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‘The knowledge question’ in the Norwegian curriculum

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Abstract

‘The knowledge question’, addressing what students need to know and learn, becomes particularly relevant during the process of a new school reform. This paper examines the political messages and the role of knowledge in the current curriculum reform initiative for primary and secondary education in Norway (2020). The study is based on a document analysis of four key policy documents and one subject curriculum. Analysis reveals that, although the messages in the policy documents express expectations of strengthening the knowledge dimension in the school subjects, analysis of a new subject curriculum framework indicates that it more clearly prescribes skills, methods and strategies than the specialised knowledge content to teach. We conclude that the continuation of a competency-oriented curriculum model, wherein the competence aims are the governing category, explicit content is difficult to prescribe because of the contrasting assumptions that underline a content-oriented versus a competence-oriented curriculum. The two curriculum models demand different approaches to ‘the knowledge question’, and raises questions about whether combining these two orientations in one curriculum model is possible.

KEYWORDS
curriculum policy, document analysis, knowledge, school subjects, subject curriculum

INTRODUCTION

'The knowledge question' concerning what students need to know and learn in schools, is a highly pertinent question for educators everywhere. The question has gained new relevance due to global trends in contemporary curriculum-making, characterised by some scholars as a curriculum turn or a 'new curriculum' (Priestley & Biesta, 2013; Priestley & Sinnema, 2014). This curriculum turn involves at least three common features. The first feature is a shift from an input-oriented curriculum, specifying particular content knowledge, towards a skill-focused and competency-oriented curriculum (Rata, 2012; Wheelahan, 2007, 2010; Young, 2008). This re-orientation is often associated with 21st century skills and lifelong learning. The second feature is a learner-oriented curriculum focusing on 'learning to learn' (Biesta, 2012; Williamson, 2013). The third feature is a movement towards a more standardised and outcome-oriented curricula (Mølstad & Karseth, 2016; Prøitz, 2015).

The setting of this paper is the Northern-European country of Norway. The 2006 school curriculum reform initiative in Norway, known as *The Knowledge Promotion*, represented a shift from a content-oriented curriculum to a competency-oriented curriculum (Karseth & Sivesind, 2010). However, from 2020 Norway is implementing a new school reform. In the policy-making process, the new LK20-reform (2020) has been referred to as an adjustment of the previous reform in 2006 (LK06-reform). Throughout the reform process, the role and place of knowledge in the curriculum have been an issue. This paper touches on broad questions raised by various stakeholders connected to 'the knowledge question', such as 'how to address curriculum overload?' and 'what is the place of knowledge in a competency-oriented curriculum?' Addressing these questions spotlights the subject curriculum as an important text in schools.

Against this backdrop, and by using the latest reform and the contemporary curriculum model of Norway as a case, we aim to offer an empirical contribution to the debate about the role of knowledge in the curriculum. The following two research questions guide this paper:

1. What are the messages about knowledge in school subjects in the policy documents behind the LK20-reform?
2. How is knowledge in the Norwegian curriculum subject (2020) framed, positioned and formulated?

There are several reasons for focusing on the Norwegian subject. Like mother-tongue subjects in many countries, the subject is holistic and complex, entailing an epistemological mosaic of various forms of knowledge structures. The subject has connections to several different disciplines and is by nature interdisciplinary. Additionally, the knowledge base for teaching the subject is varied since the teachers bring with them variations in background and specialisations. Van de Van (2005), who historically investigated mother-tongue subjects in nine Western countries, sees mother-tongue education as an ongoing paradigmatic discussion, pointing out that new paradigms never completely replace old ones. Van de Van refers to the subject as polyparadigmatic. It is also widely recognised that reading, writing, and oral skills, have a prominent place in this compound subject. In most countries, the mother-tongue subject is the most extensive compulsory subject with a strong output regulation that from governmental agencies receive scrutiny. This is also the case in Norway (e.g., through a long history of national written exams and national testing in reading, 5th and 8th grade, from 2004).

This paper first provides a brief overview of the Norwegian curriculum context. Then, it outlines perspectives on knowledge in school subjects. Next, the analytical steps, methods, and selected data are presented before sharing the findings. Lastly, the discussion addresses issues arising from the analysis.

THE NORWEGIAN CURRICULUM CONTEXT

The educational system in Norway builds on a long tradition of a centralised curriculum established nationally by the government. History shows societal and ideological shifts, but also stability and long-lasting patterns (Sivesind & Karseth, 2019). In connection with the latter, the school subjects exhibit a stable pattern of prominence. For example, the Norwegian subject appeared for the first time as a distinct subject in 1889 (Skjeldbred, 2013).

