

# Recontextualization of knowledge in the new Norwegian curriculum: Epistemic and non-epistemic design in learning objectives for social studies

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## Abstract

The recent Norwegian curriculum reform for schools, called “The subject renewal”, is part of an international trend regarding knowledge-based curricula. The Norwegian curriculum, which places decisive emphasis on subjects and subject concepts, aims to bring in-depth learning and knowledge back to schools. This paper is based on Rata's theory, referred to as the curriculum design coherence (CDC) model, and examines the curriculum for social studies. The analysis reveals significant differences in the curriculum's goal formulations, with designs that lack connections between subject concepts and content knowledge, which sheds light on how the transition to a knowledge-based curriculum is accompanied by several unresolved issues. The paper explains why curricula with coherent designs and epistemically structured knowledge are a prerequisite for in-depth learning and cumulative knowledge building in schools.

## KEYWORDS

coherent design, in-depth learning, knowledge building, knowledge-based curricula, social studies

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## INTRODUCTION

While the recent decades have been characterized by 21st Century Learning (Ananiadou & Claro, 2009; Lourie, 2020; McPhail & Rata, 2016) and outcome-based or neoliberal curricula (Benavot & Meyer, 2013; Bratland, 2022; Bratland & El Ghami, 2021; Priestley & Biesta, 2014). These curricula are now being challenged by a new international trend in countries such as Sweden and England, with curricula that put more emphasis on knowledge-based approaches (Adolfsson, 2018; Hoadley, 2018; Lingard & McGregor, 2014; Rata et al., 2019; Spielman, 2018). The latest Norwegian curriculum the subject renewal fits into this latest trend and represents a reaction to 21st-Century Learning, with the introduction of new knowledge-based curricula. This new trend, though it is by no means universal, will constitute an important context for this paper, which is based on an analysis of the subject area of social sciences and will shed light on how the transition to a knowledge-based curriculum is accompanied by several unresolved issues.

Curricula based on 21st Century Learning place crucial emphasis on skills and competencies, increasingly at the expense of traditional forms of knowledge in education (Lourie, 2020). They are accompanied by a narrative based on interdisciplinarity, with an emphasis on “real-world” problems, combined with a pedagogy that emphasizes students' engagement in active and inquiry-based forms of learning, where the teacher is assigned the role of a supervisor and supporter (Sawyer, 2006). Curricula based on 21st Century Learning can have several negative effects, with their one-sided focus on skills and competencies resulting in a “downgrading” of knowledge (Adolfsson, 2018), something that particularly affects students from lower socio-economic classes (Wheeler, 2010). They have been criticized by “powerful knowledge” writers (Maton, 2014; McPhail & Rata, 2016; Rata, 2016; Winch, 2013, 2014; Young & Muller, 2013), known for the slogan of “bringing knowledge back in” (Young, 2008). Nevertheless, although this slogan has borne fruit and contributed to the emergence of a new type of knowledge-based curriculum, the “bringing knowledge back in” programme is still an unfinished project (Morgan & Lambert, 2018). Giving students access to a subject's specialized knowledge is not a simple matter but presupposes a knowledge-based curriculum that connects subject concepts, content knowledge, and competencies in a way that provides “epistemic access” (Shay, 2014). As Rata et al. (2019, p. 165) explain, all students need access to epistemic knowledge, a form of knowledge that is produced in disciplines with the development of generalized concepts, which have been abstracted and objectified through processes that are separated from the social context in which they were produced (Popper, 1972). These generalized concepts enter into complex relations, which connect these integrated ideas in a larger system of meanings and create propositional knowledge (“knowledge that”). In school, this knowledge is recontextualized, during which it is central to adapt the concepts to a progressive mastery of the subject, where “knowledge that” is connected with “knowledge how”, something which Winch (2013) refers to as “epistemic ascent”.

This problem of a lack of “epistemic access” and “epistemic ascent” has haunted the new knowledge-based curricula, with the emergence of variants that place crucial emphasis either on content knowledge or subject concepts, referred to as “knowledge-led” and “knowledge-engaged” curricula, respectively (Rata, 2020, 2021; Spielman, 2018). Of these, the variant that emphasizes content knowledge has been the subject of criticism, with the return to schools characterized by the reproduction of defined knowledge content (Young, 2020).

Based on Rata's curriculum design coherence (CDC) model (Rata, 2019, 2021), we will, in this paper, study how the new Norwegian curriculum positions itself with regard to trends in international knowledge-based curricula and discuss the further effects and underlying principles. Creating a coherent design that creates a knowledge-rich curriculum (Rata, 2020) that connects subject concepts, content, and competencies in a way that gives students

“epistemic access” is a complex problem, which cannot be easily solved. In this paper, in line with Rata (2019, 2021) and McPhail (2021), we will argue that a curriculum that provides access to epistemically structured knowledge is a prerequisite for in-depth learning and cumulative knowledge building in schools. Against this background, we ask the following research questions: What kind of design characterizes the subject area of social studies in the new Norwegian curriculum? Does the social studies curriculum open up possibilities for in-depth learning and knowledge building in schools?

