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Article

Inquiry in social studies and social science: Linking teachers' perspectives and classroom practice

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Abstract

Inquiry-oriented teaching has been central to social science education literature and curricula for years. However, few empirical studies, especially in the Nordic context, have examined such teaching practices across various contexts. This study drew on teacher interviews and video-recorded classroom observations in Norwegian lower and upper secondary social studies and social science to explore teachers' perceptions and implementations of inquiry under a new national curriculum reform. We used a comparative approach, combining content analysis of interviews and the EDUCATE observation protocol, to identify the prevalence and characteristics of inquiry-oriented teaching practices in the classroom videos.

Our findings suggest clear links between teachers' perspectives on inquiry in social studies and social science and the teachers' implementation of inquiry-oriented teaching practices. Most teachers viewed inquiry as inherent to the subject and implemented it in various ways in most lessons. Teachers largely understood inquiry as allowing students to seek information and develop answers independently; they emphasised the importance of scaffolding and differentiation; and while teachers discussed various social science topics, there was limited focus on research methods in the interviews.

Using the EDUCATE observation protocol for inquiry-oriented teaching, we found that most lesson segments included inquiry-oriented practices; however, they primarily included the investigation phase, while preparation and consolidation of inquiry were observed to a lesser extent. The implications include specific suggestions for developing inquiry-oriented teaching in social studies and social science education.

Keywords: Social science education, inquiry-oriented teaching, teacher interviews, classroom observations, curriculum reform

Introduction

Inquiry-oriented teaching is central in social studies and social science education, both in the research literature and curricula. Citizens' ability to discuss and inquire into social and political issues is crucial for democratic societies (Newmann, 1991). Young people today are faced with societal challenges linked to political distrust and polarisation, disinformation and advances in artificial intelligence. To manage these and other societal issues, students need the skills to seek out reliable information and inquire and understand the world using disciplinary concepts and methods.

The latest national Norwegian curriculum, called *The Knowledge Promotion* (LK20), introduced inquiry as a core element in the curriculum. This element was introduced in the subject of social studies (s*amfunnsfag*) taught in grades 1 through 10 and the upper secondary subject social science (s*amfunnskunnskap*) taught in grade 11. Under the new reform, inquiry is understood as endorsing curiosity and active pursuits to collect, create, and critically assess knowledge (Ministry of Education and Research [MER], 2018a; 2018b). The curriculum for social studies at the lower secondary level, for example, asserts that students who have completed year 10 should 'demonstrate and develop their competence (...) to show that they are able to explore and explain the connections between the historical, geographical and social-science elements of the subject' (MER, 2018a).

While the new curricula prescribe inquiry as a teaching method and competency, teachers have had a substantial degree of curricular freedom and agency to implement national curricula (Karseth et al., 2022; Klette, 2017). Hopmann (2003) traces such freedom back to the Nordic and European process-centered *Didaktik* tradition, which invests trust in teachers' professional judgment and allows them to adapt the curriculum according to their students' and their own disciplinary strengths, interests, and beliefs (Hopmann, 2003).

It should be noted that the Norwegian curriculum is complex. It is also influenced by what Hopmann (2003) deems 'product-centered curriculum approaches', such as competence-based education (CBE) and the 21st-century learning movement, which have been criticised within curriculum studies for endorsing means-end thinking (Willbergh, 2015) and downplaying knowledge in favour of competencies (Young &

Muller, 2013).

Inquiry-oriented teaching has a long history, dating back to the early 1900s and Dewey's pragmatist conception of liberal education; it plays a central role in conceptions of social science education (Newmann, 1991; Saye, 2017). Research on inquiry in secondary social science classrooms has largely been conducted in the US (Grant et al., 2017; Selwyn, 2014; Swan et al., 2015; Thacker et al., 2018); there are few Scandinavian empirical studies (exceptions include Brevik et al., 2023; Holmberg et al., 2022; Mathé & Christensen, 2024).

Grant et al. (2017) has argued that discourse about inquiry has not resulted in the widespread implementation of inquiry-oriented classroom practices, despite studies reporting positive outcomes. In a study of 183 US teachers' inclinations to adopt inquiry-oriented teaching, Lu et al. (2024) found significant variation. Although there were no statistically significant differences in teachers' self-reports based on grade level, the study found that constructivist beliefs were significantly correlated with inquiry adoption. Other studies have noted the role of the teacher in supporting and guiding students' inquiry (Grant et al., 2017; Mathé & Christensen, 2024; Thacker et al., 2018). For example, Mathé and Christensen (2024) found that lower secondary social science teachers in Norway and Denmark used a range of strategies to support different phases of student inquiry; overall, however, a relatively low level of explicit scaffolding was observed.

The predominance of theoretical contributions and limited empirical studies on inquiry-oriented teaching highlight the need to explore how social science teachers conceptualise and implement inquiry-oriented teaching. In addition, the weakly framed teaching requirements in the KL20 curriculum call for examinations of how social science teachers integrate inquiry-oriented activities into their lessons.

This study explored the intermediate level between social science inquiry in the national curriculum and its classroom implementation by analysing teachers' understanding and operationalisation of inquiry as a curricular concept following a recent reform. In addition, we compared teachers' understanding and implementation across two social science subjects and grade levels (Bray & Thomas, 1995). Our study was guided by the following research questions, focusing on teachers' implementation of a new curriculum in two different social science subjects in lower and upper secondary schools:

1. How do social studies and social science teachers conceptualise inquiry-oriented teaching?
2. To what extent do they enact inquiry-oriented teaching in their classrooms?

Why compare inquiry in social studies and social science?

