevant History-education has to demonstrate connections between the past and the present, how human actions in the past have affected the present and how individual and collective actions in the present could affect the future. Lee and Shemilt (2009) argues that progression in students' capability to construct Historical Explanations should be viewed as an advancement of their Historical Consciousness. The reason being that it will increase their possibility to analyze and act in present society and give them a readiness for future developments. That Historical Explanations are a vital part of History-education also finds support

¹ These are the disciplinary tools that makes understanding and construction of History possible. Independent of chronology and subject matter they relate closely to the historians trade of phrasing questions, interpret sources and construct narratives (Lee, 2011).

in Swedish Curricula documents where it is stated that teaching should address explanatory models that helps explain causes behind change (Swedish National Agency for Education, 2011)). Causation, one of the Second Order Concepts within the Historical Thinking-tradition, is a useful disciplinary tool to show students the methodology and interpretive nature of History but what characterizes this capability according to literature?

Causation could be defined as proceeding events that themselves significantly increases the probability that other events eventually will occur (Mccullagh, 2004). For historians it is problematic to reason about Causation according to principles found in the natural-sciences. They instead argue from a viewpoint of probability, for combined factors and uses a limited time-span for their explanations (Evans, 1997). Sometimes historians argue for intentional explanations, these serve to explain human actions based on intentions. They have their limitations in that they cannot say much about hidden agendas. Nor can they explain consequences from individual actions due to that intentions and actions can have unforeseen consequences. Another category are structural- explanations, these emanates from societal and economic systems. Events are then explained by their role within a specific system. Nor can structural-explanations on their own be considered as complete since they do not take into account ideological beliefs and individual actions (Mccullagh, 2004). Historians often instead uses a combination of causes to explain past events and changes where individual actions and societal structures interact and affect each other. Various explanatory models could thereby support each other and give different perspectives on past events (Evans, 1997; Mccullagh, 2004). From a History-didactical perspective Seixas and Morton (2013) has defined what they consider to be developed thinking on Causation among students. They argue that it is essential that teaching shows that historical change is caused by multiple factors who differs in importance and that these can be of both long-term and short-term character. They also emphasize that causes and consequences should not be viewed as a chronological chain where actions of an individual by necessity leads to a certain outcome. Students should instead be able to discern the complex interaction between actors and structures causing change.

2.1. Student understanding of Causation – Earlier research

Earlier research on Causation predominantly has British origin. Just as for other Second Order Concepts it has predominantly been occupied with Causation as a generic capability and, contrary to this paper, not focused on the capability in relation to specific historical content. Originating back to the SChP- and CHATA-projects researchers, predominantly through interviews, have been able to identify students' perceptions of History. One outcome from this research are the development of empirically based progression-models that illustrate qualitative differences in students' understanding for Second Order Concepts (Ashby, Lee, & Shemilt, 2006; Lee & Shemilt, 2011; Shemilt, 1983; 1987). Within the SChP-project student understanding of historical narratives were examined. Shemilt (1983) describes how four categories of perceptions with internal progression were identified. Elements within these narratives that relate to Causation showed that in the less developed category 1, students did not see any need to explain change and/or events. For the next category change was explained but explanations were of a mechanical sort and the behavior of historical actors were not put into a surrounding context. Within CHATA, the other major research project in the UK, conclusions drawn for students' perceptions of historical accounts corresponds closely to the SChP-results. This, even though the group of pupils who participated in the CHATA-project were younger (Lee & Ashby, 2000; Lee & Shemilt, 2004). Also in more recent publications (Lee P. , 2006; Lee & Shemilt, 2009) we see how researchers, even though