## THE NEW NORWEGIAN CURRICULUM REFORM

According to Bernstein (2000), curricula in the field of reproduction are the result of complex processes, with the selection and rearrangement of the subject area's concepts, content knowledge, competencies, and skills. The preparation of new curricula is a process, and in the new Norwegian reform, a distinction can be made between the authorities' white papers and the final curriculum plan (Kunnskapsdepartementet, 2019a), which forms the basis for the implementation of the reform in schools. The Knowledge Promotion (LK20) provides us with a picture of how the authors have interpreted the Norwegian reform, known as the subject renewal. To understand the curriculum in social sciences (SAF01-04), published by the Ministry of Education and Research in 2019 (Kunnskapsdepartementet, 2019b), it is necessary to give a more detailed discussion of some key elements, which are expressed in the previous documents, referred to as the authorities' white papers (Kunnskapsdepartementet, 2016; Ludvigsen, 2015). The new reform is a revision of the 2006 curriculum (Utdannings- og forskningsdepartementet, 2006), a plan that was characterized by a strong emphasis on skills and broad competence goals, accompanied by a constructivist narrative, which is undoubtedly connected to the historical tradition of strong elements of didactic thinking in Norwegian curricula (Engelsen, 2013). However, the 2020 reform introduces some new elements (Kunnskapsdepartementet, 2019a), which point in the direction of a knowledge-based curriculum. A key justification for the subject renewal, which is the basis of the reform's content and direction, is linked to the concept of in-depth learning (McPhail, 2021; Sawyer, 2006). While previous reforms have allegedly led to superficial learning, with too many topics and detailed instructions included in the curricula, subject renewal aims to provide more in-depth knowledge and in-depth learning in schools. To meet the goal of more in-depth learning, the reform includes a set of elements, where the emphasis on subjects and subject concepts is largely justified by cognitive learning theories. As pointed out in the research, this construction leads to an ambiguous result (Botten, 2020), both in terms of understanding subjects and the role and function of subject concepts, but also in terms of definitions of in-depth learning. The NOU 2015: 8 White Paper (Ludvigsen, 2015), which places great emphasis on competencies and skills, is inspired by key elements of 21st-Century Learning. In this report, it is assumed that in-depth learning can be achieved by emphasizing a set of overarching emotional and social competencies, embodied in special competence areas (Ludvigsen, 2015, p. 36). In this version, it is assumed that in-depth learning can be achieved through interdisciplinary, student-active, and inquiry-based learning methods, with a focus on “real-world” problems (Sawyer, 2006). Knowledge is understood here within a constructivist framework, as something that is tied to the knower and that can be developed independently of the subjects' specialized knowledge. In the final white paper (Kunnskapsdepartementet, 2016), this cognitive approach is partly reformulated, with a stronger emphasis on the subjects and subject concepts (Botten, 2020). Learning should now take place within the subjects, based on the subject concepts. This provision has significant implications, and in-depth learning is defined in the following way:

In-depth learning means that students gradually and over time develop their understanding of concepts and contexts within a subject. Pupils' learning

outcomes increase when, through in-depth learning, they develop a holistic understanding of the subject and see the connection between subjects, as well as manage to apply what they have learned to solve problems and tasks in new contexts. (Kunnskapsdepartementet, 2016, p. 14, authors translation)

The new Norwegian curriculum introduces subjects and subject concepts as a basis for students' learning, an approach that ensures a return to a discipline-acquired form of knowledge in schools, with greater emphasis on the subjects' specialized knowledge. However, because the Norwegian reform is based on cognitive theories, which emphasize elements that are part of 21st-Century Learning, this is a divergent reform, with elements that point in different directions. Although the reform is concerned with subjects and competencies, it provides few clear answers on how subject concepts, content knowledge, and competencies can be connected in a way that gives students access to specialized knowledge in schools. To fully understand the implications of emphasizing subjects and subject concepts in schools and the ways in which subject concepts can provide epistemic access, there is a need for an epistemologically informed approach, where knowledge is understood as something more than a mental state, and subject theories and concepts represent an objectified form of knowledge. Social realism is such a theory (Maton & Moore, 2010), and it emphasizes epistemic knowledge in education (Rata et al., 2019), where theories and subject concepts are defined as an objective form of knowledge, which represents attempts to explain the world (Wheelahan, 2010). Because theories and concepts represent an objectified form of knowledge, which has a generalizable character, subject concepts can provide "epistemic access" (Shay, 2014). How this can be achieved and how subject concepts, content knowledge, and competencies can be linked so that an "epistemic structure" emerges is a problem that Rata have paid attention to in recent years (Rata, 2019, 2020, 2021). This work has resulted in the so-called curriculum design coherence (CDC) model, and in this paper, we will use this theory as a basis for our study of social studies in the new Norwegian curriculum.