Historically, curricula have been studied using theories based on distinct curriculum levels (Goodlad, 1979); however, such theories have been criticised for being excessively hierarchical, thus oversimplifying the messy and interactional nature of curricula. This has prompted calls for analytical consideration of how curriculum levels intersect and interact with each other (Priestley & Philippou, 2018; Thijs & van den Akker, 2009). This is also reflected in how curriculum scholars have noted weak and non-linear links between curriculum reforms and actual classroom teaching (Bernstein, 2000; Deng, 2017). This underscores the necessity of empirical studies examining how teachers actually understand and support students to conduct inquiry.

In this article, we are interested in how teachers interpret and enact the curriculum in relation to inquiry-oriented teaching practices. Using the typology of Thijs and van den Akker (2009, p. 10), we explore the perceived (self-reported perspective) and operational (observed perspective) curriculum.

In this study, we examine two subjects as cases: *samfunnsfag* (social studies; taught in grades 1–10) and *samfunnskunnskap* (social science; taught in grade 11 or 12)[1]. The two subjects are structured differently. While the social studies subject draws knowledge from academic disciplines such as political science, sociology, economy, history and geography, the upper secondary social science subject is more narrowly constructed, focusing on knowledge drawn from political science, sociology and economics. Examining these two subjects as cases (Bartlett & Vavrus, 2019) allows us to track or trace shared and contrasting understandings and implementations of inquiry-oriented teaching across two similar, yet different, social science subjects. In turn, this may help us understand challenges related to inquiry-oriented teaching from the perspective of a new curriculum reform.

Cross-cultural research has been predominant in comparative education (Bray & Thomas, 1995; Schweisfurth, 2019). Bray and Thomas (1995) distinguish between seven levels of analysis, including the level of school subjects and grade levels, as well as educational aspects including curriculum and teaching methods. In this regard, this study is comparative, as it looks across two social science subjects at different grades as well as tracking practices and teachers' perceptions between schools and classrooms.

Inquiry-oriented teaching in social science education

In social science education, inquiry-oriented teaching draws inspiration from various investigative methods

[1] For consistency, we use the term social science (education) when not referring to the two specific subjects.

used in social scientific disciplines. Such approaches include formulating research questions and then using different methods to collect and analyse data to answer them (Krutka & Hlavacik, 2025). The social science educational research literature highlights several characteristics of social scientific inquiry, such as the significance of the questions asked, students' activities and roles in the construction of knowledge, argumentation, use of sources and communication of results (Grant et al., 2017; Saye, 2017; Swan et al., 2015).

One critique of inquiry-oriented teaching is that it can be excessively complex for students or too heavily managed by the teacher, consequently losing meaning for the students (Grant et al., 2017; Holmberg et al., 2022). Moreover, inquiry can be regarded as time-consuming to plan and execute. In response to this critique, Holmberg et al. (2022) advocated for a teacher-led approach to student inquiry, in which the teacher chooses the research question and structures the students' work, for example, regarding source use. According to the authors, sources play an important role in eliciting students' interest, building knowledge, supporting students' investigative work and functioning as evidence to support students' conclusions.

In this study, we adopted a framework for analysing inquiry-oriented teaching emphasising teachers' facilitation and students' active roles in different phases of inquiry and the inclusion of variation (Brevik et al., 2024). The key characteristic of inquiry-oriented activities is that students are involved in finding out something for themselves. The framework was operationalised into a manual for observing classroom videos classified into four categories: 1) teacher instruction; 2) students' preparation; 3) students' investigation; and 4) students' consolidation of inquiry (see Table 2). Using this framework, inquiry may be teacher- or student-led and comprises both shorter episodes of inquiry-oriented work and longer processes of inquiry that include two or more phases, including preparation, investigation and consolidation.

Social science context

In Norway, studying social science subjects is compulsory in primary (grades 1–7), lower secondary (grades 8–10) and upper secondary education (grades 11 or 12 for students enrolled in vocational programs). Upper secondary education is not obligatory in Norway, but all students who complete lower secondary education are entitled to upper secondary education. In this article, we examined classrooms from grades 10, 11 and 12, representing the final year of compulsory lower secondary education and the first year (general studies) and second year (vocational studies) of upper secondary education. In primary and lower secondary education, social studies is a cross-disciplinary subject based on history, geography and social sciences. With LK20, these three areas are fully integrated into the subject's competence aims. Thus, it resembles social studies in the US tradition. In upper secondary, these three areas are split into separate

subjects, and social science draws on knowledge from sociology, social anthropology, political science, law, finance and economics. The main difference between these subjects is that the former integrates content from social science with other subject areas, while the latter emphasises social scientific content and approaches.

Norway has a tradition of national curricula. A 2013 revision of LK06 introduced inquiry in social science competence aims for primary and lower secondary schools. In 2020, the most recent curriculum reform (MER, 2017) was implemented in Norway, continuing the emphasis on inquiry. In social studies and social science, this reform introduced five core elements, including 'Sense of Wonder and Exploration' (the others being 'Deliberating on society and interconnections'; 'Understanding and participating in democracy'; 'Sustainable societies'; 'Development of identity and belonging in lower secondary'; 'Diversity of perspectives and deliberations on society'; 'Citizenship and sustainability'; and 'Identity and life skills in upper secondary'). The lower and upper secondary core elements are very similar, highlighting a sense of wonder, reflection, knowledge creation, critical assessment of sources and relevance for students' own lives. The social studies core element emphasises collecting and using information from different geographic, historical and social science sources to shed light on historical and spatial aspects of different societies (MER, 2018a), while the social science description emphasises information from varied sources to address issues in society (MER, 2018b). The verb 'explore' is included in several competence aims both in the lower and upper secondary curricula.

Methods

This study reports on data from the EDUCATE project, a longitudinal research and evaluation project designed to evaluate the implementation of the LK20 national curricular reform in Norway, in effect since 2020. In the following sections, we detail the research design of the overall project and this study, including data sampling and participants, data analysis procedures and validity, reliability and ethical considerations.