In combination with a state-based curriculum, Norway has a decentralised model of implementation. Especially after the reform in 2006, municipalities and local schools were given extended local autonomy (Møller et al., 2013). Attention to what is considered sufficient professional 'space' for teachers in the subject curriculum is high on the agenda. Hopmann (1991) refers to the concept of *licensing* to explain the separating responsivities between the national administrative policy level and the professional local level where teachers operate. From the national level, the teachers receive *a license to teach*—meaning given 'pedagogical freedom' to construct and select appropriate methods and content in response to their students' identified interests and learning needs.

In the twenty-first century, Norway joined many other Western countries in changing its curriculum policy from a content-driven to a competency-oriented approach. The new competency orientation, or the curriculum turn, follows the international policy agenda; the DeSeCo-project (Definition and Selection of Competencies: theoretical and conceptual foundations) from the organisation for Economic Co-operation and Development (OECD), developed between 1997 and 2003, is often associated with the shift (OECD, 2005). The OECD played an important role in mobilising a future-focused competency orientation that applauds the learner as a self-reflexive agent that needs to develop a range of transferable skills and competencies. In an OECD narrative, competence is often linked to employability issues and competitive global work life, but it is also seen as crucial for individual self-realisation. In short, the concept of competence is driven by arguments related to both the knowledge economy and individual learning needs and interests, making it appear as a term with a consensus-creating function.

One specific incident that sparked the changes in Norway was the publication of the PISA results in 2000. Norwegian students' scores were average compared to students in other countries, and the disparities in learning outcomes were greater than expected (Imsen & Volckmar, 2014; Mausethagen & Mølstad, 2015; Møller & Skedsmo, 2013). The call for a more accountability-based policy represented a break from the earlier input-based regulation that had traditionally characterised Norway's educational sector (Helgøy & Homme, 2016). These new policies paved the way for the LK06-reform, which can be seen as a fundamental reform that follows ideas from a global reform agenda (Steiner-Khamsi et al., 2020).

The new 2020 subject curricula framework in Norway continues with components introduced by the LK06-reform, such as *competence aims* and *basic skills*. In addition new components, such as *core elements*, *interdisciplinary topics*, and *assessments*[1] have been introduced. The three interdisciplinary cross-curricular topics are: (a) Health and Life skills, (b) Democracy and Citizenship, and (c) Sustainable Development. The LK20-reform entails a new Core Curriculum (Ministry of Education and Research, 2017), while the agenda of the new reform does not include any new subjects, and no significant changes were made in the regulation of teaching and training hours per subject.

Taken together, a country's curriculum work is embedded in a context guided by both global policy initiatives and trends as well as national mindsets and institutional procedures

The prevalence of the competency-oriented curriculum model is extensive; however, this competency orientation also faces significant critiques.

BRINGING KNOWLEDGE BACK INTO THE CURRICULUM TALK

Researchers have criticised the competency orientation for downgrading the role of knowledge in the curriculum (Priestley & Biesta, 2013; Priestley & Sinnema, 2014). Indeed, at the turn of the millennium, some scholars characterised the competency orientation as a curriculum problem (Moore & Young, 2001; Muller, 2000). Muller (2000) pointed to the unclear boundaries between everyday and specialised knowledge in competency-oriented curriculum, calling the competency orientation an anti-epistemological movement. Meanwhile, Wheelahan (2007) argued that the shift from a content-oriented to a competency-oriented curriculum in Australia's vocational education locked the working class out of *powerful knowledge*.

Theoretically, both Muller, Wheelahan, and Young all drew upon Durkheim and Bernstein to reflect upon the characteristics of the powerful knowledge concept. Powerful knowledge refers to the knowledge, not to the knowers, and is considered powerful 'if it predicts, if it explains, if it enables you to envisage alternatives' (Young, 2014, p. 74). In several publications, Young and other advocates of powerful knowledge, through the lens of social realist theory, have emphasised three key characteristics of powerful knowledge. First, it is *specialised*, expressed in boundaries between academic disciplines and school subjects. Second, it is *differentiated*, meaning something other than everyday or non-school knowledge; and third, it is *generalisable* and *systematic*, meaning not rooted in a specific context or experience (Muller & Young, 2019; Young, 2008; Young & Lambert, 2014).

