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Article

Teaching higher-order thinking in social studies: The role of content coverage and intellectual challenge

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Highlights:

- Higher-order thinking is central in education for democracy and citizenship.
- It requires student access to content knowledge and encouragement to partake in advanced inferential analysis.
- Our findings indicate that the two knowledge and analysis have different importance among the teachers in the three contexts.

Purpose: The aim of this study was to explore opportunities to develop higher-order thinking for students in social studies, with a focus on teachers' content coverage and support for engaging in social studies analysis.

Design/methodology/approach: A video study using naturalistic classroom observations of 80 social studies lessons was conducted in Denmark, Norway, and Sweden using a predefined observation manual.

Findings: The findings showed different patterns of emphasis on content coverage and intellectually demanding analyses across classrooms in Denmark, Norway, and Sweden.

Practical implications: The findings contribute empirical knowledge about naturally occurring classroom practices that can be used for professional development. They also highlight how contextual factors may influence teaching in social studies.

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1 INTRODUCTION

Higher-order social studies thinking, which is understood as high-inferential and analytical thinking about socio-political issues, is essential for citizenship education. It can serve democratic purposes such as enabling one to assume knowledgeable stances on political issues according to their values while taking the standpoints and perspectives of others into consideration (Lim, 2011; Sandahl, 2015). This is crucial in a time when democracies all over the world are challenged by post-truth thinking and increasing political polarization (Wikforss, 2021). In the Nordic context, higher-order thinking is a major priority in social studies[1] curricula, as evidenced by the emphasis placed on analytic and critical thinking (Ledman, 2019; Seland et al., 2021). The promotion of higher-order thinking in social studies requires more than engaging students in cognitively demanding tasks and activities. Research has indicated that students also need in-depth knowledge of content and concepts (Christensen & Mathé, 2023; Blanck, 2021; Sandahl, 2015; Tväråna & Jägerskog, 2023). However, teachers might face challenges in prioritizing higher-order thinking within the restrictions of the relatively few hours allocated to social studies per week in the Nordic context (Alvunger, 2018; Hidle & Skarpenes, 2021). Observational studies analyzing actual classroom practices report that social studies teachers tend to favor clear explanations of concepts and content (Reichenberg, 2018), and opportunities for higher-order thinking are scarce (Saye et al., 2018). Moreover, intervention (Tväråna, 2019) and in-depth observation studies (Christensen & Mathé, 2023) indicate that students often lack the required content or concepts to fully engage in higher-order thinking. In this study, we aim to address similar questions but using a broader, more systematic, and comparative approach. Thus, we applied a standardized observational protocol to study the patterns of teaching practices as they emerge in situ in naturally occurring teaching in three Nordic contexts. This comparative approach allowed us to discuss social studies in the three contexts and elucidate situated practices that could be useful for researchers and teacher educators across these settings (Hahn, 2006; Löfström & Grammes, 2020).

Only a few systematic and large empirical classroom studies have been conducted on social studies teaching in the Nordic and international contexts, and even fewer studies have examined social studies teaching across countries (e.g., Børhaug, Sæle, & Sætre, 2022; Hansen, 2020; Sandahl, Tväråna, & Jakobsson, 2022; Skjæveland, 2020). This has, in turn, resulted in calls for large classroom studies (Sandahl et al., 2022). In this video study, we investigated teaching practices related to providing students access to in-depth knowledge and encouragement to engage in higher-order thinking in naturally occurring social studies teaching. Our empirical data were obtained from a large-scale video study conducted in the Nordic context (see Klette, Blikstad-Balas & Roe, 2017).

In this study, we analyzed video recordings of 80 lower-secondary social studies lessons from Demark, Norway, and Sweden. Using the intellectual challenge (IC) and conceptual richness of instructional explanations (ROC) rubrics from the Protocol of Language Arts Teaching Observation (PLATO) manual (Grossman, 2015), we aimed to determine the extent to which and how teachers provided opportunities for higher-order thinking across

the three Nordic contexts. IC addresses tasks and activities that require analytic responses (i.e., high-inferential thinking versus rote and routines responses), while ROC addresses how instructional explanations help students gain access to conceptual disciplinary knowledge. Additionally, we examined the differences in the teaching patterns of these elements and how they vary between and within lessons as well as within countries. The research questions that guided the analysis are as follows:

- RQ1: To what extent does lower-secondary social studies teaching emphasize content explanations and/or engaging students in intellectually demanding activities and analyses, and what is the relation between these two kinds of teaching activities?
- RQ2: How do lessons with high emphasis on content explanation and/or intellectual challenge offer opportunities for higher-order thinking?

2 HIGHER-ORDER THINKING AND SOCIAL STUDIES THINKING CONCEPTS

Research on social studies education emphasizes that higher-order thinking involves making use of the associated content, concepts, and skills to solve or make sense of new or unfamiliar problems (Christensen & Mathé, 2023; Newmann, 1990; Solhaug, 2006). Solhaug (2006) underscored that higher-order thinking "requires the cognitive combination of pieces of information to explore a task" (p. 268). Similarly, based on interviews and classroom observations, Newmann (1990) defined higher-order thinking in social studies as thinking that "challenges the student to interpret, analyze, or manipulate information" about political and social questions and problems that "cannot be resolved through the routine application of previously learned knowledge," as compared to lower-order thinking that "demands routine, mechanistic, application of previously acquired knowledge" (p. 44). Newmann (1990) also stresses that it is important for students to have access to the relevant skills and content knowledge for them to be able to engage in higher-order thinking.

Many scholars from the social studies education domain have argued that the knowledge and skills needed for higher-order thinking are both general and subject-specific (Christensen & Mathé, 2023; Tväråna, 2019; Tväråna & Jägerskog, 2023). Therefore, we used the distinction between the *first-* and *second-order concepts*[2] defined by Sandahl (2015) for social studies education to supplement PLATO and specify what higher-order thinking and reasoning skills in social studies can look like. This distinction only posits the specific forms of higher-order thinking that could be included in social studies and relates to the distinction between analytical and high-inferential thinking versus factual rote and recall thinking in relation to the IC element of the PLATO manual.

The distinction between first- and second-order concepts can be traced back to Lee's (1983) article on history teaching and educational work on historical consciousness, which had a significant impact on the field of history education in England in the 1970s (Seixas, 2017). We would also like to highlight that the distinction resembles that proposed by Bateson (1972) in his seminal work on first- and second-order cybernetics.

Second-order concepts require *procedural knowledge* (knowing how) as opposed to *propositional knowledge* (knowing that; Ryle, 2009). After observing social studies lessons and conducting teacher interviews, Sandahl (2015) adopted six second-order thinking concepts from history for social studies education: causality, perspective-taking, use of evidence and inference, compare and contrast, abstraction, and evaluation. First- and second-order concepts are often interrelated, as interpretation always requires something to be interpreted. Sandahl (2015) argued that first- and second-order concepts are especially important for developing complex and conceptual understandings of social structures, phenomena, and students' political lives, which, in turn, will prepare them for knowledgeable and critical participation as citizens.

First-order concepts involve *propositional* and *compound concepts*. Propositional concepts refer to a specific entity such as the "parliament"; compound concepts are conceptually more complex, multifaceted, and abstract and involve the compositional structures of related properties. An example of a compound concept is democracy, which involves citizen participation within the political sphere, rights, actual democratic structures, institutions, and so on. According to Milligan and Wood (2010), compound concepts (Sandahl, 2015) are especially powerful in social studies, as they can be generalized and used to understand new situations and phenomena. According to Newmann (1990), they "take students beyond their immediate experience" (p. 46; see also, Bernstein, 2000; Young & Muller, 2013).