## THEORETICAL FRAMEWORK

This paper will be based on a simplified version of Rata's CDC model (Rata, 2019, 2020, 2021), with a focus on subject concepts, content knowledge, and competencies, and how these elements can be connected in terms of goal formulation, with a design that creates an epistemic structure. When subject concepts are logically connected with specific content in goal formulation, the knowledge has an internal, or epistemically structured, coherence. Rata's model is based on social realism (Maton & Moore, 2010), with a special emphasis on "epistemic knowledge" (Rata et al., 2019) and "powerful knowledge" (Young & Muller, 2013). In the same way as in Bernstein (2000), a distinction is made between everyday knowledge, where meanings are experience- and context-based and lack references outside the context, and on the other hand, epistemically structured knowledge, which can be characterized as a general and context-transcending form of knowledge. Young and Muller have referred to the latter form as "powerful knowledge" (Young & Muller, 2013) because it is based on a form of knowledge that is not context-bound but that instead rests on generalized concepts, which form a complex pattern of meanings based on logical, relational conceptual coherence within an epistemic structure. Epistemic knowledge is a discipline-based form of knowledge, which is created within a social context, but is separated and "abstracted from that context through processes of objectification and generalization" (Rata et al., 2019, p. 165). However, epistemically structured knowledge is not timeless knowledge, and its objectified potential rests on the possibility that this discipline-based form of knowledge is continuously tested, revised, and considered as preliminary. Knowledge in education, should, therefore, in line with social

realism (Maton & Moore, 2010), be treated as propositional statements or knowledge claims, which can be tested against relevant content knowledge. The CDC model is based on this “knowledge that” assumption by connecting generalized concepts to particular content. By revealing the connection between concepts and specific content, the model can make the topic's meaning visible to the students, and the concepts can function as cognitive “building blocks”. In this way, this approach opens up opportunities for cognitive development, also referred to as in-depth learning (McPhail, 2021) and cumulative knowledge building (Maton, 2014, 2016), within the framework of the subject and subject concepts. According to Rata, this is an approach that can overcome the old contradiction between theory and practice in education, where connections can be made between “knowledge that” and “know how to” (Rata, 2021; Ryle, 1949; Winch, 2013, 2014). Subject theories and concepts, which are produced in different disciplines, can be related to cognitive development in a way that can increase students' understanding of the subject when working with such generalized concepts. Rata's project has been accused of attempting to return to the ideas of disciplinary knowledge and objectivity, which date back to the Enlightenment, accompanied by a devaluation of socio-cultural knowledge and constructivism in education (Stewart & Devine, 2019). In our view, this criticism is misleading, and it can be argued that the connection between “knowledge that” and “know how to” is an attempt to link the students' activities and development to the subject's epistemic structure.

Rata's CDC model (2019, 2021) can be described as a design tool, intended to create a knowledge-based curriculum with a coherent design, which organizes a subject's concepts, content, and competencies in a way that creates a clear epistemic structure. Creating a coherent connection between these elements is demanding and includes problems that are not easily overcome, but Rata and her colleagues have developed and tested this model in schools in New Zealand (Rata, 2021; Rata et al., 2019) and have developed a set of elements that should be part of curriculum design. In our study, we will emphasize the following three elements: subject concepts, content knowledge, and competencies. To analyse the new Norwegian curriculum (Kunnskapsdepartementet, 2019b), which includes different components, we have developed adapted designs, which are suitable for categorizing the goal formulations given in the curriculum for social studies.

## METHODS

This paper is based on the new Norwegian curriculum reform of subject renewal. This reform includes several basic documents, characterized by several built-in tensions, which form the basis for the final document, referred to as the curriculum for Knowledge Promotion (Kunnskapsdepartementet, 2019a). This document consists of different parts and includes curricula for different subjects. In this paper, we will analyse the curriculum for social studies (Kunnskapsdepartementet, 2019b). This plan includes several elements, referred to as the subject's values, core elements, interdisciplinary themes, basic skills, and competence goals. Some of these elements represent a continuation of the previous reform from 2006 (Utdannings- og forskningsdepartementet, 2006). The goal formulations for the various levels in schools take up a lot of space in this plan. These goal formations express in detail the subject's new content from the point of view of the curriculum authors. In this paper, we will delimit the analysis to what are referred to as competence goals, also described as goal formulations, in social studies at different levels in schools. These goal formulations provide a condensed picture of the content of the curriculum and can reveal which connections are created between the different elements, expressed through different designs. Methodologically, we will use text-based content analysis of the goal formulations in the curriculum for social studies (Bratberg, 2021; Krippendorff, 2019). Content analysis is a well-established

method, which provides the opportunity for qualitative and quantitative analyses of the new Norwegian curriculum for social studies. Based on a developed form, referred to as a translation device, and further developed categories with different designs, an analysis of the goal formulations in the curriculum for social studies will be carried out. The study of the curriculum's goal formulations will be based on Rata's CDC model, focusing on the epistemic structure, on the connection between topic and subject concepts, and on whether a connection is established between concepts, content, and competencies in the plan's goal formulations. In line with Rata (2019, 2021) and Maton (2014, 2016), we assume that curricula are textual practices that have effects. A curriculum with goal formulations without a coherent epistemic structure has effects and may create obstacles to the goal of deep learning in the subject. However, this project does not include a study of classroom practices. Our study restricts itself to address the opportunities and limitations that this curriculum provides for in-depth learning in the classroom.