In recent years, scholars from different disciplines, from within and outside social realist theory, have participated in the conversation about knowledge in the curriculum. For example, some have questioned the separation between the everyday and specialised knowledge (Alderson, 2020), while others have presented alternative perspectives and suggested paying attention to the European didactic theory (e.g., Deng, 2015; Gericke et al., 2018). Deng (2015) broadened the debate when he argued that the transformation process, selecting and transforming knowledge into school content, must be better accounted for. Grace (2017) called into question the social realist approach to skills, especially literacy, in the curriculum.

Researchers have made several attempts to investigate powerful knowledge in specific school subjects, such as geography (Maud, 2020; Virranmäki et al., 2019), history (Nordgren, 2017; Ormond, 2017), physics (Yates & Millar, 2016) and English (Yandell & Brady, 2016; Yates et al., 2019). Together these studies provide insights into powerful knowledge in a variety of school subjects. Several of these studies have investigated *if* a specific school subject gives access to powerful knowledge, while others have touched upon the question of *how* to transform powerful knowledge into curriculum content and practice. Other studies emphasise that the selection of content in a school subject requires a combination of reflections and consideration and that curriculum and pedagogy are not to be distinguished (Yates & Millar, 2016).

Young and others brought knowledge back into the curriculum talk and identified a possible challenge to a competency-oriented curriculum. This identification is central and *specialised*, *differentiated*, *generalisable* and *systematic* knowledge are used as a lens in this paper to illuminate 'the knowledge question' in the selected policy documents and a concrete subject curriculum document. We will now move on to this study's data

and methods before analysing and discussing the role of knowledge in the Norwegian LK20-reform.

DATA AND METHODS

We used a qualitative approach, employing document analysis to gain insights into national education policy. In the first part, we examined key policy documents behind the LK20-reform. We investigated how these policy documents communicate the role and status of knowledge in the subject curriculum (research question 1). In the second part, we zoomed in on a school subject curriculum to examine how policy intentions are operationalised in a concrete subject curriculum (research question 2). A two-step analysis approach provided insights into both the policy *process* and the transition into a subject curriculum *product*.

The selected documents are stable and publicly accessible sources that vary in length, structure, and official status (see Table 1). Regarding the document Curriculum in Norwegian (Ministry of Education and Research, 2020), we chose to analyse the text document. A multimodal digital version of every subject curriculum has been launched, but since this version is closely connected to the support materials and guidelines, we did not include this version.

The use of document analysis is a well-established approach in examining policy and curriculum texts. Document analysis is a systematic procedure that requires the examination of data to elicit meaning and understand and develop empirical knowledge (Bowen, 2009). According to Saarinen, a policy text 'tells us which policy problems and goals are brought to the fore, and which are left aside' (Saarinen, 2008, p. 719). Bryman (2015) stated that analysing policy documents is useful because these documents reflect the values and attitudes of a given society at a particular time. Curriculum documents reflect and generate insights about public discourses on education and dominant assumptions and preferences for making and designing formal curricula (Goodson, 1994). Subject curricula are vital parts of any curriculum, and analysis of subject curricula is important in curriculum policy research, as it focuses on the manifestations of expectations formulated in the curriculum (Mølstad & Karseth, 2016).

The starting point involved pursuing new concepts introduced in the Norwegian curriculum policy context connected to the 'the knowledge question'. In the LK20 reform process,

TABLE 1 Policy documents analysed

Title of the document	Explanation of the document
The School of the Future. Renewal of Subjects and Competencies	Official Norwegian Reports (NOU 2015:8). Main report from an expert commission, 2015. (English version)
Fag—Fordypning—Forståelse. En fornyelse av Kunnskapsløftet. (Subjects—In-depth learning—Understanding. Renewal of the Knowledge Promotion Reform)	White Paper 28. Report to the Parliament. Ministry of Education and Research, 2016. (Not translated into English)
Core Curriculum. Values and Principles for Primary and Secondary Education and Training	General curriculum. Ministry of Education & Research, 2017. (English version)
Retningslinjer for utforming av nasjonale og samiske læreplaner for fag i LK20 og LK20S. (*Guidelines for Development of Subject Curricula in LK20* and LK20S)	Directions to regulate and frame both the development of subject curricula and the work of the curriculum groups. Ministry of Education and Research, 2018. (Not translated into English)
Curriculum in Norwegian	Curriculum for the Norwegian school subject from primary and secondary education, Ministry of Education & Research, 2020. (English version)

core elements and *interdisciplinary topics* represent such new concepts. Accordingly, the analysis began by tracing how these two new concepts developed in the course of the reform process. In doing so, it became evident that we also needed to include text passages related to the *re-definition of competence, school subjects, basic skills* and *competence aims*. The selected concepts were found in different parts of the policy texts and discussed in various chapters and contexts. In the process of including, excluding and sorting the text, passages related to assessment were excluded. We are aware that curriculum and assessments are sources of debate, but assessment is not within the scope of this study.