In sum, while we can distinguish between higher- and lower-order thinking for heuristic reasons, in practice, these two are intertwined and will often be taught together. Since higher-order thinking involves applying knowledge to comprehend new problems (Christensen & Mathé, 2023; Newmann, 1990; Solhaug, 2006), students need (lower-order) information about the problems to engage in higher-order thinking. Higher-order, analytical thinking in social studies can be described using the six thinking concepts defined by Sandahl; however, that list is not necessarily exhaustive for higher-order thinking in social studies. In other words, while the IC aspect of the PLATO manual covers Sandahl's higher-order concepts, it could also include other advanced skills. In this study, we use the elaboration of higher-order thinking proposed by Sandahl (2015) as an inspiration for the empirical analysis but not as a complete checklist.

3 PREVIOUS EMPIRICAL RESEARCH

Here, we discuss previous research relevant to the present study. First, we briefly discuss some comparative perspectives on social studies teaching before focusing on previous empirical research in the Nordic context.

3.1 Comparative perspectives on social studies teaching

Comparative perspectives on education highlight how teaching is culturally embedded (Hahn, 2006; Luoto, 2023) and especially how it enables us to view specific teaching practices from broader and, thus, less familiar perspectives. In social studies education in the

Nordic context, attention to comparative perspectives has been lacking despite the field's general interest in comparative approaches (Löfström & Grammes, 2020). One important exception is the study conducted by Brondbjerg, Christophersen, Jakobsen, and Sørensen (2014), who studied upper-secondary teachers' and students' perceptions regarding social studies in Denmark and Norway. They found that there are significant similarities in how teachers and students perceived social studies teaching across the two countries. However, teachers and students in the Danish sample expressed a stronger inclination toward collaborative teaching practices, such as group work and dialogue-based teaching, than their Norwegian counterparts. This corresponds with the findings of international studies from citizenship education, such as *the International Civic and Citizenship Education Study* (ICCS) from 2009, 2016, and 2022 (Biseth, Hoskins, & Huang, 2021; Schulz et al., 2018; Storstad, Carspesen, & Wendelborg, 2023), which underscore that teaching practices among the three Nordic countries share similar patterns related to a so-called open classroom climate, i.e., opportunities to discuss issues and express opinions in class.

Brondbjerg et al. (2014) argue that structural factors, such as how the social studies subject is constructed and differing teaching cultures, together with the rational choices that teachers make, can potentially explain the cross-cultural differences. For example, they argue how a stronger connection to limited social science disciplines (e.g., political science and sociology) may allow teachers in Denmark more flexibility when teaching the subject compared to those in Norway. In the language of Bernstein (2000), the weaker classification of the Norwegian social studies subject means that more content will need to be covered to meet curricular requirements. This might come at the expense of working with other social studies goals such as higher-order thinking (Alvunger, 2018; Hidle & Skarpenes, 2021).

3.2 Previous research on classroom teaching in social studies

In the Nordic context, it is widely agreed upon that one of the primary goals of social studies is to develop students' knowledge and skills for higher-order modes of thinking (Ledman, 2019). Previous empirical research highlights the role of the quality of social-studies-teaching practices in achieving this goal. In a survey study conducted in Norway, Mathé and Elstad (2018), for example, found that the quality of social-studies-teaching presentation and facilitation of content, which includes presenting and discussing different perspectives, seemed to have impacted the value students' prescribed to the subject and their perceptions of its relevance to citizenship education.

However, as stated, only a few studies map social-science-teaching practices systematically, especially across multiple classrooms, contexts, and countries. The limited available observational studies on teaching practices have similarly reported that teachers in Norway and Sweden tend to rely on teacher-centered forms of instruction, such as lectures combined with recitation patterns (i.e., IRE/F patterns) or shorter periods of peer conversations and individual seatwork (Öberg & Bäckström, 2021; Reichenberg, 2018) often guided by textbooks as the structuring element of teaching (Aashamar, Bakken & Brevik,

2021; Brondbjerg et al., 2014; Solhaug, Borge & Grut, 2020). Similar to Brondbjerg et al. (2014), Reichenberg (2018) noted that the logic of social studies subjects itself might be the cause of the teaching patterns observed in his study. According to him, social studies are content-driven; thus, teachers might feel the need to ensure that students have access to content knowledge, favoring clarity and control over the pacing of learning, the direction of attention, and the selection of content. In an interview study, Olsson (2016) found that Swedish social studies teachers shared a common tradition regarding content selection, and teaching practices.

Small-scale exploratory case studies have reported that social studies teachers challenge students to engage in higher-order thinking (Sandahl, 2015; Tväråna, 2018). Sandahl (2015) reported that Swedish students utilized second-order concepts such as social science causality, perspective-taking, abstraction, and evaluation in the upper-secondary classrooms of six social studies teachers. The study was conducted using data from observations and teacher interviews. Through an exploratory study of 155 upper-secondary students' essays on the topic of societal power issues in the same context, Tväråna and Jägerskog (2023) showed that, while students demonstrated higher-order and critical-reasoning skills, which included applying concepts, reasoning, and argumentation, they tended to emphasize causal explanations instead of how power is exercised through agency. They concluded that "it was clear that many students lacked sufficient background information on the issue they had chosen, and therefore were often not able to make in-depth analysis" (p. 20). Similarly, an observational study of lower-secondary schools in Denmark and Norway conducted by Christensen and Mathé (2023) indicated that when students were challenged to engage in higher-order thinking, the relationship between their focus on content knowledge and process was not always linear. According to these authors, this implies a tradeoff between giving students' access to a relevant knowledge base and their engagement with intellectually challenging thinking processes.

To summarize, previous research proposes the need to distinguish and clarify the relationship between the content required for higher-order thinking and students' opportunities to engage in processes that encourage higher-order thinking (Christensen & Mathé, 2023; Sandahl, 2015). The present study contributes to this research by more systematically and quantitatively investigating the relationship between teaching practices that focus on providing students with access to complex content coverage and with opportunities to engage in cognitively demanding assignments and activities that stimulate higher-order thinking. Thereby, our study adds to previous research by focusing on the instructional work teachers do regarding content as well as the inferential work of students.

4 PLATO: A VIABLE ANALYTICAL FRAMEWORK FOR OBSERVING HIGHER-ORDER THINKING IN SOCIAL STUDIES?

The PLATO manual, which was originally developed to capture features of language arts instruction (Grossman, 2015), consists of four overall domains (constructs) divided into twelve elements—two of which are relevant to this study. All elements are to be coded on

a four-point scale to distinguish between high-end scores (3–4), which reflect strong or substantial evidence for the given practices, and low-end scores (1–2), which indicate weak or inconsistent evidence. For this study, we used the PLATO manual because of the conceptual features of two specific elements: intellectual challenge (IC) and conceptual richness of instructional explanations (ROC[3]; see Appendix).