they use slightly different terminology, draws similar conclusions. Later research have led to the development of a progression-model for Historical Explanations similar to the one from the SCHP-project. Just as for narratives, students in category 1 do not see any need to explain historical events and processes of change and they often consider explanations as either true or false. Within category 2 intentions and actions from individuals are viewed as equal with the actual outcome of events. Students often consider powerful individuals as responsible for change and views the same type of causes useful for all kinds of explanations, regardless of time and context. In the less developed categories, some consider History being as a chain. Even though they realize that events and change are caused by multiple causes and could happen due to unforeseen events that preceded them, they still see History as already decided and steadily on its way to the present. Therefore different events by necessity have to be linked together. (Lee & Shemilt, 2009). In relation to individuals and their importance causing change it is possible to draw parallels with Halldéns research (1997; 1998). He has shown that students tend to personalize social institutions that in reality are rooted in societal structures. He also found that they tend to explain historical change as the sum of all individual actions and do not use societal structures in their explanations. Carretero et al (1994) investigated how History-graduates and novices of different age groups viewed intentional and structural explanations. Participants were given cards consisting of different causes for the Discovery of the Americas and were asked to rank these according to significance. Results showed that History-graduates to a much higher extent made use of structural explanations compared to novices who tended to use intentional explanations. Related to these results Lilliestam (2013) has demonstrated that teaching need to emphasize the importance of both actors and structural conditions to qualify students' construction of historical accounts. Stoel, Van Drie and Van Boxtel (2016) has shown the importance of explicit teaching-strategies on Second Order Concepts in an environment characterized by inquiry tasks to advance students capacity for casual-reasoning. Their research also highlights the necessity to address students' epistemological beliefs. Finally, Voss et al (1994) allowed 32 undergraduate- and graduate-students to write an essay on the causes for the downfall of the USSR. Among the results were that many participants did not use long-term causes, lacked relevant historical content and did not see that multiple causes in combination led to a certain outcome.

Contrary to much previous research this paper investigates the capability in relation to specific subject-matter. It has been undertaken through a composed analysis originating from the nature of the subject, curricular demands, and analysis of students' conceptions before and after research-lessons. Based on these differences in approach, the ambition is to add new knowledge for what students might need to learn to master Causation in relation to specific subject-matter (the scramble for Africa). Hopefully it can also show some comparison and contrast in relation to earlier research that has focused on Causation as a generic capability.

3. Theoretical Framing, Data and Analysis

Theoretical assumptions stems from Variation theory which states that students, to advance their learning, needs to discern what is critical for a certain capability and its related subject-matter (Marton, 2014). The specific capability and connected subject-matter is labeled as the Object of Learning. For every such Object of Learning there exists certain aspects that students need to discern. Aspects not yet discerned are considered critical since they are crucial for students' ability to master the particular Object of Learning in the desired manner (Marton, 2014). Critical Aspects are not on their own equal with an understanding of the essential characteristics of the capability and related

subject-matter. Neither are they solely the misconceptions that students could show in relation to the same. Critical Aspects should be considered relational and the identification of them originates from a composed analysis of the capability, related subject-matter, curricula definitions and students preconceptions (Pang & Ki, 2016). Data for this paper originates from a Learning Study, an iterative and collaborative research method for analysis and enhancement of teaching and learning (Carlgren, 2012). In a Learning Study, based on interviews, pre- and post-assessments, disciplinary- and pedagogical knowledge, researchers and teachers jointly try to identify Critical Aspects for what students need to learn in relation to an Object of Learning. This particular study investigated what students' need to learn to construct historical explanations, reason on cause, interpret and use sources (Nersäter, 2014). However, only findings relating to Causation are addressed in this paper. The study was undertaken in a Swedish upper secondary school and included three classes with 16 year-old students. All studied History 1b, a mandatory course for all theoretical preparatory-university programs. Data consists of a total of 138 pre-and post-assessment essays in which students were asked to discuss causes for the scramble of Africa. They were presented with two maps depicting colonial possessions on the continent in the year of 1878, respectively the year of 1914, and asked to discuss the causes behind the rapid colonization-process. Both assessments also contained two different historical sources that related to the colonization. Before construction of pre-assessments a preparatory survey with another class of students was undertaken. The purpose was to identify tentative Critical Aspects, deepen the research-teams understanding for the Object of Learning and serve as help for the design of assessments. Analysis of student answers has been carried out in several stages. First during the implementation of the Study. Then a second and deeper analysis was carried out after it was over. Finally, a reanalysis of all data from pre-and post-assessments has been undertaken for this paper. Categorization of student answers has predominantly emerged inductively based on the pool of data from pre-assessments but has also been supported by experiences drawn from the survey (Nersäter, 2014). To some extent considerations has also been taken to subject-specific qualities justified by the nature of the subject and curricular demands.

