

Sustainable Eaters

Consumers in a sustainable Norwegian food system

Research Brief

Education for Sustainable Development in Norwegian Schools

Interdisciplinary Practice and Implementation

August 2026

Six years after the introduction of new Norwegian National Curriculum "Kunnskapsløftet 2020" (LK20), sustainable development is firmly established on the policy agenda in Norwegian schools. Teachers largely embrace the goals of Education for Sustainable Development (ESD) and recognise the importance of interdisciplinary approaches. However, implementation remains uneven and is often constrained by organisational structures, limited collaboration opportunities, and variations in teacher competence and confidence.

Sustainability education is often organised as a series of discrete events or thematic periods rather than as a sustained and integrated component of teaching throughout the school year.

Key Messages

- **Teachers strongly support sustainability education, but many perceive sustainable development as a complex and demanding field of knowledge.** While teachers demonstrate broad awareness of sustainability issues, many report uncertainty about their own expertise and their ability to address the full complexity of environmental, social, and economic dimensions.
- **Interdisciplinary teaching is widely viewed as the ideal approach, but classroom practice remains largely multidisciplinary.** Schools frequently organise sustainability teaching through theme weeks, projects, or parallel subject activities, while fully integrated interdisciplinary approaches are less common.
- **Environmental sustainability dominates teaching and teacher thinking.** Although teachers acknowledge that sustainable development includes environmental, social, and economic dimensions, climate and environmental issues receive much greater emphasis than social justice, citizenship, or economic sustainability.
- **School structures are the primary barrier to effective ESD implementation.** Lack of planning time, timetable constraints, subject boundaries, and limited opportunities for cross-disciplinary collaboration make it difficult for teachers to realise the ambitions of LK20.
- **Successful implementation requires a whole-school approach.** Stronger leadership support, sustained professional development, and organisational structures that promote interdisciplinary planning are essential if ESD is to move from isolated projects to a coherent and transformative educational practice.

Executive Summary

Education for Sustainable Development (ESD) has become a central educational priority internationally and in Norway. Through the LK20 curriculum reform, sustainable development was established as one of three interdisciplinary themes intended to prepare students for addressing complex societal challenges. However, the successful implementation of ESD depends largely on teachers, school organisation, and the ability of schools to integrate sustainability across traditional subject boundaries.

This research brief synthesises findings from a national survey involving 162 teachers and interviews with teachers from several Norwegian schools. Across all datasets, teachers generally demonstrate a strong commitment to sustainability education and recognise that sustainable development is inherently interdisciplinary. At the same time, they report considerable uncertainty regarding both sustainability content and the practical implementation of interdisciplinary teaching.

The findings reveal three main conclusions. First, teachers understand sustainable development as a broad and complex concept encompassing environmental, social, and economic dimensions, although environmental issues tend to dominate both understanding and practice. Second, interdisciplinary teaching remains more aspirational than fully realised. Most schools rely on multidisciplinary projects and theme weeks rather than sustained interdisciplinary teaching. Third, organisational barriers, particularly limited planning time, insufficient collaboration structures, and unclear leadership support, significantly constrain implementation.

The evidence suggests that Norway has largely succeeded in embedding sustainability within curriculum policy but has been less successful in creating the conditions needed for consistent implementation. Strengthening teacher competence, increasing institutional support, and promoting whole-school approaches appear essential for realising the transformative ambitions of ESD.

Study at a Glance

- ✓ **Research focus:** Examining how Education for Sustainable Development (ESD) is understood and implemented in Norwegian schools following the introduction of LK20, with particular attention to interdisciplinary teaching and sustainability education practices.
- ✓ **Participants:** Norwegian primary and lower secondary school teachers from across the country.
- ✓ **Study design:** Mixed-methods study combining a national teacher survey with qualitative teacher interviews.
- ✓ **Survey sample:** 162 teachers representing schools from both urban and rural municipalities across Norway.
- ✓ **Interview sample:** Teachers from several Norwegian lower secondary schools participated in semi-structured interviews exploring understandings of sustainable development, ESD, and interdisciplinary teaching.
- ✓ **Key areas of investigation:**
 - Teachers' understandings of sustainable development;
 - Teachers' competence and awareness regarding ESD;
 - Organisation of interdisciplinary teaching;
 - Barriers and challenges to implementation;
 - The role of sustainability as a cross-curricular theme in LK20.
- ✓ **Data sources:** National questionnaire data and qualitative interview data analysed to provide both broad and in-depth perspectives on ESD implementation in Norwegian schools.

Background

The concept of sustainable development gained prominence through the Brundtland Report (1987), *Our Common Future*, which defined sustainable development as meeting present needs without compromising the ability of future generations to meet their own needs. Since then, sustainability has become a key policy objective internationally, supported by organisations such as UNESCO, OECD, and the European Union. These organisations consistently describe education as a critical mechanism for achieving sustainable societies.