## DATA ANALYSIS

Rata's CDC model is a theoretical tool based on social realism (Maton & Moore, 2010), with a particular emphasis on an approach grounded in "epistemic knowledge" (Rata et al., 2019) and "powerful knowledge" (Young & Muller, 2013). Rata's CDC model (2019, 2021) is an elaborate translation of these theories, with connected elements, and it creates a coherent epistemic structure to provide "epistemic access" (Shay, 2014). In our study, we have used a simplified version of Rata's model and have developed a form, a translation device, which can create a connection between theory and data.

Table 1 shows three elements that should be linked in the curriculum's goal formulation to establish an epistemic structure. The design of the goal formulation can take several forms, depending on the construction and the connection between the various elements. This model is a tool that is suitable for analysing the design of goal formulations and can shed light on what kind of knowledge is interwoven into and emphasized in the curriculum. Different forms of knowledge have different effects, and the analysis will examine the curriculum's opportunities to promote in-depth learning and knowledge building in schools.

Table 1 assumes that the development of an epistemic structure presupposes the presence of three elements: goal formulations that create connections between subject concepts, content knowledge, and competencies. The goal formulation should encapsulate these three elements in such a way that an epistemic structure arises, which places demands in terms of the selection of the different elements and how connections are established between these elements (Rata, 2019, 2020, 2021). The subject concepts are generalizing ones with a relatively context-independent character, which refer to the subject's specialized knowledge. In a subject such as social studies, in many cases, several possible perspectives and concepts exist that may be relevant to the topic. To create an epistemic structure, the goal formulation

TABLE 1 Translation device

Epistemic structure	Description of coded content
Subject concepts	The goal formulation of the curriculum connects the topic to selected key concepts and establishes a relationship between these concepts
Subject content knowledge	The goal formulation of the curriculum connects the topic, subject concepts, and selected content by providing some explanations or interpretations
Competencies/skills	The goal formulation of the curriculum connects the topic, subject concepts, and selected content by providing tasks that require the use of competencies and skills

of the curriculum should connect the subject with selected concepts and create a connection between these concepts. The next step will be to connect these subject concepts to content knowledge, which can anchor the concepts in a context, deepen the meaning of the subject concepts, and provide opportunities to test theories and concepts. The last step involves creating a connection between the subject concepts, content knowledge, and competencies, with the establishment of connections between “knowledge that” and “know how to”. Democracy is a central topic in the curriculum for social studies, and goal formulation may, for example, focus on examining selected aspects of Norwegian democracy. To be able to address such a task, the goal formulation should encapsulate the relevant subject concepts, content knowledge, and competencies that are to be applied. Rata (2021, p. 468) distinguishes between performance competencies and judgement competencies. To meet the objectives of the goal formulation, students should acquire skills (writing, reading, arithmetic, etc.) and understand the concepts that apply and be able to reason in a subject-specific way to solve practical or theoretical problems.

## CATEGORIZATION OF THE DESIGN OF THE GOAL FORMULATIONS IN THE NEW NORWEGIAN CURRICULUM

To carry out the quantitative content analysis (Krippendorff, 2019), it was necessary to develop different design categories suitable for categorizing the curriculum's goal formulations in social studies (Kunnskapsdepartementet, 2019b). These categories were developed based on a simplified version of Rata's model, and justified by Norwegian curriculum reform's emphasis on subjects and subject concepts, where the purpose is to examine the design of goal formulations in the curriculum for social studies. In our view, an approach focusing on the design of the goal formulations is well suited for revealing the organization of knowledge in this curriculum, in the span between epistemic and non-epistemic structure. Against this background, and because the curriculum's aims deal with different topics, where the connections between the different elements can vary, we find it appropriate to analyse the curriculum's goal formulations separately, in order to carry out a content analysis of the curriculum for social studies.

After a testing process, we ended up with a set of different design categories.