We first skimmed the policy documents superficially to identify where the concepts were discussed in the texts. The second reading involved an in-depth reading unravelling how the new concepts were established, emphasised, and shaped. We used a hermeneutic strategy that explored how language, arguments and strategies developed through the different policy documents. Then, key quotes were selected to illustrate how the new concepts were understood, discussed and formulated in the selected policy documents. Examining the second research question and narrowing the lens to a specific school subject, involved following up on the selected concepts and how these were operationalised in a concrete subject curriculum. The following section first presents identified messages about knowledge in school subjects in the policy-making process before the analysis of the Norwegian subject curriculum.

FINDINGS

The place of school subjects and the re-definition of competence

The government-appointed commission (appointed in June 2013), who were to assess the school subjects in Norway, recommended continuing with the concept competence introduced in 2006 but suggested defining competence more broadly. According to the commission, a definition of competence should incorporate 'social and emotional learning and development, including attitudes, values and ethical assessments' (NOU 2015:8, p. 20). Moreover, they argued that research on learning and development supported the need for a broad concept of competence, as elaborated in their interim report *NOU 2014*:7. They recommended that the broad concept of competence should be implemented through four areas of competence: (a) subject-specific competence; (b) competence in learning; (c) competence in communicating, interacting and participating and (d) competence in exploring and creating.

Interestingly, subject-specific competence was considered a broader category than the traditional *school subjects*. The commission recommended that 'the subject renewal should start in the disciplines in school, and not in individual subjects' (NOU 2015:8, p. 48). Hence, they suggested that, for example, the Norwegian subject, English and foreign language subjects should be treated similarly and that the development of these subjects should be closely connected (NOU 2015:8, p. 55). By identifying common competencies before selecting subject knowledge in the individual subjects, the commission argued for diminishing the boundaries between subjects.

However, White Paper 28 from the Ministry of Education and Research (2016) did not follow this proposal. Instead, it argued for the continuity of a curriculum organised by the long-established *school subjects*. According to White Paper 28, more precise directions for teachers' choice of content (p. 46), in-depth learning (p. 33), progression in students' learning trajectories (p. 42) and emphasis on interdisciplinary topics (p. 37), should happen within the existing *school subjects*. Thus, the existing subjects maintain their position, while at the same time, the individual subjects are to be further developed. Citing Wheelahan (2007),

White Paper 28 argued that subjects develop in an interaction between what is considered powerful knowledge in the academic disciplines and what is seen as important for students to learn in the society of which they are a part (p. 34).

The commission's proposal to broadly define competence was not followed by the White Paper 28 (2016), which instead established the following definition of competence:

> Competence is the ability to acquire and apply knowledge and skills to master challenges and solve tasks in familiar and unfamiliar contexts and situations. Competence includes understanding and the ability to reflect and think critically. (p. 28)

Here, acquiring knowledge and applying skills are essential parts of the definition and should occur within the existing *school subjects*. This definition is applicable to The Core Curriculum (2017) which states that 'learning subject content is a key part of the educational and all-round development mission' (Ministry of Education & Research, 2017, p. 13).

New components in subject curricula: Core elements and interdisciplinary topics

The commission's report suggested focusing on key *building blocks* to guide the selection of content in every school subject. The report saw building blocks as a solution to the problem of handling the endless amount of knowledge produced in the context of a knowledge society (p. 48) and eliminating some of the curriculum overload (p. 64). As a new concept in the Norwegian curriculum context, building blocks are defined as the most important 'methods, ways of thinking, concepts, principles and connections in a subject or discipline' (NOU 2015:8, p. 48).

Organising subject knowledge through building blocks was followed up in the White Paper 28 (2016), but the term building blocks was replaced with the term *core elements*. To clarify the new concept, the White Paper 28 refers to similar concepts internationally, including 'big ideas,', 'core concepts' and 'key concepts' (p. 34). Furthermore, White Paper 28 defined *core elements* as consisting of 'central concepts, methods, ways of thinking, areas of knowledge, and forms of expressions in the subject' (p. 34). Comparing the definitions of *building blocks* (NOU 2015:8) and *core elements* (White Paper 28) demonstrated that some of the same concepts were used, e.g., 'methods', 'concepts' and 'ways of thinking', while the definition in White Paper 28 more strongly emphasised the knowledge dimension.