4. Results

Categories are as follows:

- A. Causes lack in consistency with the historical context and the argumentation is not always coherent.
- B. One or some causes corresponds with the historical context and the argumentation address some composed causes.
- C. Causes corresponds with the historical context and to some extent the importance of them are discussed. Composed causes are addressed.
- D. Causes corresponds with the historical context and to some extent the importance of them are discussed. Composed causes are addressed and an argumentation about long term- and short term causes and/or the importance of actors and structures are present.

To adapt to demands of transparency rich excerpts of data related to the categories are presented together with accompanying analysis. The ambition is to clarify on which grounds they have been constructed and how Critical Aspects has been identified. Hopefully this will also contribute to a deeper understanding for the nature of the capability and what students might need to learn.

4.1 Categories

Below follows a compilation of typical student excerpts with commentary for what characterizes each category:

CATEGORY A

In their line of argumentation students show difficulties identifying causes connected to the historical context. Changes that take place do so without any clear reason. The historical process moves ahead and it does not seem as these changes need any explanation. If Causation at all is present it is connected to vague discussions about power. In the excerpt below the student argues that all Africans at the time of colonization already were slaves. It seems that this student therefore thinks that it was natural that Africans should work for the Europeans. There is confusion in relation to context, chronology as well as Causation:

I think it was because all black people were slaves and they just got there and said you are going to work for us and they said OK.

The next excerpts show, besides that causes appear unclear, difficulties interpreting the geographical changes that took place during the time-period. These problems are also visible in answers where students think that Africa gained independence during the period up until 1914:

The causes for this development were that Africa gained a little more power and were able to draw their own conclusions on how they wanted their future.

The causes are that the industries grew bigger and they have more money. People moved, borders were set up and grew in size.

In some answers causes and consequences are mixed-up. Students argue that European demand for rubber caused industrialization and wars caused colonization:

Then they discovered rubber it started to transform towards an industrial society and Africa began to split up.

These changes took place at the time of WWII and they, these countries, were very strong during the war and as a consequence Africa became colonized.

Many students in this category have problems dealing with chronology and as a consequence they confuse different epochs. For example the Age of Discovery are mixed-up with Modern Age Imperialism, WWI is sometimes seen as a cause for colonization. In one answer technology developed during the 1950's are viewed as a cause and the US and USSR considered to be the countries colonizing Africa. As the excerpts show the evidence-base is often faulty and the line of argumentation not coherent.

CATEGORY B

Even though their line of argumentation could be a bit vague, one or some relevant causes are addressed. The reason for colonization are sometimes seen as connected to European strive for power:

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I guess it was some sort of power urge for land. It's not surprising that a bigger and more developed country wants to conquer a smaller one that's rich on raw- materials.

Usually students discuss one or two causes. The most common are of a materialistic character. Causation is often reduced to a European drive for raw-materials as seen below:

About 1870- 1880's large deposits of raw-materials were found in Africa, diamonds, iron ore, gold, exotic timber and much more. All this created a great boom for a colonization of Africa.

In some cases European industrialization is seen as both a condition, and a cause. These students address European technical superiority and their search for raw- materials:

Due to the industrial revolution society and companies became more advanced [...] they soon noticed that Africa possessed diamonds and different minerals [...] The Europeans also had better artillery, weapons, rifles than the African population.

Just as for category A, many answers rely heavily on the evidence that could be found in the sources that accompanied the task. A common denominator in this category however is that the students' line of argumentation is coherent and that the answers have an explanatory value.

CATEGORY C

Here answers consist of composed causes that correspond with the historical context. In several there are also evaluation of the importance of different causes. Often background conditions are intertwined with a discussion of causes and consequences. Below we can see an excerpt there a student first describes European demands for raw-materials and then explain the possibilities to obtain these in Africa:

After the breakthrough of the Industrial revolution there were a great demand for manufactured goods [...] to make these you obviously need raw-materials [...] African populations were easy to conquer since they hadn't progressed as far as the Europeans in technological development in terms of weapons and other things.

The student continues with a description of consequences - how Africans were affected by colonization, and how this was justified by the colonizers:

But in newspapers back home the story depicted was that native populations were in need of rescue from their barbaric life.