Figure 1 visualizes four different designs in the curriculum's goal formulations. The four design categories are, as mentioned, based on Rata, and are tools suitable for uncovering the structuring of knowledge in the goal formulations, and to what extent they provide access to epistemically structured knowledge. The different designs are characterized by varying degrees of connection between the elements, subject concepts, content knowledge, and competencies, spanning the range between an epistemic structure and a non-epistemic structure. While coherent design is based on the CDC model, the other design categories lack this coherence and display different degrees of interconnection between the elements. The other three design categories, which have their own distinctive characteristics, are placed along a line, which reflects deficient or absent epistemic structures. Free-flowing design and content design are a form of knowledge-based goal formulation, which emphasizes subject concepts or subject content without connecting these elements together. Based on the CDC model, subject concepts are decisive epistemic elements, and the free-flowing design category is therefore placed before content design in Figure 1. Goal formulations with a content design have a one-sided focus on subject content and lack subject concepts, which can be generalized to include many objects. Nevertheless, one complicating element is the fact that a word like “parliament” can function both as a concept for a political institution but also as a word to describe a specific institution (Rata, 2021, p. 466). Content design can sometimes use terms to refer to a particular political system or a specific state of diversity. In such a

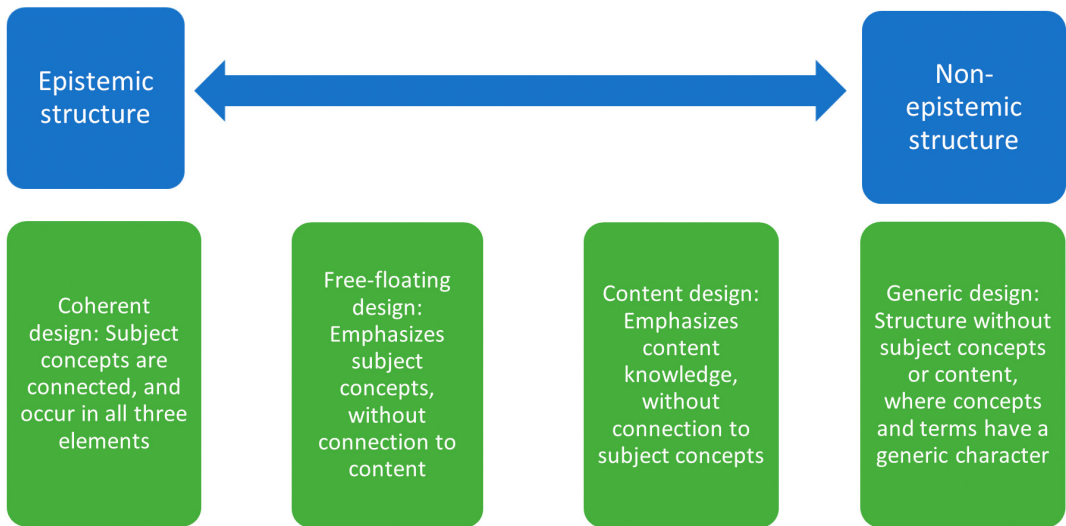


FIGURE 1 Content analysis of the goal formulations in the curriculum: Categorization of different designs.

case, the word refers to a specific body, for example, the Norwegian political system, and not to a general idea about the political system. In our analysis, we will distinguish between when a word functions as a concept and when it refers to particular content. Goal formulations with a generic design replace subject terms with simpler, non-subject-specific terms, referred to as generic terms. These terms are general, are often accompanied by content that is not subject-specific, and do not provide access to the subject's epistemic structure. In other words, the four design categories provide insight into how the curriculum authors have interpreted the new Norwegian curriculum subject renewal, with goal formulations that provide different messages about what kind of knowledge students should learn in social studies in schools. The categories in Figure 1 differentiate between coherent design, free-floating design, content design, and generic design, and they provide good opportunities for the quantitative and qualitative analysis of the design of the goal formulations in the social studies curriculum.

## RESULTS

In this section, we present the results of our study of goal formulations in social studies in the new Norwegian curriculum. First, we will present how the goal formulations are distributed among the various design categories. Then, in the next section we will give an in-depth analysis of the design of the various goal formulations with regard to the subject concepts selected, the connections created between the various elements, and whether the design promotes in-depth learning and cumulative knowledge building. This section will provide an in-depth analysis, with examples (see Table 2) of goal formulations with different design, as they are expressed in the curriculum. Figure 2 shows the different goal formulation designs and how they are distributed throughout the curriculum at the different levels and overall.

Figure 2 visualizes how the goal formulations in the social studies curriculum are distributed between the coherent design, free-floating design, content design, and generic design categories. The result presents a complex picture, with a mixed message about what kind of knowledge should be emphasized in social studies. Figure 2 shows that goal formulations with a generic design are more common than expected, both at the various levels and in total (45%). The relatively strong presence of goal formulations with a generic design shows