However, we identified a point of uncertainty in White Paper 28 (2016) related to the function and status of the *core elements* in subject curricula. Keywords in White Paper 28 related to this uncertainty include 'further development' and 'facilitate for discussions', which points to a process of thinking that places less emphasis on final outcomes related to the status of the *core elements*. One unanticipated finding was that The Core Curriculum (2017) neither elaborated, emphasised, defined, nor mentioned the status of the *core elements*. The Guidelines for Development of Subject Curricula (2018) was the policy document that, in the end, explicitly addressed the status of the *core elements*. It established *core elements* to be the second section included in the first part of subject curricula (see Table 2).

The second concept investigated in the policy documents was *interdisciplinary topics*. The commission recommended three *interdisciplinary topics* that concern prevailing national and global societal challenges as a way of ensuring in-depth learning in the sense of understanding relationships and connections between school subjects (NOU 2015:8, p. 52). These topics were followed up in White Paper 28 (2016). Although the topics proposed by the commission were somewhat adjusted,[2] White Paper 28 clarified that the interdisciplinary

TABLE 2 Structure of LK20 subject curriculum

1. About the Subject
Subject relevance and central values
Core elements
Interdisciplinary topics
Basic skills
2. Competence aims and assessment

topics should only be included in the subjects where they are a central part of the subject knowledge. The topics are not to displace other essential content in the subject (p. 38). In this connection, *basic skills* should remain a components in every subject but should be reformulated and only incorporated in relevant subjects (p. 32).

Overall, the analysis revealed that the continued prominence of individual *school subjects* in the LK20-reform, together with the knowledge dimension included and emphasised in two key definitions (i.e., the revised *definition of competence* and the definition of *core elements*) indicates a priority given to the development of knowledge. Adding two new components (i.e., *core elements* and *interdisciplinary topics*) to the subject curriculum also indicates an attempt to strengthen the knowledge orientation.

We now turn to an analysis of the curriculum document for the Norwegian subject. The following section begins by investigating the composition and structure of the new subject curriculum and then proceeds to analyse the formulations and language use.

The subject curriculum design, composition and structure

The curriculum document for the Norwegian subject covers the learning trajectory from primary through upper secondary school. The model of one common curriculum document was introduced in the previous LK06-reform. The new subject curriculum (2020) comprises 17 pages and contains two main parts (see Table 2). The first part, 'About the Subject' (pp. 2–5), consists of several sections that frame aspects in the subject differently and includes six *core elements*:

1. text in context,
2. critical approach to text,
3. oral communication,
4. written text creation,
5. language as system and opportunity and
6. linguistic diversity.

The first part of the Norwegian subject included all three of the *interdisciplinary topics* outlined in The Core Curriculum (2017). It also included four of the basic skills, namely oral skills, writing, reading and digital skills.

The second part include the *competence aims* and descriptions of assessments. The *competence aims* are the only text in the curriculum framed as bullet points (see Table 3). The *competence aims* are described for specific grades, while the presentation of the *core elements*, *interdisciplinary topics* and *basic skills* encompass all levels. *Competence aims* and assessment take up the most pages (pp. 5–17) in the curriculum document.

In summary, the most striking feature of the new subject curriculum framework is how many components are included, especially within the first part (see Table 2). Analysis of the

TABLE 3 Examples of competence aims by school year

	Examples of competence aims
Years 1–2	• Write texts using pen and paper and using keyboard
Years 3–4	• Describe, relate and reason both orally and in writing and use the language creatively
Years 5–7	• Describe, relate, reason and reflect in different oral and written genres and for different purposes
Years 8–10	• Compare and interpret novels, short stories, poetry and other texts based on historical context and their contemporary period • Inform, relate, reason and reflect in various oral and written genres and different purposes and adapted to the receiver and the medium
Last year, general programme, upper secondary	• Use subject-related knowledge and precise terminology in exploratory conversations, discussions and oral presentations on topics relating to the Norwegian subject

role of knowledge in the policy process suggests that adding new components, such as *core elements* and *interdisciplinary topics*, is an attempt to frame the knowledge dimension more robustly in the individual school subjects. The introduction of these new components could be seen as a solution to better balance the content and competency orientations. However, taken together, the curriculum components pointing to various aspects makes the overall picture complicated. All the different parts do not exclude but supplement each other. This raises the question of whether the composition of the new subject framework has become too complex and fragmented and, hence, fails to strengthen the knowledge dimension of the school subject.