The challenge is particularly urgent in the Anthropocene, an era characterised by profound human influence on ecological systems. Climate change, biodiversity loss, resource scarcity, and increasing social inequalities require citizens capable of understanding complexity, evaluating competing perspectives, and participating in democratic problem-solving. Consequently, sustainability education increasingly emphasises systems thinking,

interdisciplinarity, critical reflection, and action competence.

In Norway, these ambitions are reflected in the LK20 curriculum. Sustainable development was introduced as one of three interdisciplinary themes intended to cut across traditional subjects. The curriculum emphasises that students should understand interconnections among environmental, economic, and social systems and develop the competence required for ethical decision-making and responsible citizenship.

Yet the introduction of ESD into curriculum documents does not automatically translate into classroom practice. Earlier research by Sinnes and Straume (2017) identified ESD in Norwegian schools as fragmented, weakly institutionalised, and highly dependent on individual teachers. The current studies provide an opportunity to examine whether implementation has progressed following the introduction of LK20.

Conceptual and Theoretical Perspectives

A recurring theme throughout the studies is the relationship between sustainability education and Bildung. Drawing upon Klafki's (2002) educational philosophy, sustainability can be understood as one of the major "epoch-typical key problems" facing contemporary society. Education therefore involves more than acquiring knowledge; it also requires developing judgment, responsibility, and democratic participation.

The literature reviewed in the papers identifies several characteristics of effective ESD:

- Holistic understanding of sustainability;
- Integration of environmental, social, and economic dimensions;
- Interdisciplinary teaching;
- Critical reflection;

- Student participation;
- Action competence;
- Pluralistic engagement with controversial issues.

Interdisciplinary teaching is particularly important because sustainability challenges do not fit neatly within traditional disciplinary boundaries. Frameworks developed by Drake and Reid (2018) distinguish between multidisciplinary, interdisciplinary, and transdisciplinary approaches. While multidisciplinary approaches involve subjects working in parallel around common themes, interdisciplinary approaches require genuine integration of perspectives and learning goals. Transdisciplinary approaches move even further by organising learning around authentic real-world problems.

Findings

Teachers' Understanding of Sustainable Development

Across the interviews, teachers consistently described sustainable development as broad, complex, and demanding. Teachers often characterised sustainability as involving "many perspectives" and requiring continual updating of knowledge due to ongoing social, political, and environmental changes. Several described sustainable development as a "vast" or "multifaceted" topic and emphasised the challenge of keeping up with rapidly evolving knowledge and societal debates.

Although participants generally demonstrated awareness of the environmental, social, and economic dimensions of sustainability, there were notable differences in how confidently these dimensions were discussed. Many teachers recognised that the three dimensions are interconnected, yet several acknowledged that environmental and climate-related issues received the greatest emphasis in both their own thinking and teaching practice. Some reported less confidence when

explaining social and economic aspects of sustainability or the relationships between the three dimensions.

Climate change, biodiversity, recycling, and resource use were therefore the issues most frequently discussed, whereas economic sustainability and social justice appeared less prominent. Several teachers explicitly

Teachers' Awareness and Competence

A key finding is that teachers often feel insufficiently prepared for sustainability education. Interview participants repeatedly expressed uncertainty regarding whether they possessed enough knowledge to teach sustainability with confidence. Some described sustainability as a "jungle of information" that is difficult to master fully. Others referred to sustainability as a "vast" and "multifaceted" topic, expressing concern about keeping up with new knowledge, societal developments, and competing perspectives. Several teachers questioned whether they possessed sufficient expertise to address all dimensions of sustainability or to support meaningful interdisciplinary learning across subject boundaries.

This uncertainty extends beyond content knowledge. Teachers also reported limited familiarity with theoretical concepts central to ESD, including distinctions between:

- Knowledge-based approaches,
- Normative approaches,
- Pluralistic approaches,
- Transformative learning.

Organisation of ESD in Schools

Survey findings indicate substantial variation in how schools organise ESD. Most schools appear to delegate responsibility for implementation to individual teachers, departments, or grade-level teams rather than adopting comprehensive institutional strategies.

Approximately 60% of survey respondents reported allocating between 0 and 30 hours annually to interdisciplinary themes, corresponding on average to less than one hour per week. Only a minority reported substantially larger allocations. Theme weeks and short project periods were among the most common organisational formats. Together, these findings suggest that sustainability education is often organised as a series of discrete events or thematic periods rather than as a sustained and integrated component of teaching throughout the school year. This is noteworthy because both international ESD frameworks and previous Norwegian research emphasise that sustainability education is most effective when embedded across

acknowledged this imbalance. At the same time, many teachers linked sustainability to practical everyday actions such as reducing food waste, making responsible consumption decisions, and encouraging environmentally conscious behaviour. Sustainability was frequently framed as a life skill rather than merely academic content.