Research design

The overall design of the research and evaluation project can be described as a comparative case design including multiple data sources (Bartlett & Vavrus, 2019; Brevik et al., 2023). For this study, we used qualitative interviews and classroom observations of video-recorded lessons using a predefined observation manual. The comparative aspects of this study include examining teaching in different schools and classrooms at various grade levels and across two curricula (social studies and social science). As we aimed to investigate teachers' conceptualisations and their practices, the combination of self-reported data and observational data enables us to examine the same overarching phenomenon from different perspectives and thereby gain both nuance and possible contradictions.

Sampling

The project used purposive sampling at the process, site and participant levels (Tashakkori et al., 2020). Seven schools were selected based on school size, grade levels and vocational and general education in upper secondary education, across three school districts, including urban, suburban and rural schools of varying sizes (Brevik et al., 2023). The schools were located both on the eastern and western parts of Norway. Teachers varied by age, gender, education and experience. This approach is appropriate for capturing reliable data on teaching practices (Klette et al., 2017).

For this study, we included social science lessons in grades 10 (lower secondary) and 11/12 (upper secondary) and teachers who taught social science classes at these grade levels. Table 1 provides an overview of the schools and teachers. The observed number of teachers did not correspond to the number of interviews one-to-one, as participation was voluntary. However, we interviewed at least one teacher in each of the six schools. The teachers varied in gender, age (from their 20s to late 50s), teacher education (60–300 ECTS), and teaching experience (1–29 years). Table 1 indicates the number of teachers and lessons in this study, including their school and subject/grade, demonstrating that a majority of the teachers and their lessons are in upper secondary, while about a third are in grade 10.

Table 1. Overview of schools, teachers and number of lessons

School	Subject/Grade	Number of Teachers observed*	Classes	Lessons/15-Minute Lesson Segments Observed**	Teachers Interviewed ***
S1	Social studies/grade 10	3	3	12/44	3
S2	Social studies/grade 10	1	1	5/11	1
S3	Social studies/grade 10	1	1	9/25	1
S4	Social science/grade 11 (general studies)	1	2	8/24	2
S5	Social science/grade 12 (general studies)	1	1	24/62	3
S6	Social science/grade 11 (vocational studies)	4	5	10/23	2
Total		13	15	68/189	12

*In some schools, we observed one teacher teaching two different classes.
**We observed lessons ranging from 30 to 90 minutes; therefore, the number of 15-minute segments for each lesson varied.
***Not every teacher we observed participated in the interviews.
****Some of the teachers taught two classes.

Data collection

We used video observations of naturally occurring teaching, which means lessons without intentional researcher intervention or manipulation of the content or type of activity in the lessons. To obtain high-quality video data on whole-class teaching, EDUCATE used two small cameras simultaneously recording each lesson, one at the front and one at the back of each classroom. Two wireless microphones recorded classroom talk, one attached to the teacher and one positioned to capture communication in the classroom (Klette et al., 2017). Following previous video studies, we recorded four consecutive lessons for each subject in each class.

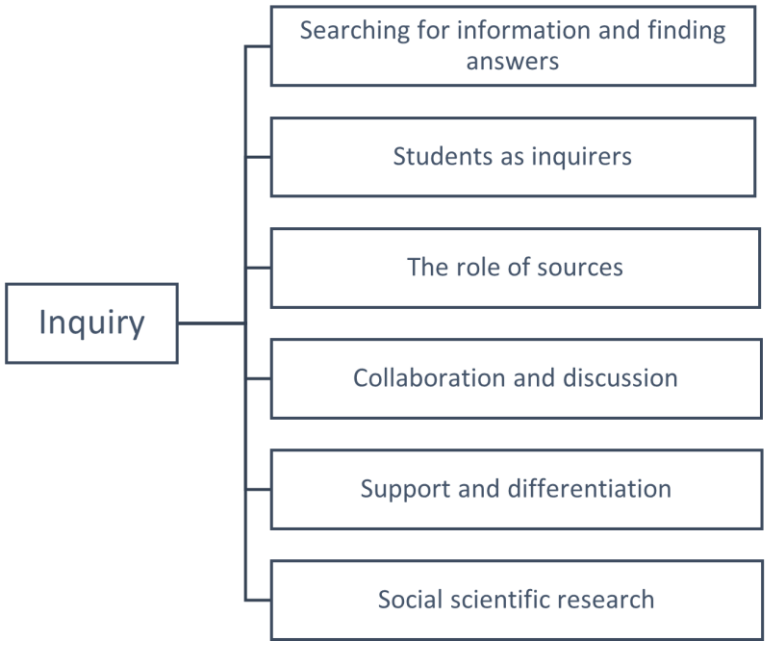
The teachers were invited to participate in interviews held within two weeks of their filmed teaching. The interviews concerned the main topics of the overall research and evaluation study, including inquiry-oriented teaching (Brevik et al., 2023). The interviews lasted for a maximum of 1.5 hours and were audio-recorded with a secure recording app. The recordings were anonymised and transcribed in their entirety.

Data analysis

To answer RQ1, we conducted an analysis building on a qualitative content analysis (Nicmanis, 2024) of the 12 transcribed interviews. Conventional content analysis is defined by reworking manifest content (e.g. exact words or short sentences) from the data material into codes and categories. We conducted a content analysis of the interviews because it is a transtheoretical and flexible method (Nicmanis, 2024) and is compatible with observation analysis using predefined categories.

To identify categories, we first identified the part of each interview that concerned inquiry. Second, we inductively analysed the transcripts as follows: We split the transcribed material into two portions. Each author scanned half and noted down keywords and phrases, which were compiled into an initial set of codes. Subsequently, author 2 reviewed all the transcripts, identified preliminary codes and counted the occurrences of each. Third, we sorted and synthesised the codes into 14 preliminary categories. We then refined and merged them into the final six categories (see Figure 1) and added descriptions of each, including illustrative excerpts. For example, the category called *Students as inquirers* is comprised of the codes ‘Freedom of choice for students,’ ‘Student-centred activity’ and ‘Asking questions and being curious’. We focused on how teachers related inquiry to the subject of social science. Author 1 then deduced findings from the categories. These were subsequently reviewed and refined by the authors together.