TABLE 2 Examples of goal formulations with different designs

Different designs	Examples of goal formulations in the social studies curriculum
Coherent design	No example of goal formulations in the social studies curriculum
Free-floating design	The student should be able after level 10 to “reflect on similarities and differences in identities, lifestyles and cultural expressions and discuss opportunities and challenges in diversity” (p. 11) The student should be able after level 4 to “reflect on who has power, and what a democracy is, and develop suggestions on how to help influence decisions” (p. 8)
Content design	The student should be able after level 2 to “describe and give examples of diversity in Norway, with emphasis on different family groups and ethnic groups, including the Sami indigenous people” (p. 6) The student should be able after level 10 to “describe features of the political system and the welfare society in Norway today and reflect on key challenges” (p. 11)
Generic design	The student should be able after level 2 to “talk about the possibilities and challenges of digital interaction” (p. 6) The student should be able after level 7 to “reflect on how meetings between people have contributed to how people have thought, and society has been organized” (p. 9)

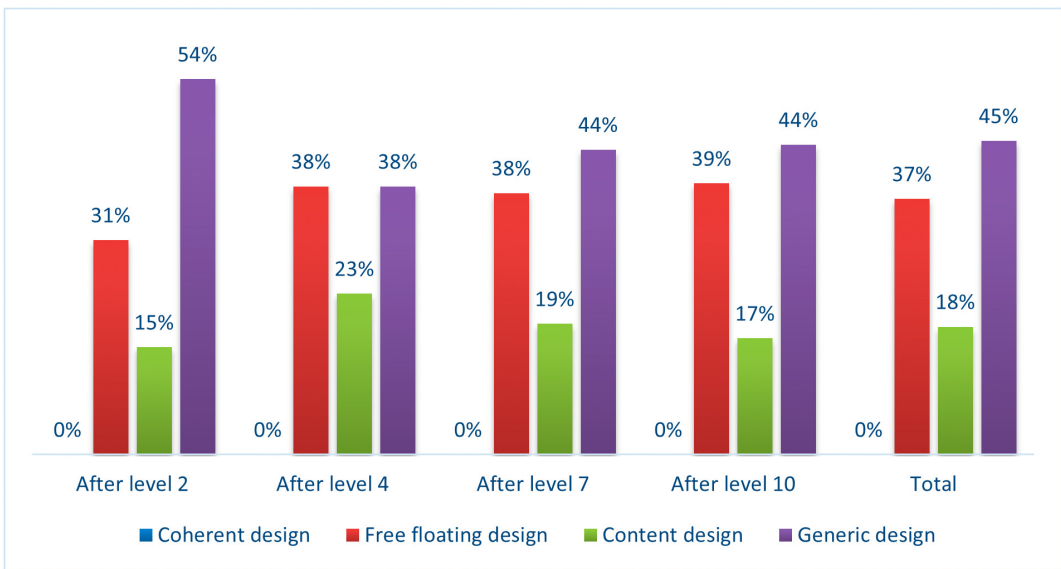


FIGURE 2 Distribution of coherent design, free-floating design, content design, and generic design in goal formulations in the social studies curriculum.

that the new Norwegian plan still has a foothold in the tradition of 21st Century Learning (Lourie, 2020; MacPhail & Rata, 2016). On the other hand, the curriculum can be characterized as knowledge-based, which is expressed in goal formulations with free-floating (37%) and content (18%) designs. Overall, these categories make up the majority of this plan's goal formulations. Both designs can be characterized as knowledge-based approaches but relate in different ways to the requirement for an epistemic structure, with different emphasis on subjects and subject concepts. Goal formulations with a free-floating design, which, in number, make up the largest part of the knowledge-based goal formulations (37%), establish relationships with the subject's specialized knowledge by connecting the topic with some selected subject concepts, but without anchoring these concepts to content. Goal formulations with a content design can be characterized as a subject approach, which places crucial emphasis on mastering content knowledge. In a larger context, both knowledge-based versions, incorporating

goal formulations with free-floating and content designs, can relate international trends with knowledge-based curricula, referred to by Spielman (2018) as “knowledge-engaged” and “knowledge-led” curricula, respectively. Both versions are represented in the curriculum for social studies, with designs that demonstrate uncertainty among the curriculum authors and that must relate to divergent signals in subject renewal and provide few answers on how the elements of subject concepts, content, and competencies can be linked to achieving in-depth learning in schools. The section below will provide an in-depth analysis of the various design categories that are identified in the curriculum for social studies (Kunnskapsdepartementet, 2019b) and the kind of message these goal formulations provide regarding knowledge, with further implications for opportunities for in-depth learning and cumulative knowledge building.

## **The design of the goal formulations in the curriculum for social studies**

As shown in Figure 1, the curriculum's goal formulations are divided into three design categories: free-floating design, content design, and generic design. Of these, the first two can be referred to as knowledge-based approaches, while goal formulations with a generic design emphasize that students should learn skills and competencies, without a clear connection to the subject's knowledge or subject concepts. In this section, we will provide an in-depth analysis of the various designs that are identified in the curriculum's goal formulations (Kunnskapsdepartementet, 2019b, pp. 6–11). All the citations below, taken from this curriculum for social studies, were translated, and page number references are provided.