When asked directly about these concepts, many teachers indicated that they had little experience using such terminology or had not previously reflected explicitly on different ESD approaches. Nevertheless, interview data suggest that teachers regularly employed practices associated with all three traditions, including facilitating discussions of controversial issues, encouraging critical reflection, presenting multiple perspectives, and supporting pupils' inquiry into real-world sustainability challenges.

Interestingly, while many teachers were unfamiliar with the terminology, their classroom descriptions suggested that they often employed elements of all these approaches. This indicates that professional language and conceptual awareness may lag behind practice.

Teachers further emphasised the importance of their role as models for sustainable behaviour. Many viewed sustainability education as part of schools' broader responsibility to foster responsible citizenship and ethical awareness.

subjects and over time, rather than being limited to occasional projects or special events.

The survey data further suggest that social studies (80.2%), science (75.3%), and Norwegian (67.3%) are the most commonly involved subjects in interdisciplinary sustainability projects. Subjects such as KRLE (42.0%), food and health (40.7%), and arts and crafts (40.1%) were included less frequently, while physical education (9.9%), music (10.5%), and modern languages (5.6%) were rarely involved.

This uneven distribution suggests that responsibility for ESD remains concentrated within a relatively small group of subjects rather than being shared across the curriculum. While sustainability is formally defined in LK20 as a cross-curricular theme, the findings indicate that implementation is still strongest in subjects traditionally associated with environmental, social, and citizenship-related issues.

Interdisciplinary Teaching: Aspirations and Reality

One of the clearest findings concerns the discrepancy between teachers' ideals and actual practice. Teachers overwhelmingly support interdisciplinary teaching and view sustainability as particularly well suited to cross-subject collaboration. Nevertheless, implementation tends to remain multidisciplinary rather than fully interdisciplinary. While teachers commonly described situations where several subjects worked on the same sustainability theme, they often distinguished this from genuine interdisciplinary teaching involving shared planning, integrated learning goals, and coordinated teaching activities. Many felt that their schools were considerably more successful at organising multidisciplinary projects than achieving deeper forms of interdisciplinary integration.

Interview participants repeatedly described situations in which subjects addressed the same theme while maintaining separate objectives, teaching activities, and assessments. Fully integrated approaches appeared relatively uncommon. Several teachers noted that students themselves often perceive knowledge through subject-based "boxes," making integration difficult.

Survey evidence reinforces this conclusion. Moderate forms of interdisciplinarity are relatively common, whereas genuinely integrated or transdisciplinary approaches are less widespread. The findings therefore suggest that the main challenge is not whether teachers value interdisciplinarity, but whether schools provide the structures, time, and collaborative opportunities necessary to move from multidisciplinary coordination to authentic interdisciplinary practice.

Barriers to Implementation

Time and Planning

Lack of planning time is the most frequently identified challenge. Teachers reported difficulty finding opportunities to collaborate with colleagues across subjects and to develop high-quality interdisciplinary learning experiences.

Organisational Structures

Traditional timetables, subject divisions, and accountability requirements continue to reinforce disciplinary boundaries. Teachers often find it difficult to align interdisciplinary ambitions with subject-specific curriculum requirements.

Professional Competence

Many teachers experience uncertainty regarding sustainability knowledge, interdisciplinary teaching methods, and how to integrate multiple dimensions of sustainability into classroom practice.

Leadership Support

Teachers frequently expressed a desire for stronger leadership involvement. School leaders play a crucial role in allocating time, coordinating collaboration, and establishing sustainability as a school-wide priority.

Implications

The findings suggest that Norwegian schools have moved beyond the question of whether sustainability belongs in education. The challenge now concerns implementation quality.

First, teacher education programmes should continue expanding sustainability-related content and interdisciplinary pedagogical preparation. Teachers need both sustainability knowledge and practical strategies for integrating disciplines.

Second, schools need stronger organisational frameworks. Sustainability should become embedded in annual planning processes, collaborative structures, and leadership priorities rather than relying primarily on individual teachers.

Third, professional development should focus on helping teachers develop a shared understanding of holistic, pluralistic, and transformative approaches to ESD. This would strengthen conceptual coherence and improve implementation quality.

Conclusion

These studies reveal a promising but unfinished transition toward sustainability education in Norwegian schools. Teachers are committed to sustainability, recognise its interdisciplinary nature, and employ many pedagogical approaches consistent with international ESD frameworks. However, implementation remains constrained by institutional structures, limited collaboration time, uneven competence, and a continued dominance of traditional subject boundaries.

The evidence indicates that ESD in Norway has progressed beyond policy rhetoric but has not yet become fully embedded in everyday educational practice. Realising the transformative ambitions of LK20 will require coordinated action at the levels of teacher education, professional development, school leadership, and curriculum implementation. Only then can sustainability move from an interdisciplinary aspiration to an integrated educational reality.

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Information note on research

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