Figure 1. Final categories from the analysis of teacher interviews



To answer RQ2, we used the EDUCATE observation manual for inquiry-oriented teaching (Brevik et al., 2024) to score 15-minute segments. This segment length is widely used to code classroom videos (White et al., 2022) because these segments allow for finer-grained comparisons than the lesson level. The manual includes a teacher row and three student rows to capture inquiry activities facilitated by the teacher and students' participation in preparation, investigation and consolidation activities (see Table 2).

Segments are scored on a scale of 1 to 4, where 1 = no inquiry observed, 2 = presence of inquiry, 3 = explicit inquiry and 4 = independent inquiry. As Table 2 shows, a score of 2 indicates inquiry without analysis, reasoning or interpretation; a score of 3 indicates explicit inquiry requiring analysis, reasoning and interpretation; a score of 4 additionally indicates students' freedom to choose questions and approaches in the inquiry process.

Table 2. EDUCATE observation rubric (version 1.1) for inquiry (Brevik et al., 2024, our translation)

Main categories		1 No observed inquiry	2 Presence of inquiry	3 Explicit inquiry	4 Independent inquiry
Teacher	Instruction	The teacher neither teaches nor facilitates inquiry.	The teacher provides instruction about inquiry or facilitates students' inquiry through preparation, investigation or consolidation that does not require analysis, reasoning or interpretation.	The teacher provides instruction about inquiry or facilitates students' inquiry through preparation, investigation or consolidation requiring analysis, reasoning or interpretation.	The teacher provides instruction about inquiry or facilitates students' inquiry through preparation, investigation or consolidation requiring analysis, reasoning or interpretation. Students can choose among different forms of inquiry.
Students	Preparation Students prepare for investigation	The students do not participate in preparation for inquiry.	One or more students prepare to investigate something based on questions or instructions from the teacher, but without planning their own investigation.	One or more students plan to investigate something that requires analysis, reasoning or interpretation.	One or more students plan to investigate something based on a research question they chose themselves that requires analysis, reasoning or interpretation.
	Investigation Students' investigation	The students do not investigate.	One or more students investigate something that does not require analysis, reasoning or interpretation.	One or more students investigate something that requires analysis, reasoning or interpretation.	One or more students investigate something they have chosen themselves that requires analysis, reasoning or interpretation.
	Consolidation Students consolidate investigation	The students do not consolidate investigation.	One or more students describe results of their investigation or their process.	One or more students draw inferences from the results of the investigation or their process and argue for them.	One or more students reflect on the inferences they have drawn based on their investigation or their process.

Validity, reliability and ethical considerations

The project received approval from the Norwegian Agency for Shared Services in Education and Research/Sikt. All participants provided written, voluntary and informed consent (National Committee for Research Ethics in the Social Sciences and the Humanities, 2021). All names used in this article are pseudonyms. The same interview guide was employed for all the interviews to ensure data rigour, and we provide numerous direct quotations and other low-inference descriptors in this article to strengthen emic validity.

Classroom observations involve the risk of complexity reduction and exaggerated magnification of events (Blikstad-Balas, 2017). In line with Blikstad-Balas (2017), we have employed observation manuals and codes to trace similarities and differences in teaching practices to reduce exaggerated magnification. To ensure reliability in the coding of classroom observations, 20% of the segments were double-coded to ensure a minimum of 80% exact inter-rater agreement. All disagreements were settled via discussion. Non-participating students were placed in areas of the classroom outside of camera angles, and their voices were muted and not transcribed.

The observation manual was developed to work across school subjects, including social studies and social science, but was not specifically designed to capture the content, skills and purposes of these subjects. Moreover, the intention of the manual is to identify inquiry in classroom teaching and the quantification through assigning scores does not include descriptions of the specific inquiry-oriented activities – this would require qualitative video analyses. Using an observation manual, however, allowed us to systematically uncover patterns in the video data. A limitation of this kind of analysis is that it is necessarily reductionist (Blikstad-Balas, 2017). For the purpose of this study, however, using teacher interviews as the main data source yields complexity and subject-specific examples from the teacher perspective in line with the research questions.

We argue that the combination of observations and interviews contributes to inference quality, as we draw on two data sources, representing self-reported and observed perspectives, to shed light on the same overarching phenomenon.

Findings

This section presents the results of the qualitative analysis of the teachers' conceptualisations of social science inquiry and their reflections on their own inquiry practices and the observed patterns of inquiry-oriented teaching practices using the EDUCATE observation protocol.