In comparison with category B, it is more common that causes of an idealistic nature complements the materialistic interpretations. Phenomenon like nationalism, racism, ideas of "the white man's burden" and Christian mission are addressed as causes behind colonization:

The used the excuse that they should Christianise the savages. They didn't consider Africans as their equals rather like animals, and you could not allow animals to govern a whole continent, that was not Gods will. Hereby they could justify the enslavement and killing of thousands of people in search of the riches of Africa.

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The answer refers to some of the methods used by Europeans. Methods are also addressed in other answers, sometimes from the perspective of power-politics. The agreement to divide Africa reached at the Berlin-Conference is a common example of this. Several students also describe how African tribes were tricked to hand over large areas of land to settlers:

Many chiefs were tricked to agree to colonization because they didn't understand what the Europeans leaders wrote on their papers. In exchange they often received a bible and were forced to convert to Christianity.

In several cases students discuss long-term consequences of colonization and address present-day issues as poverty, border conflicts and other problems they view as legacies of colonization:

White people has had the power down there up until the present. It's not until 1995 that Apartheid is dismantled.

In this category all students add own knowledge to their explanations, they are not restricted to the evidence found in the task. Evidence is used to back up their argumentation and synthesized with own knowledge about the historical context. Their line of argumentation is coherent and the answers have a high explanatory value.

CATEGORY D

Just as for category C, students presents complex arguments there causes correspond with the historical context. Causes are composed and to some extent their relative importance are discussed. Often background conditions are intertwined with a discussion of causes and consequences. Typical for this category is that students also discuss long-term, short-term causes and/ or the importance of actors and structures:

After the Industrial revolution Europeans had the edge in weaponry and thereby an easier task taking over African areas. They did it because they needed raw materials and new markets to sell manufactured goods on. Cheap labour was also a factor. Nationalism was strong and it meant prestige to possess many colonies [...] Individual capitalists also realized that the capital revenue could be higher in the colonies [...] Social Darwinism was a lie, they argued that they wanted to help and civilize the Africans but that was not the real reason.

In this answer technical superiority based on the conditions created by the industrial revolution is addressed. The student also views the Industrial revolution as a cause behind colonization. Historical actors in the shape of industrialists are seen as important because they can profit on colonization. Causes of a more idealistic character are also used to explain the scramble. There is no explicit reference to the term structure but it is obvious that this student describes Europe as heavily influenced by ideas of Nationalism and Social Darwinism, ideas that definitely affected and helped to shape the societal structure. Also in the next excerpt technical superiority related to the Industrial revolution is addressed. The answer is also representative for how students evaluates which causes they consider to be most important:

The most important cause was to get hold of raw-materials.

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Then follows a description of the colonization-process, conditions and its consequences from an African perspective. The student continues with an explanation for how colonization was justified:

The Europeans didn't consider that they did anything wrong, they made up a lot of excuses.

This is supported with references to one of the sources from the task:

They had no doubt that they would need to use force. But since they considered Africans of less human value, hardly as humans [...] lacking intelligence [...] They claimed that they did something good when they enslaved them just to take their natural resources [...] An example is the Brit, Cecil Rhodes who viewed the British as the perfect people [...] something which gave them the right to conquer Africa.

These quotes are typical for category D. From the excerpt we can conclude that this student presents a complex explanation where causes of a materialistic character are intertwined with idealistic ones. The latter are often used to explain how Europeans justified colonization. In their explanations historical actors are present, act within the societal structure and also influences the same. In all of these answers there are a synthesis of own knowledge and evidence from the sources. Arguments and value-laden judgments are supported with references to the sources. Their line of argumentation are coherent and answers have a high explanatory value.