The next part analyses the language used to determine whether the formulations in the Norwegian subject reflect more explicit directions on what subject knowledge to focus on.

The subject curriculum's formulations and language use

The open and general title of the first part, 'About the Subject', does not point in any specific direction. The six *core elements* are presented through short two-to-four sentence descriptions that begin with 'The pupils shall' followed by key verbs including 'experience', 'explore' and 'reflect on'. Two *core elements*, namely Language as a System and Opportunity and Linguistic Diversity, explicitly use the word 'knowledge' in the description. The *core elements* texts describe methods and ways that students can show their competencies, facilitated by content descriptions such as 'read texts in order to experience, become engaged in, marvel at, learn about and acquire insights into the thoughts and living conditions of other people' (Text in context, p. 2) and 'listen to and build on the input of others in conversations on subject-related matters' (Oral communication, p. 3). Formulations such as: 'become engaged in' (Text in context, p. 2) and 'experience that the teaching in writing the language is meaningful' (Written text creation, p. 3) requires that students are active and engage in their learning process.

The descriptions of the three *interdisciplinary topics* appear in three-to-four-sentences that beginning with: 'In the Norwegian subject, the interdisciplinary topic … refers to/shall develop'. Health and Life Skills includes the idea that 'reading fiction and factual prose can both confirm and challenge the pupils' self-image, thereby contributing to identity development and life skills' (p. 3). Democracy and Citizenship refers to 'developing the oral and written rhetorical skills of the pupils so that they are able to express their own thoughts and opinions and to participate in societal and democratic processes' (p. 4). The Sustainability

topic focuses on 'how texts present nature, the environment, and living conditions, both locally and globally' (p. 4).

The wording in the text paragraphs (six-to-seven sentences) describing the four *basic skills*, is similar to the language included in Oral Skills, Writing, and, Reading, stating that the Norwegian subject 'has a special responsibility for developing/teaching oral skills, written skills, reading skills' (pp. 4–5). According to this, the subject does not have a special responsibility for developing digital skills.

Taken together, the language used in the six *core elements*, three *interdisciplinary topics* and four *basic skills* represents general instructions on what to focus on. The titles highlights perspectives in the subject. Notably, the word 'text' is used in three of the titles related to the core elements. The formulations describing the different components legitimise *why* certain themes are vital in combination with *how* to work rather than regulating *what* explicit content to select. Underlying some of the formulations is the premise that a student-centred approach will increase levels of student motivation. Health and Life Skills focus on 'fiction and factual prose', while the focus in Democracy and Citizenship is 'rhetoric'. These are familiar themes within the Norwegian subject knowledge base. The focus of the topic Sustainability is harder to determine; so far, relatively little has been published about the possibility of addressing sustainability in the Norwegian subject (see Goga, 2019; Rødnes, 2019).

As previously mentioned, *core elements*, *interdisciplinary topics*, and *basic skills* encompasses all grade levels; unlike the *competence aims*, they are not adapted to specific years. The formulations in the *competence aims* start with verbs that explain how to work and achieve competence. Each verb is followed by a general description of teaching elements (Table 3 provides examples).

The analysis shows that the word 'knowledge' is used when aims are directed towards language and grammar. The same pattern occurs regarding formulations of the core elements. Another interesting finding is the use of the term 'subject-related'[3] as illustrated in the last example in Table 3 and in the following example: 'present subject-related topics orally with and without digital resources' (years 5–7). However, it is not specified what 'subject-related' refers to.

However, the most striking feature of the formulations of the *competence aims* is the foregrounding of verbs describing *how-to* (i.e., doing- and process-orientation), while *what* the students should encounter (i.e., the content orientation) is the secondary element. The initial verbs in the forefront emphasise skills, strategies, and progression (i.e., competency orientation). When comparing the language used in the different parts of the subject curriculum framework, the bullets points describing the *competence aims* are the formulations that most explicitly point to content in the subject. This is because the *competence aims* are described by grade level and formulated as learning outcomes that can potentially be measured after a certain time. However, returning to the definition of core elements and competence in the LK20-reform, it appears that factors such as 'methods', 'ways of thinking' and 'forms of expression', along with *basic skills*, have been integrated more explicitly into the *competence aims* formulations than what specialised subject knowledge should be acquired.