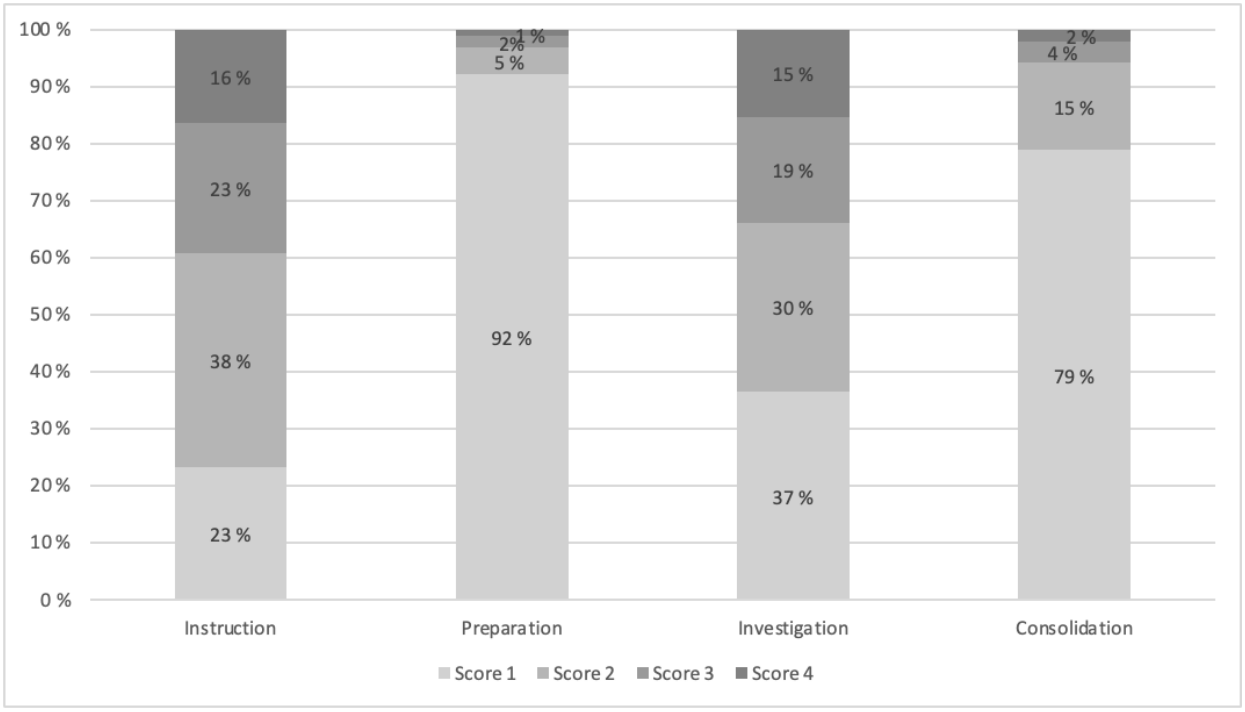
We discerned four main findings. First, the teachers' reports align with the observations concerning the inclusion of inquiry-oriented practices. Second, the teachers largely understood inquiry as allowing students to seek information and develop answers independently. Third, the teachers emphasised the importance of scaffolding and differentiation to support students in inquiry-oriented practices, including by connecting activities to the students' lifeworld. Fourth, while teachers discussed various social science topics, there was limited focus on research methods.

Inclusion of inquiry-oriented practices in social studies and social science lessons

We compared the findings from the teacher interviews and observation scores. The interviews and observations align regarding the emphasis on students' participation in inquiry-oriented activities. Seven teachers indicated that they engaged students more in inquiry-oriented work or had become more conscious of inquiry in social studies/social science after the implementation of LK20, while four explicitly stated that inquiry was important in the subjects. The observation scores indicate that students frequently have opportunities to engage in inquiry-oriented work.

Figure 3 illustrates the extent and characteristics of the teachers' implementation of inquiry over the four categories of instruction, preparation, investigation and consolidation. These categories are explained in the EDUCATE observation rubric in the methods section above. This chart presents the percentage distribution over the four-point scale across the four inquiry categories and 189 segments.

Figure 3. Percentage distribution of inquiry practices over the four-point scale for the four inquiry categories.



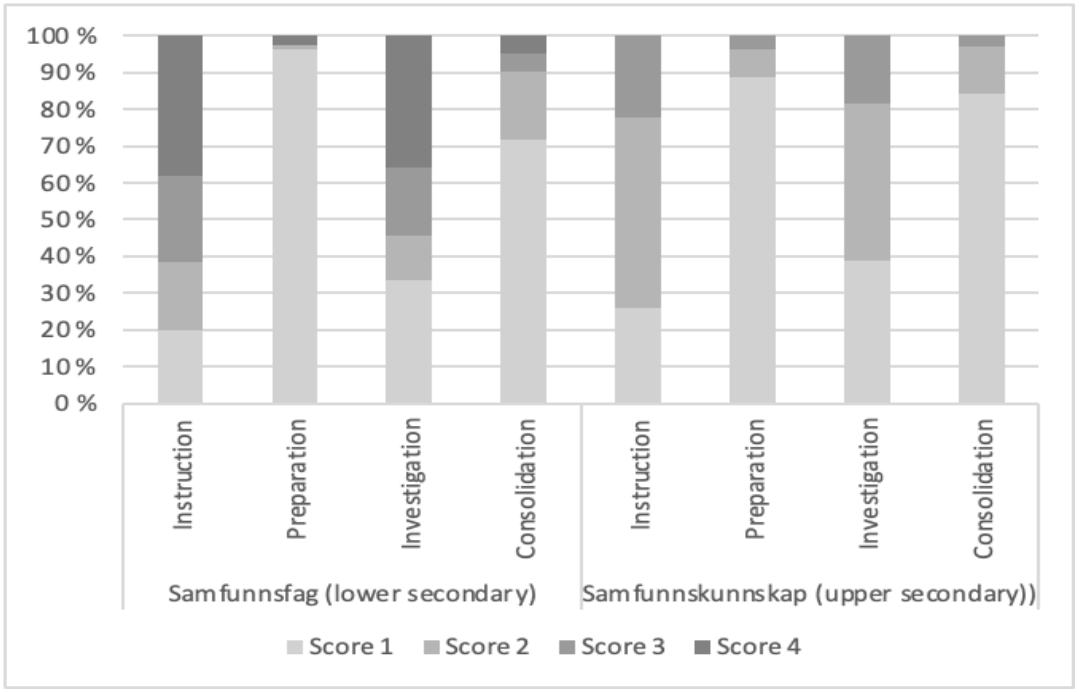
The scores revealed two main patterns. First, most segments included inquiry-oriented practices as operationalised by the EDUCATE observation protocol. This is visible in the instruction and investigation categories, where a score of 2 or above indicates that the students had some opportunities to investigate something on their own. For instruction, 77% of the segments were rated above the score of 1, and 64% of the segments were rated above 1 for investigation. To achieve a score of 3 in the instruction, preparation and investigation categories, the teaching had to actively engage students in reflection and analysis. A score

of 4 required that students had some independence in selecting problems and/or inquiry approaches. For the consolidation category, a score of 3 required students to draw conclusions based on their inquiry rather than merely describing the results. A score of 4 also required students to reflect on these conclusions. Despite a majority of low-end scores (i.e. 1 or 2), in 39% of segments, the teacher taught about or facilitated inquiry requiring analysis or evaluation of information, as reflected in the teacher instruction category, while students engaged in such inquiry in 34% of the segments we observed.