The ROC element captures how teachers present content knowledge to students. *Content* refers to specific propositional knowledge, concepts, and skills (such as those that a teacher explains to students when teaching how to engage in a high-quality disciplinary discussion). Only public whole-class representations are factored into the scoring (Grossmann, 2015). The teaching scores on the high-end of ROC (3–4) suggest that teachers use conceptual language (social science categories, classifications, models, and theories) and favor interpretations in their presentation of content. Low scores (1–2) suggest surface-level representations of social studies content, focusing on descriptions or merely definitions of concepts, with little in-depth or conceptual understanding. Low scores also indicate the absence of teacher representations in an instructional segment.

IC captures whether teaching encourages students to engage in high-level analytical and inferential thinking that goes beyond the descriptions or accounts of social studies content or the mere definitions of concepts (Grossmann, 2015). At the high-end (scores of 3–4), IC reflects student engagement in tasks and activities that require high-level analytical or inferential thinking, as opposed to rote learning (scores 1–2). Moreover, IC includes the time spent on activities, which is rated as follows: “1” indicates that students spent more than 90% of the instructional segment on rote/recall tasks, while “4” indicates that most of the activities in the segment required analytical or inferential thinking.

The PLATO was not initially developed for the analysis of social studies, which can limit its viability for the observation of higher-order thinking in social studies, as subject-specific dimensions of higher-order thinking in social studies are not targeted. However, the PLATO has been used for observations across different school subjects (Klette, 2023) and for analyzing aspects of high-order thinking in language arts (Tengberg, Blikstad-Balas, & Roe, 2022) and social studies (Christensen & Mathé, 2023). The existing definitions of higher-order social studies thinking focus on applying in-depth knowledge and skills related to new phenomena or societal issues and problems (Christensen & Mathé, 2023; Newmann, 1990; Solhaug, 2013). According to the PLATO, a task or activity that requires inference or analysis can justify a PLATO score of 3 or 4 regardless of the epistemic structure of knowledge used by the students. To address this limitation, we considered IC and ROC together. Nonetheless, even if lessons receive high-end scores for both IC and ROC, they may not be consistent with the definitions of higher-order social studies thinking, as high scores for both ROC and IC do not guarantee sufficient integration.

Furthermore, ROC does not differentiate between teachers’ representations of first- and second-order concepts (Sandahl, 2015) and, instead, focuses on the conceptual richness and deeper understanding of the concepts used. While IC captures assignments and activities that require students to use second-order concepts, it does not differentiate between

the different types of second-order concepts (e.g., comparison, perspective-taking, abstraction, and evaluation). As such, invoking second-order thinking concepts in social studies is a subset of higher-order thinking in general. Hence, the six thinking concepts are a part of the social scientific higher-order thinking but are not necessarily exhaustive.

Despite its limitations, the PLATO offers elements that systematically differentiate between the quality of student exposure to the given content (descriptive first-order propositional concepts or more complex conceptual composite concepts; ROC) and opportunities to apply second-order concepts in tasks (IC) requiring high-inferential procedures such as interpretation and analysis. Therefore, in this paper, we combined a PLATO analysis with empirical illustrative examples of different combinations of high- and low-end ROC and IC to illustrate how the relationship between the content- and procedure-related dimensions plays out differently in a sample of Nordic social studies lessons.

5 Study context: Social studies in three established Nordic democracies

The three Nordic countries of Denmark, Norway, and Sweden share several common features: They have small populations, interwoven histories, (more or less) similar languages, and traditions as social democratic welfare states in established democracies. Schooling in the Nordic region shares structural patterns, including comprehensive systems without tracking or streaming (Klette, 2018). Furthermore, schooling in Nordic countries has a long tradition of prioritizing democratic citizenship as an educational aim, similar to many Western countries (Eurydice, 2017; Schulz et al., 2018).

School subjects are socio-historical constructs (Goodson, 2013). Social studies integrate knowledge from several social science disciplines to educationally promote democratic citizenship (Christensen, 2022; Journell & Halvorsen, 2023). On the one hand, there are striking similarities between the social studies subjects in Denmark, Norway, and Sweden. On the other hand, there are key differences that should be highlighted: Social studies in lower-secondary education is more multidisciplinary in Norway than in Denmark and Sweden (Christensen, 2023; Sandahl et al., 2022). Like in its neighboring countries, it draws knowledge and identity from the economics, political science, and sociology disciplines. Further, it includes knowledge from the disciplines of history and geography, which are separate subjects in Denmark and Sweden. In addition, the Norwegian social studies subject at the lower-secondary level is allocated a higher number of lessons targeted toward social studies education, as illustrated in Table 1.

Bernstein's (2000) concept of *classification* can be used to describe the differences between social studies in Scandinavia. Classification refers to the degree of differentiation, or insulation, between the content knowledge within a school subject and the strengths of boundaries to other subjects and practices. The classification of social studies is weaker than those of other school subjects that have longer histories and closer relationships with specific disciplinary fields, such as mathematics. The social studies subject in Norwegian

lower-secondary education is classified less strongly than in Denmark and Sweden, as evidenced by its more multidisciplinary character. The social studies syllabus at the lower-secondary level in Sweden shares many similarities to that in Denmark with regard to how it is classified (Sandahl et al., 2022).

Brondbjerg et al. (2014) raised questions regarding the respective Nordic curricular social studies traditions. According to these authors, the development of the Danish social studies curriculum aligns with a categorical approach to teaching (Bildung), as it outlines how students should engage with content to make it personally significant. The curriculum, for example, underscores that "teaching should promote the independence and confidence of students so they can discuss and take a stance on societal issues on a qualified basis" (Børne- og Undervisningsministeriet, 2019, p. 17). Given its strong emphasis on student engagement, the Norwegian social studies curriculum is more in line with what Klafki (2001) calls "formal Bildung."

Table 1. Social studies at the lower-secondary level in Nordic countries

Country	Name of subject	Grade	Allocated hours	Disciplinary fields	Core elements in the curricula
Norway	Samfunnsfag	8–10*	249	Political science, international politics, economics sociology, history, and geography	To ponder and explore social affairs, critical thinking, democratic understanding and participation, sustainable society, identity, and community
Sweden	Samhällskunskap	7–9	75 (+35)**	Political science, economy, sociology, and law	Sociology, politics, economics, and methods
Denmark	Samfundsfag	8–9	120	Political science, international politics, economy, and sociology	Individuals and communities, information and communication, rights and the juridical system, society's resources and their distribution, decision making, and political ideas