Overall, the language and formulations in the Norwegian subject curriculum (2020) are generic and open regarding explicit subject knowledge. Our findings indicate that the actual *product*, a subject curriculum, only has a stronger knowledge orientation to a small degree, although that was one of the objectives of the new LK20-reform.

DISCUSSION

Exploring 'the knowledge question' in the Norwegian curriculum context and analysing key policy documents behind the LK20-reform revealed an attempt to strengthen the knowledge dimension in school subjects. However, this study's primary contribution

demonstrates that even if there were intentions of a stronger knowledge orientation in the policy *process*, whether the approved new subject curriculum achieves this expectation remains questionable. This also raises questions on the level of national regulation in a school subject. The discussion below considers the potential explanations and implications of these findings.

National curriculum as a regulative frame

Methodological freedom and 'space' represent important principles for the teaching profession in Norway. The teachers are from the national administrative level given *a licence to teach* (Hopmann, 1991; Mølstad, 2015). The analysis revealed that the most powerful curricular regulation in the LK20-reform at the national level was the continuation of the existing school subjects. According to Young (2014), the framing of knowledge in school is strengthened when school subjects are the prominent basis of the curriculum design. The question to ask then is whether introducing new components, such as *core elements* and *interdisciplinary topics*, actually strengthens the knowledge dimension in the offered school subjects.

The analysis shows that despite expectations in the policy-making process, it is not the new components but the *competence aims* that are the main governing component in the subject curriculum. However, as a governing category, the competence aims are open and generic regarding content selection. This is in line with an ongoing study evaluating the new reform. By investigating the competence aims in the Norwegian subject, this study found that the 113 competence aims in the LK20-reform, had been reduced from 198 in the LK06-reform (Karseth et al., 2020, p. 131). Hence, the researchers did not find more explicit content descriptions with fewer competence aims when comparing the formulations. In addition, we found that the competence aims are mainly controlling *how to work* (describing methods, skills, and strategies) rather than regulating *what* subject knowledge students are entitled to. The *how*-orientation is in the foreground, while the *what*-orientation is in the background. From the national level, teachers in the Norwegian subject are offered more specific guidance regarding which methods, skills, and strategies to focus on, rather than what explicit content to select. Hence, we may argue that the new subject curricula in Norwegian (2020) narrow the teachers' 'freedom of method' while at the same time is expanding the teachers' 'freedom of content selection'.

Following Hopmann's argumentation and his historical analysis, we question if the LK20-reform represents a final discontinuation of the licensing model where the national curriculum regulates what content to teach. Largely the LK20-reform leaves it up to the professionals at local schools to select appropriate content. At the same time, teachers do not have a similar 'licence' to select appropriate methods, strategies, and skills. As such, it may be that the new subject curriculum is *open* (i.e., provides the 'licence' to select content) and *limited* (i.e., restricts the 'licence' to select methods) at the same time.

National curriculum reforms and global reform movements

As mentioned earlier, Norwegian curriculum policies seem to align with the OECD regarding what the main policy problems are and where to look for solutions. An issue with this connection is how a country like Norway, which has a long tradition of a comprehensive education system, fits into the OECD discourse. In different publications in recent years, the OECD has expressed concern related to an overcrowded curriculum and how this affects students and teachers (see, e.g., the OECD-report *Curriculum Overload. A Way Forward*, 2020). In this report, Norway is listed as a country that uses 'big ideas' as a key concept in the curriculum. In the policy-making process in Norway, *core elements* were launched as a 'solution' to the

issue of the overcrowded subject curriculum. Yet analysis of the Norwegian subject curriculum illustrates that it is questionable *if* and *how* this 'solution' works. We find that this new component in the Norwegian reform context is not at the centre of the subject curriculum. Rather, the analysis suggests that the governing category is the competence aims. In addition, analysis of the formulations of the six core elements finds that specialised subject knowledge is neither particularly specific, nor explicit. It may be the case that this global concept and the language used to describe the six *core elements* is creating a distance rather than inviting the teaching profession into a conversation and dialogue regarding what content to emphasise.

Subject curriculum as a working tool for teachers

A well-known dilemma in many countries is achieving an appropriate balance between explicit guidance and openness of content choice in the subject curriculum. On the one hand, there are robust arguments for school-level autonomy, local adjustments, flexibility, and 'space' for teachers. On the other hand, a subject curriculum, focusing mainly on content descriptions, risks being learned by rote without any room for critical reflections or innovation. Still, *if* the subject curriculum is not explicit enough regarding *what* the students ought to *know*, it might limit the teachers' to ask: '"is this curriculum meaningful to my students?" rather than "[w]hat are the meanings that this curriculum gives my students access to?"' (Young, 2013, p. 106). As pointed out earlier, neither a pedagogical learned-centred approach nor a future-focused competency-oriented curriculum guarantees the development of essential subject knowledge.