Second, the instruction and investigation categories scored at the higher ends of the scales more frequently compared to the preparation and consolidation categories, indicating that students rarely prepared before engaging in inquiry-oriented activities and that they used minimal time to form, reflect on and review conclusions. In fact, only 3% of the observed segment scored 3 for preparation, while 6% reached the same scores in the consolidation category.

Examining the interview data, we found no noteworthy differences between social studies and social science teachers concerning the emphasis on inquiry. However, the observation data differ between the two subjects. Figure 4 shows the variation in scores between observations in the social studies and social science subjects measured using the EDUCATE-observation rubric for inquiry. The overarching patterns are the same as in Figure 3, except that the segments in social studies have a higher percentage of high-end scores for all categories except preparation (see Figure 4). As shown, a higher percentage of segments in *samfunnsfag* at lower secondary school were rated at the high-end for instruction (50%) and investigation (44%), compared to *samfunnskunnskap* at upper secondary school. In *samfunnskunnskap*, only 22% of segments received a rating of 3 for instruction and 19% for investigation. Further, there were no segments that scored 4 regardless of categories.

Figure 4. Percentage distribution of inquiry practices across social science subjects as measured using the EDUCATE observation protocol.



Following the finding that both the interview and observation data indicate that inquiry-oriented practices are frequently included in social studies and social science lessons, we will now zoom in on the teachers' reported conceptions of inquiry.

Inquiry as students' independent investigation

When asked what inquiry meant to them, nine teachers explicitly stated that inquiry was about searching for or finding information. Several teachers described it as figuring things out, emphasising that inquiry-oriented work involves students learning to do so independently. Similarly, upper secondary teacher Henrik stressed that he 'cannot inquire for the students.

Giving students the independence to conduct the inquiry themselves was explicitly mentioned by seven teachers. Several teachers related this freedom to the importance of motivation and facilitating inquiry-oriented work about topics in which students were interested. As several teachers reflected, since students were the ones conducting the inquiry, they had to make decisions, be active in their own learning process and influence the work done in class. Adrian, an upper secondary teacher, provided the following example:

> (We've) had an assignment about an elective conflict in the world, where they were supposed to write themselves and where they had to find sources themselves and kind of find solutions to the conflict and discuss them.

Some teachers highlighted challenges related to this side of inquiry as student-centred work. For example,

not all students were accustomed to working independently. Motivating students to complete this kind of work can be challenging. A couple of teachers said that some students lacked sufficient content knowledge and consequently followed the steps of inquiry without engaging substantially with knowledge.

When the teachers discussed how they perceived the inquiry process, they touched on several criteria for inquiry and practices that are central in the literature. This quote from upper secondary teacher Reidar illustrates this:

> I think it's about looking for answers. To search, find, get new information, look for, maybe have a kind of question, research question (…). What I want to find out, why is it like this, in a way that you find relevant material, find different opinions and look for answers to something. (…) Why is this a problem, or why is this a societal problem, what are people's opinions about this, and so on. (…) That's what I think inquiry is about.

Reidar's response is consistent with the upper secondary core element of 'sense of wonder and exploration' (MER, 2018b). In the following, we elaborate on aspects of students' independent inquiry that were prominent in the teacher interviews, namely the importance of curiosity, searching for information and using sources and collaboration.

First, seven teachers emphasised the importance of curiosity as a goal of inquiry-based work. For example, one lower secondary teacher, André, stated the following:

> I like to see it like, that they, what's it called, are being curious, or practice being curious. (…) You can't just throw a topic at them and expect them to be curious, but you have to facilitate it, and plan for it, and let them practice being curious. And give them tools to be curious. That takes a long time. It doesn't just come from one project.

André discussed curiosity as a quality that should be facilitated and developed over time rather than as a trait that is inherent in or spontaneously awakened in students. In this sense, André responded to the challenges raised by other teachers concerning students' motivation for engaging in the inquiry process.

Second, searching for information is central when teachers facilitate students' inquiry-oriented work. Although there were no questions specifically about sources in the interview guide, nine teachers discussed finding and evaluating sources. The centrality of sources was their primary role in helping students find answers to their questions and material for discussion. As upper secondary teacher Henrik stated, 'Inquiry is just that, having multiple sources, compare them to each other, gain important knowledge, but also a foundation for reflection'. In other words, students should find, evaluate and use sources that are relevant to their topic or research question. A few teachers linked source criticism to critical thinking and the role of social science in citizenship education, such as Henrik (upper secondary):

> I think, in social science, I think it is one of the purposes of learning or Bildung, or what you want to call it. What we are doing in school is to, yes, to make students into citizens. To individual citizens who individually can form an opinion. If you don't work inquiry-based, but students learn that the answer is in a book or

> Wikipedia, or SNL [Store norske leksikon], then there's a chance they will keep this up into adulthood. But when we are working inquiry-based, there is a far greater chance that they say 'ok, I won't just look this up at SNL' or, even better, Norwegian Wikipedia, 'OK, I will read news sources, but I will read that news source critically'.