Goal formulations in the free-floating design category have a knowledge-based approach, which recognizes the importance of subject concepts but encapsulates these goal formulations without linking the concepts to content, deepening the meaning of the concepts and putting these meanings to the test. As mentioned, a significant proportion of the goal formulations in this curriculum are based on this design. For example, the plan sets out the following goal formulation for what a student should have learnt by the end of level 10: The student should be able to “reflect on similarities and differences in identities, lifestyles and cultural expressions and discuss opportunities and challenges in diversity” (p. 11). Identity is a central and important concept in social studies, but in this goal formulation, the concept is not linked to content, and, thus, the concept remains “free-flowing” and general, without being anchored in a specific social context or content. A similar example is taken from the goals to be reached after level 4: The student should be able to “reflect on who has power, and what a democracy is, and develop suggestions on how to help influence decisions” (p. 8). Power and democracy are key concepts in the social sciences, but this formulation is not linked to content. Democracy is a general concept, which can have quite different meanings and content in different democratic countries. When the connection between subject concepts and content is missing, the meaning of the goal formulation becomes unclear, and it becomes difficult to obtain evidence of the meaning of the concepts. The absence of connections between subject concepts and content puts students in a difficult position and opens the subject up to a distinct form of “ideological” teaching, with an emphasis on “big ideas” or theories without anchoring these in content. Design in this category places great emphasis on generalized subject concepts, but because these concepts are not anchored in content, this creates problems for in-depth learning and cumulative knowledge building in the subject.

Goal formulations with a content design represent another knowledge-based approach, which is subject to unintended consequences. This design is characterized by a strong focus on subject content knowledge that does not establish a clear connection to subject concepts. This approach draws attention to an established list of contents, which students should learn, but content alone does not provide access to the subject's specialized knowledge and to

theories and concepts that can explain and provide insight into the underlying conditions. For example, we find the following goal formulation in terms of what a student should have achieved after level 2: The student should be able to “describe and give examples of diversity in Norway, with emphasis on different family groups and ethnic groups, including the Sami indigenous people” (p. 6). This example shows the limitation of content design, where the student should learn about diversity in Norway based on a discussion regarding selected groups in Norwegian society, which will provide content with regard to this diversity. In this design, the social studies subject is reduced to a collection of facts, a dictionary version of the subject, without connection to subject concepts and the social science discourse on diversity in modern society. The students' learning will here take the form of acquiring a given collection of facts, which paves the way for a return to traditional rote-learning schools, where the focus is on memorizing defined content knowledge (Young, 2020). We find a similar goal formulation regarding what a student should have learnt by the end of level 10: The student should be able to “describe features of the political system and the welfare society in Norway today and reflect on key challenges” (p. 11). The political system and the welfare society are general subject concepts, but in this goal formulation, these terms have a descriptive and contextual character, which does not create connections to concepts and theories about political systems or the welfare society. The design of this goal formulation does not create a connection to subject concepts, and without this connection, which has a generalizing and connecting function, the meanings of these terms remain fragmented and contextual. Goal formulations with a content design emphasize content knowledge, but this element alone does not give students epistemic access. The absence of connections to subject concepts has effects and creates obstacles to students' in-depth learning and knowledge building (Maton, 2016; McPhail, 2021).

The last group of goal formulations in the curriculum places decisive emphasis on skills and competencies and is characterized by a generic design. This design continues to incorporate elements that are part of the 21st-Century Learning movement, and it is characterized by a lack of connection to subject concepts and subject-specific content knowledge. The concepts that are used in the goal formulations are generic and give a vague and mixed message about what kind of knowledge the students should learn in social studies. After level 2, a student should, for example, be able to “talk about the possibilities and challenges of digital interaction” (p. 6). After level 7, the student should be able to “reflect on how meetings between people have contributed to how people have thought, and society has been organized” (p. 9). Both goal formulations place decisive emphasis on student assessment, but without linking this form of competence to subject concepts and content knowledge. Students should talk and reason, not by connecting subject concepts, but by using generic concepts, such as “digital interaction” or “society”. These words are not rooted in a context or specific content knowledge and are not related to subject concepts, and the meanings of these concepts will be determined by student activities, with perceptions that emerge through conversation and reflection in the classroom. These goal formulations are without connections to subject concepts and content and are at risk of leading to knowledge that is subjective and context-dependent. Competencies that are not linked to content and subject concepts become an independent element, which is not linked to the specialized knowledge of social studies. This type of know-how knowledge, without connections to the subject's epistemic structure, creates problems for in-depth learning and knowledge building in schools.