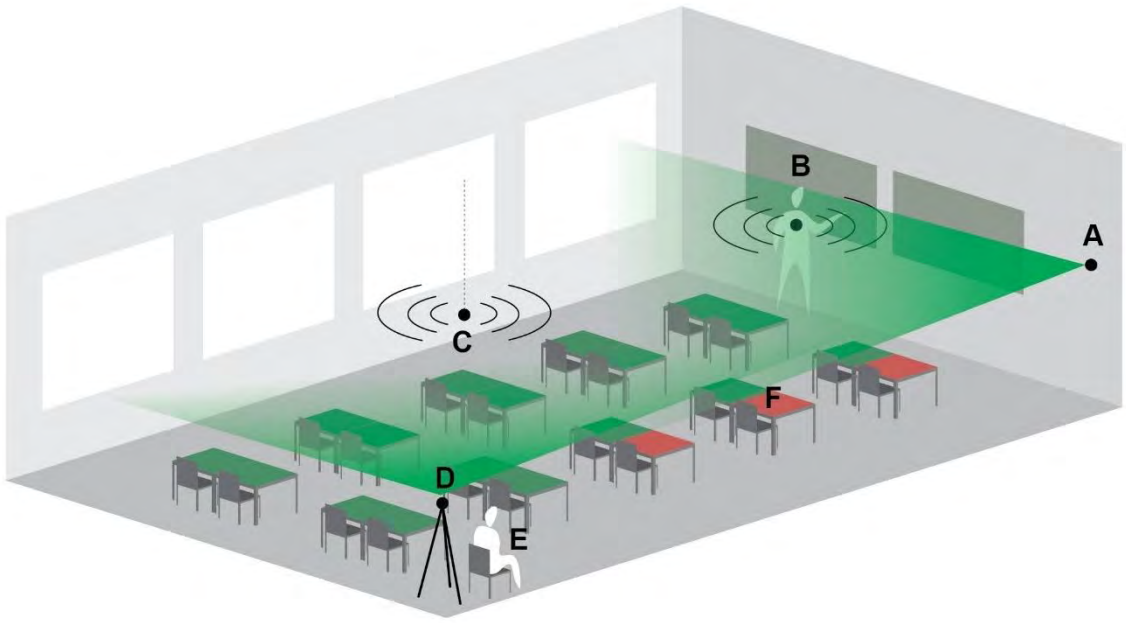
*Norway requires 10 years of compulsory primary and secondary education (1–10), which starts at the age of six. Sweden and Denmark require nine years of compulsory primary and secondary education (1–9), which starts at the age of seven. Thus, the students filmed in this study were from the same age group.
**In Swedish lower-secondary schools, social studies is allocated at least 75 hours in grades 7–9. In addition, teachers are free to divide another 35 hours among social studies, history, religion, and geography (*Samhällsorienterande ämnen* [SO]).

6 METHODS AND RESEARCH DESIGN

This study reports on data from a larger Nordic video study LISA Nordic conducted for the Quality in Nordic Teaching (QUINT) project led by Kirsti Klette. The project used video data to investigate aspects of teaching quality for mathematics, language arts, and social science education across all five Nordic countries (Klette, Blikstad-Balas & Roe., 2017). During the school year 2019–2020, the QUINT team collected video data of naturally occurring classroom teaching in 24 classrooms in 18 carefully sampled lower-secondary schools in Denmark, Finland, Iceland, Norway, and Sweden (grades 8–9, ages 14–15 years). Four to six consecutive lessons were filmed in each classroom.

As illustrated in Figure 1, the observational design used two cameras to capture classroom interactions. Cameras with wide-angle lenses were placed in each corner of the classroom, one facing the teacher (A) and one facing the students (D). To ensure audibility, two wireless microphones were used: One microphone was placed on the teacher (B) to capture teacher–student interactions, while the other was placed in the middle of the classroom to capture whole-class talk and discussions (C). In the figure, (E) illustrates the position of the observer, while (F) represents the camera blind spots reserved for non-participating students. In addition to the filming, artifacts related to the instruction, such as copies of student work, teacher-made handouts, PowerPoint presentations, and whiteboard illustrations and notes, were collected.

Figure 1. Illustration of the camera setup for LISA Nordic study



6.1 Sample

We analyzed video data from Danish, Norwegian, and Swedish social studies lessons from the QUINT project and LISA Nordic study. The sample included 18 schools, 24 classrooms, and 80 lessons. Each of the 80 lessons lasted for 45–60 minutes. Table 2 provides an overview of the study sample. Schools from all three countries were sampled to ensure variation in terms of socioeconomic background (SES), demography (urban/rural), school size, and students with external migration backgrounds—all criteria that are considered critical for the type of variation we see among lower-secondary schooling and teaching in the Nordic countries (OECD, 2019; Reimer et al., 2018). Furthermore, overall, the teachers represented an equal distribution of genders but varied in age, educational background, and years of teaching experience.

Although the sample is not representative in a statistical sense, it might be deemed typical in the sense that it conveys possible variation, which is critical for teaching quality at this level in the Nordic context. The number of lessons (n = 80) and teachers/classrooms (24) included provide sufficient information for rigorous and systematic analyses while still accounting for contextual factors, thus elaborating our understanding of functional, structural, and cultural equivalences (Schweisfurth, 2019) in comparative classroom research.

Table 2. Study sample overview

Country (geographic context)	Number of schools/classrooms	Number of lessons/number of 15-minute lesson segments
Denmark	8/10*	25/104
Norway	6/6*	24/79
Sweden	4/8*	31/96
Total	18/24	80/279

On some occasions, two classrooms were sampled in each school in Denmark and Sweden. In some schools, double lessons (90–120 minutes) were sampled instead of four single lessons (45–60 minutes).

6.2 Video analysis and observation systems

Combined with high-quality video data, observation designs evoke analytical rigor by enabling overarching systematic comparisons and allowing the observation of finer-grained teaching practices and interactions (Blikstad-Balas, 2017; Xu, Aranda, Widjaja, & Clarke, 2019). We deployed the standardized observation manual PLATO (Grossman, 2015) to organize, systematize, and analyze situated classroom practices across contexts.

In the PLATO manual, scores are given on a four-point scale. However, the manual makes an important distinction between low-end (1–2; no or limited evidence) and high-end scores (3–4; evidence with some weakness or consistent strong evidence). In this article, we report only on the distribution between low- and high-end scores.

6.3 Analytical procedures

We conducted the video analysis in two steps: The first step consisted of a PLATO analysis. Following the PLATO manual, the 80 social studies lessons were divided into 15-minute lesson segments to obtain a total of 279 segments. Since we coded for all 12 PLATO elements in this first round of coding, we followed the general scoring requirements outlined in the PLATO manual (Grossman, 2015) and other scoring rubrics (Pianta, La Paro, & Hamre, 2008) and divided all lessons into segments of 15 minutes each. This procedure promotes rigor and reliability when scoring complex phenomena (Bell, Dobbelaer, Klette, & Visscher, 2019; Kane et al., 2012). Research on applying different time scales when scoring (15 minutes, 20 minutes, or whole lesson) suggests higher reliability and precision if the lesson is divided into smaller units (Hill, Charalambous, & Kraft, 2012; Praetorius, Pauli, Reusser, Rakoczy, & Klieme, 2014) and severe problems in keeping track of the different elements if the unit is longer than 20 minutes (Bell et al., 2019). All segments were coded by certified raters, including the first and third authors. The first author watched and double-coded all Danish and Swedish lessons for inter-rater agreement, while only 15% of the Norwegian material was double-coded for inter-rater agreement. As we have only reported on high- and low-end PLATO scores in this study, agreement was 97%

We employed descriptive statistics, cross-tabulations, and one-way analyses of variance (ANOVAs) to answer RQ1 and determine the extent to which the observed social studies teachers in Denmark, Norway, and Sweden emphasized complex presentations of content and cognitively demanding tasks and whether statistically significant differences exist between the teachers we observed within the three different contexts.

In the second step, we used a purposeful subsample of all lessons with high-end ROC and IC scores. The subsample was based on the maximum score of discrete lessons to understand how teachers integrate the two elements within lessons and included a total of 73 lessons and 168 segments. At this stage, we examined how the two elements, ROC and IC, developed over the sequence of segments within a lesson, checking for developments and possible patterns.

After combining the ROC and IC data, we sorted the lessons according to the different combinations of high- and low-end ROC and IC scores, as presented in Table 3.