In addition, source use was related to other aspects of inquiry, such as the importance of different perspectives. For example, lower secondary teacher André discussed inquiry as seeing an issue from various angles and adopting different perspectives:

> I'm thinking that it's about opening for different stories, different perspectives on reality, finding different answers to questions, practicing, not just how we often talk about source criticism and things like that, but more like what can we trust, what information is true, what is useful, where do we go if we want to know something for certain, how do we use new tools and opportunities.

Lower secondary teacher Marius explicitly related the use of sources to the integrated nature of social studies:

> And then they were supposed to explore the consequences of that event and try to situate it in a larger context. Such as the Cold War as an ideological conflict, or something like that. And then, the inquiry aspect of that is to explore all the information you can find about the event, and at the same time try to situate it in a larger context. Very much inquiry about what information you can find, both in textbooks at school and online.

Here, Marius highlights the characteristic of the lower secondary core element emphasising historical and geographic aspects of different societies (MER, 2018a). In this sense, engaging with sources allows students to access and make use of different perspectives in their inquiry.

Third, six teachers mentioned collaboration, thinking together and discussion as clear benefits of implementing inquiry in social science. Marius (lower secondary) clearly identified discussion as a method that allows students to think collaboratively about the Cold War:

> The [inquiry] task was based on that the students should engage in some kind of dialogue, that is, not just sit there alone, but do something together, and that they should discuss their event, the Cold War or the post-war period.

> To inquire is not just finding information on the internet. It is to talk together and get the students to discuss so that they can inquire into a topic together … To inquire together, it is a good thing to engage them in group discussions, and discussions with their learning partner, and we can talk about it together, all of us.

In summation, in the teachers' reflections on social science inquiry, they expressed a broad understanding of it as students finding information or answers themselves. Although rewarding, inquiry is not exempt from challenges, according to the teachers.

Supporting student inquiry: Scaffolding and differentiation

When engaging students in inquiry, all teachers except one discussed the importance of providing students with scaffolds and differentiated instruction and mentioned several concrete scaffolding and modelling

practices. Lower secondary teacher Marius related that he taught students to recognise and write good research questions and scaffolded students' writing ideas by providing them with writing frames. Oddbjørn (upper secondary) similarly mentioned that he provided his students with a framework to explore political parties in a lesson we observed. He argued that inquiry-based teaching should be a mix of teacher-led and student-centred practices. To gradually develop students' inquiry skills, Carla emphasised that the inquiries in her class built on each other so that the students could revisit familiar problems and tasks.

Carla noted that inquiry-oriented teaching lends itself to differentiated instruction because of the absence of preset learning outcomes. She contended that this renders achievement gaps between students less visible. This enhances motivation, particularly for struggling students:

> I find it easier to reach every student when we engage in exploratory work … In a way, there is not one correct answer, and then there is a stronger perceived efficacy for the students that know less than the others, and it is not that visible. I think this is the greatest opportunity, that it is possible to differentiate the task to each individual student.

Henrik also mentioned 'a certain gap' amongst the students in upper secondary. Some, he noted, knew how to approach a research question, even after year one. However, it was more problematic when students did not actively engage in inquiry but reproduced knowledge from a source uncritically. He also mentioned that the students' lack of content knowledge was challenging when implementing inquiry-oriented teaching.

Regarding differentiation, several teachers discussed how relating inquiry-oriented teaching to the students' interests encouraged student involvement and motivation. Reidar, an upper secondary teacher, mentioned that he focused on allowing students to inquire into topics that related to their interests and contexts. Without explicitly mentioning differentiated instruction, several other teachers noted that student engagement relates to the content into which the students inquire. They mentioned that the content students engage with in social science topics should relate to the students' interests and lives. For example, André (lower secondary) stressed connecting the topic of inquiry to the students' interests. According to him, connecting social science topics to students' lifeworld 'will almost automatically result in a sort of inquiry-based approach in the classroom'. As such, the teachers emphasised differentiating not only the methods but also the content of inquiry.

Role of disciplinary knowledge and methods

Although the teachers discussed a wide array of social science topics, few highlighted subject-specific research methods. The interviews did not include a specific question about disciplinary knowledge or subject-specific research methods. However, Henrik (upper secondary) elaborated on the importance of disciplinary content knowledge:

> Today, it is more focused on the most basic and central concepts, and then we conduct research by applying these. What does previous research tell us? What about the numbers? Do they perhaps reveal conflicting information, and what could be the reason for this?

However, Henrik expressed that he did not always want students to problematise everything:

> It is not always useful to problematise and question everything; however, I appreciate it when my students reflect. Why does it happen? … That they recognise nuances. Should we deliver weapons to Ukraine? Yes, or no?

The teachers discussed key analytical techniques in social science research, including formulating research questions and strategies for searching for and evaluating sources, inferring causes, perspective-taking and thinking critically to suggest political solutions to societal issues.

While most teachers in the interviews did not mention explicit research methods, Marius (lower secondary) reported that he taught students to recognise fruitful research questions and engage in data collection from informants 'on the street' as a foundation for making inferences about social scientific issues. Furthermore, Marius discussed teaching methods for social science generalisation. He emphasised that the 'meta-understanding' students gain from inquiry is a more valuable learning outcome than the acquisition of content knowledge. According to Marius, such skills are more transferable to students' future lives outside schools.

As indicated by the teachers' reflections on inquiry as both shorter activities integrated into lessons and working in-depth over longer periods, teachers employ a broad understanding of social science inquiry. They do not necessarily regard inquiry-oriented teaching as being only applicable to elaborate inquiries requiring multiple lessons but also as a practice that may be integrated into everyday lessons.