Suppose that the new subject curriculum is too vague and limited regarding *what* essential subject knowledge to select. In this case, if teachers do not derive sufficient support from it or help in navigating the selection of *specialised*, *differentiated*, and s*ystematic* knowledge from the subject curriculum, they may seek content descriptions elsewhere and outside the subject curriculum. A previous study in the Norwegian context, related to the reform in 2006, found that lack of content prescriptions in the subject curriculum gave publishing companies greater power to decide content in a subject (Engelsen, 2008). In the same vein, Rødnes and deLange (2012) found that teachers only used the subject curricula to a small extent in planning their lessons, relying instead mainly on textbooks and teacher guidelines. Another study (Gilje et al., 2016) noted that the traditional textbook, being more multimodal and often used with digital teaching materials, is still prominent in Norwegian schools. Together, these studies highlight that teachers seek advice and support in their content selection outside the subject curriculum. In this, teaching material development takes place on other premises than the formal and national curriculum process. Thus, it is not necessarily the teaching profession at the local level that interprets the subject curriculum. Furthermore, if the subject curriculum is too vague regarding content descriptions, it will not provide sufficient support to the developers of learning materials and resources either.

Adding to the preceding discussion, the new curricular framework possibly represents a rather complex design that requires teachers to read not only forward and backward but also longitudinally and transversely if they are to fulfil the overarching competence aims with content. This raises questions about what route teachers will take through the subject curriculum document. All the different sections highlight various aspects of the Norwegian subject, inviting the interpretation that the subject consists of several 'subjects'. As such, what is at the centre of the 'new' Norwegian subject is not a clear-cut. As explained in the introduction, the Norwegian subject represents an epistemological mosaic of various knowledge structures. Still, if the subject ends up being 'nought but an onion—several layers without a core', like the character Peer Gynt in the play by Ibsen, it is an open question which 'subject' will be in focus, what the main route for teachers will be, and how teachers will re-contextualise this new subject curriculum in their practice.

FINAL REFLECTIONS

The following conclusion can be drawn from the present study: it is possible, on the surface, to strengthen subject knowledge by introducing new content-oriented components in a competency-oriented curriculum model. The new subject curriculum in Norway does this by including both *core elements* and *interdisciplinary topics* as new components in every school subject. However, our research illustrates that it is questionable whether this solution leads to a stronger knowledge orientation in the school subjects. In a competency-oriented model, wherein the *competence aims* are the governing category, explicit content is difficult to prescribe because of the contrasting assumptions that underline a content-oriented curriculum versus a competence-oriented curriculum. The two models demand different approaches to 'the knowledge question'; therefore, we question whether combining these two approaches or orientations in one curriculum model is possible. Teaching skills, methods, and strategies may result in various competencies, but possibly not *specialised*, *differentiated*, and s*ystematic* subject knowledge.

This analysis is a starting point to explore the new LK20-reform in Norway. At the same time, this study contributes to the ongoing international scholarly debate about the role of knowledge in the curriculum. Nevertheless, regardless of what kind of knowledge is prominent, selected, and justified in a subject curriculum, students do not acquire knowledge simply because it is prescribed. Access to *specialised*, *differentiated*, and s*ystematic* subject knowledge demands a process of thinking and engagement and is linked to pedagogical processes. This research has raised many questions that require further investigation. Therefore, more empirical research is needed to more clearly understand how the new subject curriculum in the LK20-reform in Norway plays out for teachers and students in their daily practice.

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Ethical approval was not required for this work.

CONFLICT OF INTERESTS
The authors are not aware of any bias that might be perceived as affecting the objectivity of this review.

DATA AVAILABILITY STATEMENT
The document analyzed in this study is open publicly accessible sources from these two websites: Udir.no (The Norwegian Directorate for Education and Training), https://www.udir.no/in-english/ and Regjeringen.no (Ministry of Education and Research), https://www.regjeringen.no/en/dep/kd/id586/

GEOLOCATION INFORMATION
Norway.

ENDNOTES
[1] Note that this component is primarily focusing on formative assessment

[2] The expert commission recommended these themes: sustainable development, the multicultural society and public health and well-being (NOU 2015:8, p. 52).

[3] Note that this phrase is also used in other sections, as for example core elements, basic skills and assessments-texts.

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