Table 3. Different combinations of high- and low-end ROC and IC

Constellations of high ROC/IC	Intellectual challenge (IC)	Conceptual richness of instructional explanations (ROC)
Strong emphasis on IC	High-end (3–4) in at least one lesson segment	Low-end (1–2) in all lesson segments
Strong emphasis on ROC	Low-end (1–2) in all lesson segments	High-end (3–4) in at least one lesson segment
Combined emphasis on ROC and IC	High-end (3–4) in at least one lesson segment	High-end (3–4) in at least one lesson segment

Next, the first author re-watched the 73 lessons, identified representative examples in the data, and transcribed and translated examples of each of the combinations listed in Table 3 (i.e., qualitative empirical illustrations).

6.4 Limitations and research ethics

This study is not statistically generalizable to the Nordic or the Danish, Norwegian, or Swedish national contexts because of the lack of randomization and the number of schools and classrooms considered. Thus, caution should be exercised when drawing conclusions from the observational data reported herein. However, the schools were distributed over different types of variables that are known to be relevant for possible variation in Nordic schooling (OECD, 2019) and citizenship education (Biseth et al. 2021) at this level, such as demography, school size, students' socio- economic background, and proportion of students with external migration backgrounds. We argue that the employed sampling procedures, together with the data collection strategies and data analyses used, provide a level of comparative rigor and accuracy that enrich our understanding of the complexities of classroom teaching for this school subject in the Nordic context. While camera reactivity might have affected the students' and teachers' classroom practices, research on the concept has demonstrated its limited effect on teaching practices when the observation period exceeds one lesson (Lahn & Klette, 2022; Praetorius, McIntyre, & Klassen, 2017).

Furthermore, dividing lessons into and coding 15-minute segments may conflict with the lesson (45/60 minutes) as a more "natural" unit for the sequencing and pacing of teaching. Thus, we also use lessons as a unit in the second step of the analyses, addressing some of the limitations. Nonetheless, it is important to note that the different time scales (i.e., 15-minute sequences versus 45–60-minute sequences) might cause some validity problems related to the different scales of analysis when interpreting patterns and making inferences.

The LISA Nordic study received ethical approval in Denmark, Norway, and Sweden. We collected voluntary and informed consent from all participants, including teachers, students, parents, and assistant teachers. Non-participating students were positioned in classroom areas that were outside the camera's field of view. Efforts were made to avoid capturing sound from non-participating students by muting the microphones when they interacted with the teachers or participated in whole-class teaching, ensuring compliance with the students' and parents' right to consent (National Committee for Research Ethics in the Social Sciences and the Humanities, 2021).

7 RESULTS

In this section, we first discuss the PLATO analysis related to the two elements ROC and IC. To exemplify how these behave in different combinations, we discuss typical illustrative examples comprising different combinations of the two elements.

7. To what extent were students exposed to IC and ROC?

In Table 4, we display the descriptive statistics of the means and distributions of the high- and low-end scores of the two PLATO elements across the samples from Denmark, Norway, and Sweden.

Table 4. Descriptive statistics of the IC and ROC elements across the Danish, Norwegian, and Swedish samples

Context	PLATO element	1. Low end scores (1–2): almost no or limited evidence	2. High end scores (3–4): evidence with some weaknesses or consistent strong evidence	Number of 15-minute segments	Mean score	SD
Denmark	IC	40.4%	59.6%	104	2.75	0.810
	ROC	50%	50%	104	2.48	0.812
Norway	IC	50.6%	49.4%	79	2.42	1.008
	ROC	74.7%	25.3%	79	1.96	0.775
Sweden	IC	79.2%	20.8%	96	1.93	0.700
	ROC	54.2%	45.8%	96	2.47	0.833

The distribution of scores in Table 4 indicates considerable variation across the Danish, Norwegian, and Swedish classrooms. The table also illustrates distinct teaching patterns between the three contexts: Teachers in Denmark provided opportunities for high-end IC in almost 60% of the observed segments and for high-end ROC in half of them, while the observed Norwegian teachers provided high-end IC in half of the observed 15-minute segments and high-end ROC in 25% of the segments. Finally, the Swedish teachers provided high-end IC in 21% of the segments and high-end ROC in 46% of the segments. We conducted ANOVAs to test the significance of the between-countries differences in our data to find that these were significant for IC [$F_{(2,276)} = 18.00$, $p < 0.001$] and ROC [$F_{(2,276)} = 6.39$, $p = 0.002$].

7.2 To what extent do IC and ROC co-occur?

As previous research has indicated that access to in-depth content knowledge and procedural skills are mutually dependent, we examined whether teachers simultaneously offered students exposure to complex explanations and opportunities to engage in cognitively demanding tasks that require higher-order thinking. To do so, we conducted cross-tabulations between ROC and IC in Denmark, Norway, and Sweden, as illustrated in Table 5.

Table 5. Cross-tabulations between IC and ROC across 15-minute segments

Context		**Low end ROC**	**High end ROC**	**Total**
Denmark	Low end IC	0	16	42
	High end IC	26	36	62
	Total	52	52	104
Norway	Low end IC	27	13	40
	High end IC	32	7	39
	Total	59	20	79
Sweden	Low end IC	40	36	76
	High end IC	12	8	20
	Total	52	44	96
Total		325	232	558

Accordingly, we found that the teachers in Denmark combined high-end IC and ROC in 36 (35%) of the 104 15-minute segments, which means once every lesson on average. In our data from Norway and Sweden, the teachers combined high-end ROC and IC less frequently. These teachers provided opportunities for students to experience high-end ROC and IC in 8,3% (Sweden) and 8,9% (Norway) of the instructional segments, which amounts to once every third lesson on average. In other words, it is more common in Danish classrooms for teachers to combine conceptual content *and* simultaneously challenge students in terms of analytical and high-inferential thinking. We conducted a one-way ANOVA to determine any significant differences between the means of the two PLATO elements across the teachers in Denmark, Norway, and Sweden; we tested for the mean ROC, IC, and segment scores on the high end of both elements to find that all differences were significant and relatively large. IC showed the most variability [$F_{(2,276)} = 18.00$, $p < 0.001$], followed by the segments with high scores for *both* ROC [$F_{(2,276)} = 6.39$, $p = 0.002$] and IC [$F_{(2,276)} = 16{,}37$, $p < 0.001$].

Table 6. Features of instruction with different levels of ROC and IC in lessons

Descriptors based on PLATO	Proportions of lessons across the three study contexts (n = 25_{DK}, $22_{NO,}$ 26_{SE})
1. **Strong Emphasis on Teacher Explanations** (high-end ROC and low-end IC). The lessons were characterized by conceptually complex instructions. However, the teachers introduced conceptions and interpretations rather than engaging with the content or concepts.	DK: 16% NO: 9% SE: 53.8%
2. **Strong Emphasis on Intellectual Challenge** (high-end IC and low-end ROC). The lessons provided challenging tasks and activities that required students to participate in social studies analysis/or inferential thinking, but the teaching design did not include conceptually rich teacher representations of social studies content.	DK: 16% NO: 50% SE: 11.5%