Discussion and limitations

This article aimed to explore social science teachers' implementation of inquiry considering LK20. The present study suggests that most of the interviewed teachers see inquiry as inherent to the social science subjects, and they implement it in various ways in most lessons. This last finding contrasts with Grant et al.'s (2017) lament that inquiry has yet to manifest in classroom practices. In this sense, our findings indicate a relatively strong relationship between the intended and enacted curricula as well as the self-reported and operational curricula (Thijs & van der Akker, 2009). The teachers expressed positive attitudes towards inquiry in social science and strongly facilitated student inquiry in the classroom.

There was no indication that teachers felt their implementation of inquiry was forced on them; instead, they used their autonomy to practice inquiry in ways they deemed fit for their students and the subject they teach, as LK20 allows. This may be viewed as an expression of professional freedom in terms of being

the ones who actually interpret and implement the curriculum typical for the process-centred Didaktik approach, rather than overly prescriptive curricula (Hoppman, 2003).

Similar to Lu et al. (2024), we did not find differences in teachers' self-reported attitudes towards inquiry based on grade level, but their examples from their own inquiry-oriented teaching reflect the main difference between social studies and social science and the way inquiry is described in their respective core elements, namely integration of historical, geographic and social science perspectives in lower secondary and focus on social science in upper secondary. Our finding of higher observation scores in 10th versus 11/12th grade is, however, somewhat surprising. Unfortunately, we cannot know whether this difference is random or caused by characteristics of the two subjects, grade levels or teachers. As several teachers reported challenges in engaging students in inquiry, echoing Holmberg et al.'s (2022) critique of inquiry-oriented teaching, it is noteworthy that we observed inquiry-oriented practices requiring more analysis, reasoning and interpretation by younger students. Although the EDUCATE-project sampled schools on criteria to ensure variation, such as location, grade level, and type of educational program (general/vocational), due to limitations in sample size and the lack of generalisability, we cannot draw strong conclusions based on these observations. However, our findings clearly indicate teachers' commitment to inquiry in both intention and practice.

The theoretical literature on inquiry presents a range of characteristics of inquiry-oriented teaching (e.g. Brevik et al., 2024; Grant et al., 2017; Saye, 2017). Our findings show that the social science teachers' conceptualisations share many of these characteristics, namely the importance of questions and sources, and student-centredness of inquiry, including lifeworld relevance. When talking about their work with inquiry-oriented activities, the teachers link these aspects to the opportunities inquiry offers for differentiating their teaching to meet students' needs and choose topics that are engaging for them (Krutka & Hlavacik, 2025). However, there is a clear pattern in our observation and interview data wherein teachers primarily facilitate students' actual investigation; we identified fewer segments focusing on students' preparation for and consolidation of inquiry. This may be due to teachers focusing on implementing inquiry as shorter, everyday activities, as reported in the interviews. This conception of inquiry may frame it as less demanding and daunting to realise in classrooms without emphasising more elaborate inquiries. As such, it is not surprising that the student investigation and teacher instruction categories received higher scores than the preparation and consolidation categories. It is possible that these phases are more frequently included in in-depth projects spanning more time than we observed as we sought to observe naturally occurring teaching rather than teaching explicitly planned for in-depth inquiry. An avenue for further research could be to explore how social science teachers can support students' preparation and consolidation of inquiry through interventions and/or more fine-grained observational studies. Another would be to explore how teachers may promote analytical and high inferential thinking when engaging

students in social science inquiry.

While the teachers emphasised students' active role in inquiry in their interviews, our observations indicated that around half the observed inquiry was teacher-led (score 2), not requiring students' analysis, reasoning or interpretation, nor investigated questions they chose for themselves. As such, aspects of the teachers' implementation of inquiry resonate with Holmberg et al.'s (2022) argument for strong teacher framing of student inquiry. In contrast to the literature on inquiry-oriented teaching (e.g. Holmberg et al., 2022), much of the teacher-led inquiry we observed took the form of shorter inquiries in everyday teaching. This may explain some of the occurrence of observed inquiry in our material. The indication of discrepancy concerning the teacher and the students' roles in inquiry, may suggest a tension between perceived (self-reported perspective) and operational (observed perspecive) curricula.

Conclusion and didactic implications

Despite the critique that LK20 is abstract and complex (Hidle & Skarpenes, 2021), we found that while social science teachers consider inquiry-oriented teaching challenging, they support and emphasise inquiry in the curriculum. Moreover, our findings demonstrated that certain aspects and phases of inquiry are emphasised, such as students searching for information and participating in investigations. This study contributes insights based on empirical data from teachers and classrooms, which is sorely needed in social science didactic research in general and in inquiry-oriented teaching in particular. Teachers implement inquiry in both shorter and more in-depth activities, and there is variation in the degree of teacher control and student freedom. This illustrates how teachers' realisation of the goal of inquiry is varied and can be adapted to a range of topics, aims and student groups. In a field of study dominated by theoretical contributions, our findings are important to advance the empirically based knowledge of the kind of inquiry practiced in social science across grade levels.

As our findings indicate, there is potential to engage students in preparation and consolidation activities more frequently if the aim is the implementation of more advanced inquiry requiring cognitively challenging thinking. Such practices can include activating prior knowledge (planning), drawing inferences and reflecting on inferences individually and collectively (consolidation). In addition, the social sciences offer a plethora of resources for student inquiry into sociopolitical issues, such as methods of asking questions and appropriate methodological approaches that have the potential to enrich inquiry in social science. Teachers must differentiate and adapt their inquiry-oriented teaching to their students, which requires a pedagogic and didactic understanding and repertoire that is not transferable from the social sciences. Our findings provide examples of social science teachers' reflections and strategies for addressing the challenges of inquiry-oriented teaching that can be used to extend didactical approaches when

teaching complex sociopolitical issues through inquiry. Such research may focus on tensions between perceived and operational curricula. This is an avenue for further research and development in relation to inquiry-oriented practices in secondary social science teaching.

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