## DISCUSSION

The new Norwegian curriculum subject renewal is part of an international trend with regard to knowledge-based curricula (Adolfsson, 2018; Hoadley, 2018; Lingard & McGregor, 2014; Rata et al., 2019; Spielman, 2018). Nevertheless, the new Norwegian curriculum is complex

and includes elements that point in different directions. Seen in relation to the international context, the analysis shows that the Norwegian curriculum relates to various trends, which include the 21st-Century Learning movement, but also knowledge-focused approaches. The new Norwegian curriculum aims to promote in-depth learning but provides few answers on how this goal can be achieved, what the emphasis on subjects and subject concepts means, and how the elements of subject concepts, content knowledge, and competencies should be linked. Against this background, it is not surprising that the results are divergent, with approaches that demonstrate problems and uncertainty, as illustrated by the analysis of the design of the goal formulations in the social studies curriculum. The analysis of the curriculum for social studies shows that the goal formulations are divided into three design categories: free-floating design, content design, and generic design. Of these, only the first two can be characterized as knowledge-based approaches, which represent attempts to interpret what the reform's emphasis on subjects and subject concepts means. As shown, these design categories emphasize either subject concepts or content knowledge, but without establishing a connection between them. When this connection is missing in the design of the goal formulations, the epistemic structure of the subject remains unclear or invisible in the treatment of the topic, which places obstacles in the way of in-depth learning and knowledge building in schools.

Our study of the new curriculum for social studies shows a tendency towards a stronger emphasis on subject knowledge, with goal formulations that recognize subject concepts or subject content but that do not link these elements together. We will argue that this result of goal formulations without an epistemic structure can be linked to the contradictory elements laid down in the new Norwegian curriculum reform. Even though the reform emphasizes subjects and subject concepts, these elements are related to learning theories, where knowledge is understood within a constructivist framework. This theoretical framework places crucial emphasis on learning, where knowledge is understood as a mental state. Seen from a social realist position (Maton & Moore, 2010), this approach lacks an explicit theory of knowledge in education to recognize that the theories and concepts of the subjects represent a form of objectified knowledge, which exists regardless of individuals' consciousness or mental states. The constructivist approach and the 21st-Century Learning movement are based on a view in which knowledge in education is understood as something that is tied to the knower (Maton & Moore, 2010; McPhail & Rata, 2016). This theory, which is the foundation for the new Norwegian curriculum, does not recognize discipline-based knowledge as an objectified form of knowledge. Although the reform emphasizes subjects and subject concepts as crucial for promoting in-depth learning, the curriculum lacks a theory that can support the development of a curriculum with a coherent design, which recognizes the generalizing function of subject concepts and has goal formulations linking subject concepts, content knowledge, and competencies in a way that provides "epistemic access" (Shay, 2014).

The idea that knowledge is linked to subjects and subject concepts has significant implications for the curriculum. However, our study shows that the transition to a knowledge-based curriculum must be anchored in a theory that recognizes the disciplines' knowledge, expressed as generalized subject concepts, a form of objectified knowledge, which is not linked to the knower. The Norwegian reform, with its emphasis on subjects and subject concepts, opens the door to "powerful knowledge" (Young & Muller, 2013), but lacks a theory of knowledge that can support the preparation of a curriculum with a fully developed epistemic design. Developing knowledge-based curricula with an epistemic design is not a simple matter and requires a theoretical model of the kind that Rata have developed (Rata, 2019, 2020, 2021). A curriculum with a coherent epistemic design opens up opportunities for in-depth learning by making the epistemic structure of knowledge visible to students. Curricula with a concept-based curriculum design and a coherent

epistemic structure will enable students to climb an epistemic ladder, where the acquisition of the subject's specialized knowledge can take the form of "conceptual progression" (Rata, 2016), resulting in a progression in terms of understanding with an increasing degree of complexity, which is a prerequisite for in-depth learning and cumulative knowledge building in education.

## CONCLUSION

This study of the new Norwegian curriculum subject renewal, which is part of an international trend with regard to knowledge-based curricula, shows that the transition to a knowledge-based curriculum is marked by several problems. As shown in our study, these problems lead to designs in the curriculum for social studies with goal formulations that do not create a connection between subject concepts, content knowledge, and competencies. The knowledge-based approaches in the curriculum for social studies, referred to as free-floating and content designs, include goal formulations that emphasize either subject concepts or content knowledge. These designs are based on interpretations of subject renewal and represent knowledge-based approaches, which emphasize the subject knowledge and subject concepts without creating a coherent epistemic structure. The renewal of the Norwegian curriculum, with emphasis on subjects and subject concepts, leads to knowledge-based approaches. However, as demonstrated in our study, these approaches are flawed, leading to goal formulations with designs that do not create connections between subject concepts and content knowledge. The design process, therefore, remains incomplete in the new curriculum for social studies. Curriculum design with epistemic structured knowledge, which connects subject concepts, content, and competencies, can lead to a deeper understanding of the relationships between the epistemic parts and the subject as a whole. Designs that lack connections between subject concepts and content knowledge create problems, which make in-depth learning and cumulative knowledge building difficult in social studies.

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## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this paper.

## DATA AVAILABILITY STATEMENT

All references to the analysed curriculum are given in the form of a title and references in this paper.

## ETHICS STATEMENT

Ethical approval was not required for this work.

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