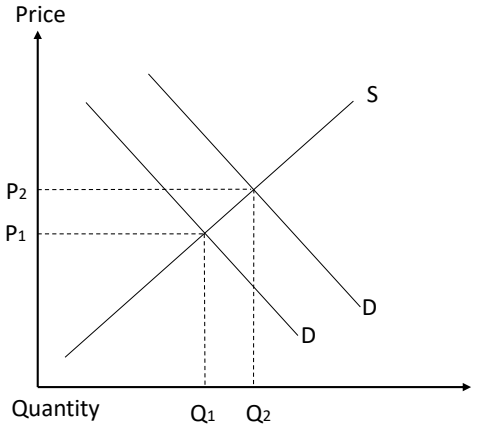
3.	**Combining Teacher Explanations and Intellectual Challenge** (high-end ROC and IC). These lessons provided high levels of ROC and IC in at least one lesson segment, indicating a balance between and emphasis on presentations of conceptually complex social studies knowledge *and* student engagement in intellectually challenging tasks. This category includes lessons that (i) progressed from high ROC to IC and (ii) continually focused on both concerns throughout the lesson.	DK: 68% NO: 40.9% SE: 34.6%

DK = Observed lessons in Denmark, **NO = observed lessons in Norway, and SE = observed lessons in Sweden

Overall, most teachers in this subsample combined high ROC and IC *in* lessons. This indicates that the teachers often provided elaborate content explanations before or while they encouraged student engagement in challenging tasks and activities. Although, we also found recurring features of instruction that prioritized *either* ROC *or* IC, especially in the lessons we observed in Norway and Sweden. In the following sections, we examine examples from the video-recorded lessons that illustrate the different constellations of high IC/ROC.

7.3 Strong emphasis on teacher explanations of social studies content

The illustrative examples discussed below are characterized by a strong emphasis on the presentation of conceptually complex social studies knowledge. While this was an especially frequent occurrence in the Swedish classrooms we observed, it occurred across lessons in all three contexts. In a Swedish lesson focusing on the market economy (and the concepts of supply, demand, utility, and marginal utility), the teacher defined the concepts, provided examples in everyday use, drew a graph of the relationship between the concepts, and applied the graph to different real-world examples. The graph is illustrated in Figure 2. The students were asked to take notes and copy the graphs.



The following excerpt from this lesson illustrates the teacher-led presentation of key concepts but with minimal student participation and demands for intellectual work by the students:

> **Teacher:** When you are working with mathematics, you may call this "y" and this one "x," right?
> **Student:** Yes.
> **Teacher:** We'll forget that in this case; instead, we'll call this "P."
> (…)
> **Teacher:** Now we have our axis. Then, we must draw our two lines. Supply and demand should always be drawn.
> (…)
> **Teacher:** Demand is always negatively curved because of a rule called marginal utility.
> (…)
> **Teacher:** We think like this: Here is our cup of coffee number 1, and here is our cup of coffee number 2. Where 1 intercept, the price of the coffee cup is determined. Understand? (…) If you get another cup of coffee at a café, what is it called?
> **Student:** A refill.
> **Teacher:** Refill. Do refills cost as much as the first cup?
> **Student:** No.
> **Teacher:** It is always cheaper, right? What does our economic law tell us? It tells us that the price is supposed to be here. Why? Because your need for coffee has declined. To get you to buy another cup, the business, especially a café, must reduce the price.

The lesson continued with multiple and more advanced examples illustrating price elasticity. The lesson was rated high (3–4) on all 15-minute segments for ROC and low for IC because it was mainly the teacher who did the "intellectual work" during this lesson. They highlighted how key financial concepts are interconnected and demonstrated their significance for different and related phenomena. However, the stipulated task for the students was to reproduce the graphs and examples on a sheet of paper rather than engage with the graphs and examples. Thus, the lesson exemplifies a teacher-led approach to prioritizing conceptual understanding.

This approach might be important for establishing an epistemic foundation for conceptual understanding and preparing students to independently work with more challenging tasks requiring higher-order thinking in the following lessons. However, prioritizing ROC at the cost of IC across multiple lessons might constrain students' opportunities to practice analysis and interpretation and engage in higher-order thinking, which could become problematic in the long run.

7.4 Strong emphasis on IC

Overall, 25% of the lessons prioritized intellectually challenging tasks and activities that required analysis or inferential or interpretive thinking. In a Norwegian social studies lesson, students created news reports about an international conflict in small groups. The task was as follows:

> You will be divided into groups responsible for an international conflict. You are making a film in the form of a news report/news debate about the conflict. Some central questions to be answered in the film are as follows:
>
> - How did the conflict start (long- and short-term causes)?
> - What is the conflict about? (Who is involved, and what is the conflict about?)
> - What issues need to be resolved to achieve peace?
> - Is there Norwegian or European engagement in the conflict?
> - The state/states must be identified on a map.

The framing of the task required students to identify information about international conflicts as well as their causes and suggest possible solutions for establishing peace. The teacher provided real-world sources with information about the conflicts, such as United Nations web pages, and assisted the students with the videos, primarily with procedural guidance. The lesson received high scores for IC across all lesson segments. Opportunities for students to identify causality and perspective-taking, use and evaluate sources, and identify and analyze highly complex societal problems were required by the teacher's task. This resonates with how higher-order thinking is defined in previous research. Moreover, it requires students to identify propositional knowledge that is needed to understand the conflict (e.g., who is involved, and what is the conflict about?).

This example illustrates a relatively demanding task that provides opportunities for students to engage in higher-order thinking. The task requires students to justify measures to achieve peace in an international conflict, utilizing social studies (historical) causality, which is one of the second-order thinking skills described by Sandahl (2015). It also highlights the interconnected nature of lower- and higher-order thinking in teaching practice (Newmann, 1990), as students are instructed to identify relevant facts about the conflict before applying higher-level analysis. However, it is unclear what a good answer should be; therefore, it could be answered by descriptive means only.

7.5 Combining emphasis on ROC and IC

Most of the lessons in the subsample had high ROC and IC scores in at least one lesson segment. This was especially prevalent in the lessons we observed in Denmark. This shows that ROC and IC can be combined in different productive ways. The teachers combined ROC and IC either by focusing on ROC and then on IC or by maintaining both elements (content focus and intellectual rigor) throughout the lesson. As an example of the latter,

we used an example from a Danish classroom.

This example occurred during a lesson on the relationship between consumption and lifestyles. During the incident, the class applied the Minerva model (see Figure 4)—a marked segmentation model inspired by the sociologist Pierre Bourdieu—to empirical cases. The model distinguishes between modern and traditional lifestyles on the vertical line and between materialistic and idealistic lifestyles on the horizontal line. The lifestyles are assigned specific colors; for example, the "green lifestyle" is characterized by "modern idealism, liberal mindedness, and active environmental awareness" (Christensen & Trojaborg, 2021, p. 46).

During the whole-class talk, students were asked to make connections between the model and their personal lifestyles. The students had previously individually read about and completed tasks about lifestyles, including determining what the Minerva model could convey about their lifestyles and consumer habits. In the example, the teacher further unpacks the model and how to use it to analyze empirical cases. The following excerpt begins when Student 1 self-identifying as having "pink" consumption:

Figure 4. Illustration of the Minerva model from the students' textbook (Christensen & Trojaborg, 2021, p. 46)

Teacher: We can conceive of the model as telling us something about not only lifestyles but also consumption. Can you define what a pink personality is and whether you have some consumption that can exemplify it?

Student 1: It is like me and my family. It is not like I wear or am concerned with "good clothes" or go against stereotypes, things like that. I am just a bit traditional.

(…)

Teacher: Yesterday, I talked with [Student 2's] father, and he bought a nice car (…).