4.2. The identification of Critical Aspects

Analysis showed that some students described the scramble without doing any attempt to explain it in terms of causes. For them colonization just happened. Such attitudes can be understood as they perceive History as moving forward by itself and do not discern that historical changes have causes. A similar phenomena are those conceptions who focuses only on conditions and argue that the conquest took place because Europeans possessed the necessary technical abilities. These students do not seem to consider it necessary to provide any further argumentation relating to Causation. There were also those who did express clear opinions concerning the causes but did not support these claims with evidence. Neither did most students discern any long-term causes for the scramble, instead they focused on short-term causes surrounding the events. In some answers, especially within category A, there were also clear signs of chronological confusion with the effect that causes and consequences were mixed-up. Analysis also showed that many restricted their arguments to one cause. Among those, the absolute majority advocated materialistic arguments as the cause for colonization. In the pre-assessments almost none addressed the importance of historical actors. Surely, explorers, politicians and media were mentioned but how these interacted with the societal structure at the time did not become clear in the essays. Based on analysis of pre- and post-assessments the following aspects were concluded critical for our students capability to reason on Causation in relation to the scramble for Africa:

1. Discern that historical change have causes.
2. Discern that historical claims need support from evidence.
3. Discern both long-term and short-term causes behind historical change.
4. Discern the chronological structure relating to change not to confuse causes and consequences.

5. Discern that historical change usually have composed causes of differing importance
6. Discern that historical change are caused by interaction between societal structures and the actions from historical actors.

DISCERN THAT HISTORICAL CHANGES HAVE CAUSES (C. A 1)

That some students described the colonization-process but did no attempt to reason on its causes becomes understandable if one imagines a student who view causes as equivalent to given and/or unproblematic course of events. In such a case the student might not see any need to discuss what the possible reasons behind events or processes of change has been. A related problem were the perceptions who argued that colonization took place just because European countries had the practical means to enforce it. Superior technical ability was considered reason enough and students did not provide any real explanation for the conquest. To show developed understanding for the scramble, or other events in the past, it is not enough to account for the development in itself. For a developed capability it is crucial that students can argue for different interpretations behind why certain events or processes of change has occurred.

DISCERN THAT HISTORICAL CLAIMS NEED SUPPORT FROM EVIDENCE (C. A 2)

Pre-assessments showed that some students neither used evidence from the accompanying sources or presented own contextual knowledge to back up their argumentations. Arguing a case for what caused a specific event or a process of change to take place without presenting sound evidence is just opinion making and does not constitute a valid explanation. We viewed it a fundamental requirement to make our students aware of this necessity. During post-assessment it was much more common that students used the sources as evidence to support their claims than during the pre-assessments. When sources at all were used in the latter they were often treated as unproblematic information and students' interpretations of them were often literal and uncritical. In the post-assessments on the contrary, many students managed to synthesize own contextual knowledge with evidence from the sources.

DISCERN BOTH LONG-TERM AND SHORT-TERM CAUSES BEHIND HISTORICAL CHANGE (C. A 3)

In History events and process of change for natural reasons exists in a temporal dimension. The existence, meaning and importance of causes shift depending on time-periods and of course also depends on what particular phenomena we put an interest in explaining. The scramble for Africa is an example of a historical phenomenon that at least traces its roots back to the Age of Discovery. To some extent it can be explained by the patterns of trade and growing capitalistic system that spread in the wake of these discoveries. Few students addressed any such long-term causes for the scramble, they instead focused on the situation surrounding the actual event.

DISCERN THE CHRONOLOGICAL STRUCTURE RELATING TO CHANGE NOT TO CONFUSE CAUSES AND CONSEQUENCES (C. A 4)

Some of our students confused causes and consequence relating to 19th – and 20th century chronology. Within pre-assessment essays there were students who stated that European demand for rubber led to Europe's industrialization, that WWI caused the scramble, that the colonies were conquered during the 1950s and that the US and the USSR were the dominant colonial powers. Clearly, a student that lacks,

or confuses, historical content while attempting to reason on Causation for a specific event also run the risk of confusing causes and consequences.

DISCERN THAT HISTORICAL CHANGE USUALLY HAVE COMPOSED CAUSES OF DIFFERING IMPORTANCE (C. A 5)

Results illustrated that many students restricted their reasoning to one cause that most frequently was of a materialistic character. More often than not students need to make use of composed causes to explain past events and processes of change (Lee & Ashby, 2000; Lee & Shemilt, 2004; 2009; Levesque, 2009; Seixas & Morton, 2013). The scramble for Africa is no exception and our students therefore need to discern and evaluate causes of both materialistic and idealistic nature. The causes for the scramble can partly be explained by economic factors. European governments and companies had a need for raw materials as well as markets for investments and export (Fergusson, 2003; Hobsbawm, 1997). But, just as for many other events and processes in the past, to understand and explain the colonization-process, students also need to handle phenomena's of a more idealistic character. These include mentalities, values and belief system of the particular time-period at stake (Ashby, Lee, & Shemilt, 2006; Lee & Shemilt, 2009; Portal, 1987; Shemilt, 1983; 1987).

