

Abstract for QUINT conference 2022

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Title of your paper: Higher order thinking in social science education

Abstract (300 words)

Recent research has demonstrated the impact of citizenship education on students' knowledge and engagement. However, social science education is also characterised by knowledge about social and political structures and institutions, social scientific concepts and thinking, as well as increasing demands for justifications and argumentation. Our interest in this presentation is to discuss what characterises higher order thinking in social science education.

The study used a research design employed by Klette et al. (2017) in Norway. The present study was conducted as a part QUINT and focuses on video-taped lessons in social science education in Denmark and Norway. All videos were analysed using the Protocol for Language Arts Teaching Observation (PLATO) (Grossman et al., 2013).

To identify lessons that include activities promoting higher order thinking, we sampled segments using the element Intellectual Challenge. Only segments scoring at the highest level were included for further analysis. Second, we reviewed all segments that scored at the highest level to produce an overview of the kinds of knowledge, concepts and activities present (i.e., how students were cognitively activated). Third, we selected a few segments that represented a variation in terms of tasks and analysed them thematically.

In the thematic analyses we found that there are parts of the segments that encourage student's higher order thinking, either by facilitation student's interaction with complex knowledge, or engaging them in demanding cognitive processes. The relationship between knowledge and processes is not linear: it is possible to have a cognitively demanding task with little knowledge, and simple tasks performed on complex knowledge. In order to understand what higher order thinking can mean in social science education our analysis

shows that it is necessary to work with a two-dimensional model that can capture the cognitive processes as well as the different types of knowledge.

Extended summary (1000 words, excluding reference list) Include introduction, theoretical background, methods, aims, preliminary findings/findings, results, theoretical and education significance, relevance to the QUINT ambition and the reference list.

In the Scandinavian countries, preparing young people to contribute to society is an important educational aim. The school subject of social science plays an important role in this mission, as it aims to contribute to young people's knowledgeable participation in democratic and political institutions and processes. Particularly, social science in school focuses on knowledge, skills and values that contribute to equipping students to take active part in society, including analytic and higher order thinking about that society based on the subject's content and concepts (Christensen, 2021; Mathé & Elstad, 2018). Recent research has demonstrated the impact of the related field of citizenship education on students' knowledge and engagement (e.g., Keating & Janmaat, 2015; Mathé & Elstad, 2018; Reichert & Print, 2018). However, social science education is also characterised by knowledge about social and political structures and institutions, social scientific concepts and thinking, as well as increasing demands for justifications and argumentation (Blanck & Löden, 2017; Mathé & Elstad, 2020).

Our interest in this presentation is to investigate what characterises higher order thinking in social science education. To the best of our knowledge, this is the first time this has been done in a comparative light in Scandinavian social science education, contributing to the QUINT ambition of systematically investigating key features of teaching quality across the Nordic countries. This study is guided by the following research question:

Which kinds of higher order thinking are encouraged in a selection of social science lessons?

To respond to this research question, we first discuss what higher order thinking means in education and, more specifically, what it can mean in social science education. Second, we detail our methodological approach before presenting our analyses and results.

Theoretical framework

A generic approach to higher order thinking is rooted in educational or learning psychology in research and discussions of aims in education. The discussions of taxonomies of learning can be viewed in this light. Taxonomies often emphasise the movement from reproduction to analysis and evaluation. In these taxonomies there is a clear distinction between reproductive knowledge and the ability to make use of this knowledge, for instance in an analysis. Anderson and Krathwohl (2001) complement the cognitive dimension of the original Bloom's taxonomy with what they call "the knowledge dimension" which includes four types of knowledge: a) factual knowledge, b) conceptual knowledge, c) procedural knowledge and d) meta-cognitive knowledge.

Methods

The study used a research design employed by Klette et al. (2017) in Norway, in which lessons of Norwegian language arts and mathematics were video-recorded. The present study was conducted as a part of QUINT – Quality in Nordic Teaching, Nordic Centre of Excellence and focuses on video-taped lessons in social science education in Denmark and Norway. All videos were analysed using the Protocol for Language Arts Teaching Observation (PLATO), developed by Grossman et al. (2013).

PLATO allowed us to analyse teaching practices systematically, focusing on aspects of teaching that have been found important for student learning in empirical research (Klette et al., 2017). One of these aspects is what PLATO labels Intellectual challenge (IC), which captures teaching that encourages practices such as idea generation and analytic thinking. The sample consists of video-taped social science lessons from 16 social studies classes in different lower secondary schools from Denmark and Norway. Of the total number of segments (N= 183), we used the PLATO scores to identify segments that scored at the highest level for IC.

Video observations were conducted using a set-up with two cameras (one in front to capture the students and one in the back to capture the teacher) and two microphones (one in the ceiling in the middle of the room to capture student talk and one worn by the teacher to capture teacher talk). The research team filmed 4-6 lessons in each classroom.

For the purpose of this study, we have conducted analyses in several steps. First, all videos were analysed using the PLATO manual as described above. To identify lessons that include activities promoting higher order thinking, we sampled segments using the element Intellectual Challenge, which is defined as teaching that "promote sophisticated or high-level

analytic thinking, including synthesizing and evaluating information and/or justifying or defending their answers or methods” (Grossman et al., 2013). Only segments scoring at the highest level were included for further analysis. Second, we reviewed all segments that scored at the highest level for IC to produce an overview of the kinds of knowledge, concepts and activities present, by noting down the social scientific concepts used and what kind of task the students were working on (i.e., how students were cognitively activated). Third, we selected a few segments that represented a variation in terms of tasks and analysed them thematically using the framework adapted from Anderson & Krathwohl (2001).

Preliminary findings

Using the results from the PLATO-coding of the QUINT-material, we found that there are segments with a high score on “intellectual challenge”. The content of these segments shows a variety of themes, pointing towards higher order thinking not being confined to certain areas of social science education. In the thematic, qualitative analysis we found that there are parts of the segments that encourage student’s higher order thinking, either by facilitation student’s interaction with complex knowledge, or engaging them in demanding cognitive processes. The relationship with demanding tasks on the two dimensions is not linear – it is possible to have a cognitively demanding task with little knowledge, and simple tasks performed on complex knowledge. In order to understand what higher order thinking can mean in social science education or analysis shows that it is necessary to work with a two-dimensional model that can capture the cognitive processes as well as the different types of knowledge. Furthermore, in some examples, it seems to be the case that the teacher either encourages the students to give reasons for statements or to express an opinion. This could mean that there is a trade-off between the development of reasoned argument, and formation and expression of opinion on the other hand.

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