> It could be that your father is a mega-idealist; however, let us see. Perhaps, he had vocational studies. What is his occupation?
> (…)
> **Student 2:** He is a mechanical engineer.
> **Teacher:** (…) It fits. Does he typically read *BT* and *Extra Bladet* [two Danish tabloid newspapers] when he reads newspapers?
> **Student 2:** He reads *BT*.
> **Teacher:** Really? (…) Convenient for us. However, it is also interesting when someone breaks the pattern (…). It could be that [Student 1] has traditional values but also thinks that an Audi is a nice car. They could drive an Audi but essentially be idealistic and traditional.

As can be seen, the teacher acknowledged Student 1's answer and asked them to elaborate on the pink segment of the model. The teacher then provided an example from a conversation with another student's father to exemplify and compare the pink segment to the "violet" segment. Although Student 2's responses confirmed the Minerva model's assumptions, the teacher nuanced and relativized the model, explaining and giving a counterexample by referring to an imaginary example drawn from Student 1's contribution. The instruction was concept-led, and the students and the teacher interpreted the model and deployed it for everyday cases. Unlike previous examples, room for higher-order thinking and IC was maintained by the teacher–student interactions throughout the lesson. In the example, the students used the Minerva model as an analytical social science tool to understand various lifestyles. Through the classroom discussion, the students and teachers connected the model to contextualized meanings from everyday situations, such as the lifestyle of Student 2's father (Sandahl, 2015). The teacher acknowledged that the model was relative by emphasizing that the social reality might play out differently from the model's prediction, thus highlighting the concept as contextual and potentially fallible (Mathé, 2022).

8 Discussion

The aim of this study was to investigate students' opportunities for higher-order thinking related to the roles of content explanations and intellectually demanding instruction in social-science-education classrooms in three Nordic countries. In Section 8.1, we discuss key findings regarding the extent to which content explanations and intellectually demanding instruction were enacted by the teachers and students in this study (RQ1) and how teachers' combined attention to content explanation also emphasized IC in lessons (RQ2).

8.1 Distinct patterns of teaching

As indicated above, there are distinct patterns related to IC and ROC between the teaching

we observed in Denmark, Norway, and Sweden. This finding, together with previous research from Denmark, Norway (Brondbjerg et al., 2014), and Sweden (Reichenberg, 2017), may suggest that IC and ROC have different relative importance among the observed teachers in the three contexts. The teaching we observed in Sweden tended to prioritize conceptually rich ROC. In contrast, the observed teaching in Norway tended to prioritize active student engagement in tasks and activities requiring challenging thinking processes, effectively heeding less to explaining conceptually rich subject content. The teachers we observed in Denmark did not seem to favor either of the two practices to the same extent and often combined IC with imparting conceptual content knowledge to their students. This pattern is surprising, as earlier research reported that implementing IC and ROC at the same time is a difficult balancing act for social studies teachers (e.g., Christensen & Mathé, 2023).

The case of teaching market mechanisms (supply and demand) in Sweden illustrates teacher-led teaching with a high level of focus on learning specific content. There is little focus (at this point) on the students taking a stand. In the case from the observations from Denmark, where the content is segmentation models (the Minerva model), the teacher involves the students to a larger extent. In the case from Norway involving international conflicts, the responsibility of locating relevant content to complete the tasks was given to the students themselves. While the students were not asked to take a stand explicitly, they had to propose solutions to resolve the conflict, which may include expressing their own stance regarding the conflict.

It seems that, in all three contexts, there is a large proportion of teaching aimed at learning social science concepts (such as market mechanisms, segmentation models, and international conflicts in these examples), and there are differences across the teachers both in terms of the depth of the knowledge provided to the students and the degree to which the students are engaged. A further difference is associated with how much they focus on the students taking a stand—this seems to be more prevalent in the example from Denmark and, to some extent, Norway than that from Sweden. However, this assertion must be considered with caution as “assuming a stance” was not an explicit focus of the PLATO framework.

Our data suggest that in a majority of the segments observed in Sweden, the teachers strongly focused on explaining content (concepts). Among the teachers observed in Denmark, the majority seemed to be able to balance teacher explanations with high IC levels. In the observed lessons from Norway, there was either a strong emphasis on IC or a balance between the two elements. Based on the observations, it can be concluded that the patterns of teaching vary within each country as well as across countries. We can identify three ideal types of teaching: (a) the content-oriented teacher explanation with limited dialogue, (b) the task-oriented dialogue with less explanation, and (c) a combination of the two (complex tasks and explanations). We can say that Type (a) is dominant in the observations from Sweden, Type (b) in the observations from Norway, and Type (c) in the observations form Denmark.

So, how can this difference be explained? There are a variety of factors involved here.

One could be related to the content covered. In the observations from Sweden, almost all lessons revolved around issues of economics, and, perhaps, this content lends itself more to teacher explanations in our material. Another explanation could be associated with the pedagogical and didactical traditions, as suggested by Olsson (2016) in the Swedish context. As aforementioned, the critical-constructive didactics of Wolfgang Klafki, and other dialogue-centered pedagogies, have had a strong influence on Danish pedagogy and teacher education. In contrast, the dialogic pedagogy spearheaded by Olga Dysthe is a tradition strongly emphasized in Norway (Svenkerud, Klette & Hertzberg, 2012). This could have had an influence on the teachers in Denmark and Norway.

Another influence could stem from the curriculum, i.e., the ways in which the teaching of social studies is described and operationalized in steering documents. Although we cannot engage in a thorough analysis of the curriculum, we can highlight some striking differences. If we consider *Samhällskunskap* in Sweden, we can see that the aim of the subject is summed up in three bullets that can be paraphrased as (a) knowledge about democracy and democratic values, (b) knowledge about social and economic structures and circumstances, and (c) analytic and critical skills (Skolverket, 2021). In Norway, the subject *Samfunnsfag* is a broader and weaker classified one, and the curricular documents emphasize the development of critical thinking and democratic values, while the competence descriptions stipulate that the students undertake analytical and explorative activities (Utdanningsdirektoratet, 2020). The Danish curriculum for *Samfundsfag* intends to enable students to acquire knowledge and skills that would allow them to form well-founded opinions regarding society and its development. Furthermore, the four competence goals are all (except one) formulated such that they allow the students to take a stand on issues (Børne- og Undervisningsministeriet, 2019).

While the curricula were not thoroughly analyzed, we can see that the Swedish curriculum emphasizes knowledge and skills, the Norwegian one has a strong focus on the development of values and critical thinking, and the Danish one has a relatively higher focus on the students taking a stand through a disciplinary lens. Underlying these goals are more detailed additional goals related to knowledge and skills.

These differences align with those that we see, such as an emphasis on content in the teaching observed in Sweden and the teachers in Denmark being more likely to engage in discussions on values/opinions with the students. It is probably not likely that the coherence occurs due to a direct influence of the curriculum on the teaching. Instead, both the curriculum and the observed teaching reflect diverse cultures of pedagogy, i.e., well-established social patterns of teaching, as reflected by the ideal types. However, it is important to not underestimate the significance of teachers' individual preferences and agency as makers of curricula (Alvunger, 2018; Öberg & Bäckström, 2021).