DISCERN THAT HISTORICAL CHANGE ARE CAUSED BY THE INTERACTION BETWEEN SOCIETAL STRUCTURES AND ACTIONS FROM HISTORICAL ACTORS (C. A 6)

When our students reasoned on Causation in the pre-assessment-essays historical actors were often invisible. If actors at all were part of their argumentation nothing in the responses illustrated how these actors interacted with the societal structures of the time-period. A qualitative explanation to the scramble for Africa needs to involve both societal structures as the European industrialization-process and its effects, but also the interests and actions of important historical actors such as for example Bismarck and Rhodes.

5. Conclusive discussion

For students to understand the methodology and interpretive nature of History it is vital that teaching deals with Second Order Concepts in an efficient manner. To do so we have to understand what students need to learn to develop a deep understanding in relation to these concepts. This article has tried to give some answers to what they need to discern to master the concept of Causation. A strength with the findings are that they are based on a composed analysis originating from the nature of the subject, curricular demands, and analysis of students' conceptions before and after research-lessons. The capability has been investigated in relation to specific subject-matter (the scramble for Africa) which could complement especially British results which predominantly has treated Causation as a generic capability. However, there are still similarities between earlier research and these results. That some students do not see any need to explain events or processes of change and sees History just as events unfolding (C.A 1) has also been shown in the SCHP-project and later research (Shemilt, 1983; Lee & Shemilt, 2009). It could sound obvious and needless to express, but this illustrates the importance that teaching manages to show the fact that events and changes in the past have causes. That events and processes of change depend on multiple causes of differing importance and duration (CA 5) has also been shown within the SCHP-project (Shemilt, 1983) and in the research of Voss et al (1994). There is however nothing in their results that indicates that students predominantly has a tendency to advocate

materialistic factors. A possible explanation for why our students did so might be found in the specific subject-matter studied. There are also findings which do not directly correspond with earlier research. Halldén (1998) showed that students has a tendency to personalize explanations and does not make use of structures. Even though many of our students did not make use of societal structures in the pre-assessments it was more common that individual actors where nonexistent in their explanations (C. A 6). A possible reason is that many lacked contextual knowledge enough to do so. This is supported by the fact that they to a much higher extent managed to deal with interaction between actors and societal structures in the post-assessments. Our results also clearly indicates that teaching must illustrate that historical changes usually occur due to composed causes of differing character and importance (C. A 5). Exemplifying with this subject-matter; the colonization-process can partly be explained by materialistic factors. Powerful interest-groups saw a need for raw-materials, cheap labor and deployment-markets. However, there is also the need to take into consideration phenomenon of a more idealistic character that relates to mentalities, values and beliefs. During the scramble such idealistic factors can be associated with Social-Darwinism, Nationalism etc. Another finding that showed similarities with earlier research (Barton & Lestvik, 2001) were that some students mixed-up causes and consequences (C.A 4). Based on this it is not far-fetched to conclude that teaching need to offer some sort of structured chronological and contextual framework for the specific subject-matter when students are expected to reason on Causation. The same applies for the need to back up explanatory claims with evidence (C.A 2). If we want students to work with sources while constructing explanations we need to offer them a contextual framework for the historical phenomena that they are expected to analyze in terms of cause while interpreting the sources. To conclude, research results within school contexts can be hard to reproduce and thereby generalize (Shavelson, Phillips, Towne, & Feuer, 2003). Still, Critical Aspects identified in a Learning Study can be generalized with respect to which expertize that characterize a specific Object of Learning and what students thereby need to learn (Marton, 2014). This does not necessarily mean that these aspects will show critical in another group of students. That has to be tested empirically. Another question that remains is to what extent they are possible to generalize to other historical contexts? A hypothesis could be that they are of quite general nature and thereby necessary to master regardless of historical content. That certain findings concerning student understanding of Causation has recurred despite different cultural contexts, research environments and applied methods strengthens that argument. However that is a matter for further research to explore.

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