8.2 Combining high-quality explanations and IC

For RQ2, we aimed to describe how teachers integrated ROC and IC in 73 lessons with high ROC and IC scores. The findings of this study indicate that teachers use various strategies

for integrating explanations of complex content knowledge and intellectually challenging tasks into lessons to engage students in higher-order thinking. The teachers we observed in Denmark integrated intellectually challenging tasks with complex explanations of content knowledge in 68% of the lessons we observed. This is surprising, as earlier research argues that this is a difficult balancing act for social studies teachers (Christensen & Mathé, 2023). In general, the teachers we observed in Norway and Sweden did not integrate the two practices as often. As this combination is important for stimulating higher-order thinking (Newmann, 1990), the empirical qualitative illustrations from Denmark, which we labeled "balancing teacher explanations and intellectual challenge," may provide relevant inputs regarding possible teaching practices, particularly in Norway and Sweden.

We identified illustrative cases that promoted ROC and IC to varying degrees. These cases can inform teacher education and professional development in all three contexts, as they elucidate how teachers can work upon higher-order thinking, effectively combining attention to complex content coverage *and* encouraging students to engage in challenging tasks and activities requiring analysis and reasoning. For example, they can encourage students to engage with second-order concepts such as perspective-taking. In the lessons we observed in Norway and Sweden, there seemed to be a stronger contradiction between the teaching of content knowledge and IC. However, it is crucial to emphasize that, although this study reported distinct and statistically significant patterns within the three contexts, all approaches to higher-order thinking occurred across all three contexts.

The findings of the present study illustrate one of the major benefits of adopting a Nordic comparative perspective on social studies education, as it enables us to view teaching practices from a broader and, thus, less familiar perspective (Hahn, 2006). For example, if we only observed lessons in one of the contexts, the importance of combining ROC and IC, as well as the ideal types described above, might have been less evident to us. Here, it should be noted that the detailed insights into teaching patterns across the three contexts was enabled by PLATO. This highlights how standardized and predefined observation manuals can be useful for recognizing the differences in social studies teaching across national contexts. We also argue that the PLATO exhibits potential for uncovering possible strengths and weaknesses across social-studies-education contexts. Regardless, in this study, we analyzed teaching in three rather similar social studies contexts. It would be interesting to explore whether a similar approach could be viable when comparing dissimilar educational contexts.

While the PLATO elements (to some degree) capture classroom opportunities for higher-order thinking, they did not provide insights into the teachers' didactical purposes. This requires differentiation between subject-specific forms of higher-order social studies thinking (Christensen & Mathé, 2023; Sandahl, 2015; Tväråna & Jägerskog, 2023) and, perhaps, targeted frameworks analyzing the content under consideration.

For professional development, however, the illustrative examples of what characterizes teaching that combines attention to ROC and IC within lessons are especially valuable. Previous research has reported that it is difficult to heed to both ROC and IC at the same time in social studies (Christensen & Mathé, 2023; Tväråna, 2018). The examples from this

study provide empirical illustrations of naturally occurring classroom practices that can serve as practical tools to decompose and approximate targeted teaching practices for higher-order thinking in social studies We would argue that the PLATO manual is especially useful in this regard, as it can be employed to decompose the knowledge and procedural dimensions of higher-order thinking in combination with more subject-specific theories, such as second-order social science concepts (Sandahl, 2015).

9 CONCLUSION

The findings of the present study are relevant, as they contribute detailed insights into teaching patterns as well as illustrative examples of how the teachers in our study from Denmark, Norway, and Sweden generally emphasized different dimensions of higher-order thinking and what the different patterns might represent from the perspective of social studies teaching. The teachers observed in the three contexts displayed different strengths and weaknesses across the two PLATO elements under consideration, namely IC and ROC, in terms of offering students opportunities for higher-order thinking. Thus, the examples presented in this study provide relevant inputs that can be used for the professional development of social studies teachers. However, how teachers' integration of the presentation of complex content knowledge challenges students intellectually varies across boarders as well.

Large classroom studies in the domain of social studies are scarce in the Nordic context as well as internationally, and previous research has provided mixed results regarding what actually goes on in social studies classrooms with respect to students' opportunities to engage in higher-order thinking. One contribution of this paper is the verification of these previous findings using a larger data set. For example, we demonstrated how insufficient attention to combining content knowledge with opportunities for students to apply it in their analyses and reasoning about society may stifle their opportunities to perform higher-order thinking, in turn reducing the complex and multi-faceted character of social studies. Considering the lack of classroom research in the domain of social studies in Denmark, this study can also be said to contribute new knowledge of actual classroom practices in the Danish context.

Previous research has suggested that the structure of social studies influences teaching practices (Alvunger, 2018; Brondbjerg et al., 2014; Reichenberg, 2018). Our data from 80 observed social studies lessons suggest that the structure of the subject in itself, i.e., its classification, does not seem to shape the teaching practices related to IC and ROC that we observed to a great extent. Instead, broader pedagogical and didactical cultures of teaching and teachers' individual preferences might better explain the varying teaching practices, as evidenced by the differing practices, discussed in this article as three ideal types of teaching, across three similar contexts. However, the limitations of this study (i.e., the relatively fewer number of classrooms) call for further research in this regard.

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Appendix. Conceptual richness of instructional explanations and intellectual challenge rubrics (Grossman et al., 2013)

	1 **Provides almost no evidence**	2 **Provides limited evidence**	3 **Provides evidence with some weakness**	4 **Provides consistent strong evidence**
The "representation of content" element focuses on the conceptual richness of the teacher's instructional explanations. Only publicly visible representations of content should be factored into the scoring. At the lowest level, the teacher may introduce ideas but does not provide any examples or explanations. At the highest level, the teacher provides clear and nuanced explanations and helps students distinguish between different but related ideas, and their instruction focuses on a conceptual understanding of the content.				
ROC: Richness of Instructional Explanations	No representation of subject-related content	The teacher provides a superficial representation of the subject-area content.	The teacher's representation of content includes a balance between a focus on rules, procedures, and labels as well as attention to conceptual or deeper understanding.	Most of the teacher's instruction focuses on the conceptual understanding of the subject-area content.
The "intellectual challenge" element focuses on the intellectual rigor of the activities that students engage in during the instructional segment. Activities with a high intellectual-challenge rating require students to engage in analytical or inferential thinking. In contrast, activities with a low intellectual-challenge rating require students to engage in only recall or rote thinking.				
Intellectual Challenge	The teacher provides activities or assignments that almost entirely involve rote or recall learning.	The teacher provides activities or assignments that mostly involve rote or recall learning, but a portion of the segment promotes analysis, interpretation, inferencing, or idea generation.	The teacher provides a combination of activity or assignments, most of which promote analysis, interpretation, inferencing, or idea generation, while a few are focused on recall or rote tasks.	The teacher provides rigorous activities or assignments that mostly promote sophisticated or high-level analytical and inferential thinking, including synthesizing and evaluating information and/or justifying or defending one's answers or positions.

ENDNOTES

[1] In this paper, we use the term "social studies" instead of "social science" for different Nordic subjects. We interpret the former as a broader umbrella term than the latter. Therefore, *social studies* better describes the Norwegian social studies subject in lower secondary schools. Although, we keep in mind that *social science* is a more precise term for Swedish and Danish school subjects.
[2] The term "first-order concept" and "second-order concept" can arguably lead to some confusion because they conflate different forms of knowledge, including facts, more abstract concepts, and skills to result in different types of inferences.
[3] ROC is an abbreviation of the PLATO element representation of content, of which conceptual richness of instructional explanations is a sub-element.

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