NJCIE Nordic Journal of Comparative and International Education

ISSN: 2535-4051 Vol 9, No 4 (2025) https://doi.org/10.7577/njcie.6176

Article

Deep learning in the primary school English classroom in Norway

Tony Burner
University of South-Eastern Norway
Email: tony.burner@usn.no

Delia Schipor
University of South-Eastern Norway
Email: delia.schipor@usn.no

Abstract

Deep learning or *deeper learning* plays an important role in curricula and educational policies, including the most recent curriculum in Norway. Nonetheless, there is scant research on how teachers perceive and work with deep learning in lower levels of education. This study is part of a longitudinal research study, "Evaluering av fagfornyelsen" (2021-2025), evaluating the implementation of the Norwegian curriculum in four subjects. This article explores nine English teachers' conceptualizations and practices of deep learning at four primary schools in Norway. Interviews and classroom observations were used to collect data from the same teachers in two consecutive years. The findings indicate that English teachers succeed to some extent in realizing their conceptualizations of deep learning in actual classroom practices, realized through interdisciplinary themes, formative assessment, and multilingual practices. Furthermore, the teachers' understandings of deep learning are mostly in line with educational scholars' definitions of deep learning. The findings from this study are relevant for teachers, policymakers and teacher educators in providing knowledge about English teachers' conceptualizations and practices of deep learning. We call for similar studies in other school subjects across educational levels and national contexts.

Keywords: deep learning, deeper learning, English teachers, curriculum implementation, Norway

Introduction

Deep learning is widely used in curricula and other public documents telling schoolteachers which future competencies are needed for their students. Various definitions of deep learning, often without concrete examples, challenge teachers' conceptualizations and practices. Deep learning, sometimes referred to as *deeper learning*, has been a particular focus area in Western educational systems the last decade (Deeper Learning Competencies, 2013). It can be understood as deep-level processing of knowledge, in contrast to surface-level processing or memorization (Craik & Lockhart, 1972). However, as claimed by Winje and Løndal (2020), deep learning has caused a lot of confusion about its meanings and usages. Related to this, the capacity to engage in deep learning involves the so-called 21st century competencies presented in the national curricula, such as critical thinking, collaboration skills, and self-evaluation. Consequently, at a deep-level processing of knowledge, students apply knowledge in understandable, relevant, familiar and unfamiliar contexts - both individually and together with others (Gilje et al., 2018). Since the focus of the present study is teachers, three research-based principles for teaching are relevant here (National Research Council, 2000, p. 19-21):

1. Teachers need to work with students' preexisting understandings when new knowledge is introduced. They should actively inquire into students' thinking. In line with this, assessments should be more formative, providing feedback that taps into students' thinking and makes learning visible to the student, the peers and the teachers.

2. Teachers need to teach subject matter in depth and provide many examples of the same concept at work across curricula over time. Thus, teachers need to possess in-depth knowledge of the subject themselves and use assessments that align with new ways of teaching.

3. Teachers need to integrate metacognitive skills (learning to learn) in the subject areas.

However, there is a particular lack of research on conceptualizations and enactments of deep learning in primary levels of education, as pointed out by Winje and Løndal (2020) in their review study. Thus, in the present study we investigated how nine English teachers at four different primary schools in Norway understand and practice deep learning. The study is part of a larger study examining how primary school teachers in four subjects (English, Mathematics, Social Science, and Music) understand and implement the curriculum in Norway (Burner et al., 2022; 2023). The findings may be relevant for teachers and policymakers elsewhere when it comes to deep learning in English language teaching (ELT) classrooms. We discuss possibilities and challenges that the nine English teachers have met regarding deep learning being introduced in the curriculum. The research question we posed was *How do primary school English teachers in Norway conceptualize deep learning, and what are their teaching practices, if any, concerning deep learning?* meaning that we investigated both a conceptual and a practical dimension of deep learning.

Deep learning in the Norwegian curriculum

As mentioned above, the expert group's research report from 2015 suggested deep learning as an essential part of a new curriculum in Norway (NOU 2015: 8). Thus, since 2020 and the introduction of a thoroughly revised curriculum in Norway, deep learning has been coined as a cross-curricular concept. The Norwegian Directorate for Education and Training is responsible for curriculum implementation and evaluation in Norway. Their definition of deep learning is as follows:

> Schools must provide room for in-depth learning so that the students develop understanding of key elements and relationships in a subject, and so they can learn to *apply subject knowledge and skills in familiar and unfamiliar contexts*. In their work in the subjects, the students shall be given tasks and *participate in varied activities with increasing complexity*. In-depth learning implies applying knowledge and skills in different ways so that over time the students will be able to master *various types of challenges in the subject, individually and in interaction with others* (Norwegian Directorate for Education and Training, 2017, our emphasis).

Deep learning is mentioned in the core curriculum, i.e. overarching part relevant for all subjects. The definition above has four practical implications for teaching practice, according to Gilje et al. (2018), which complement the three teaching principles mentioned in the Introduction section. The first three implications are subject-specific, whereas the fourth one is cross-curricular, as follows:

1. Fewer topics in the subjects, so that teachers have more time to spend on each topic.
2. Focus on 'core elements' in the subject, which for English is 'language learning', 'communication', and 'working with texts in English'.
3. Progression, meaning that students need to understand the relevance of what they learn and build that on their preexisting knowledge.
4. Students' understanding of concepts across subjects.

Since the implementation of the curriculum started in 2020, two universities – University of Oslo and University of South-Eastern Norway – have been responsible for evaluating various aspects of the curriculum in schools. In our evaluation study, "Evaluering av fagfornyelsen" (2021-2025), we focus on specific subjects in primary schools, whereas the evaluation study by the University of Oslo has a more thematic approach across subjects in secondary schools.

Previous research

The concept of deep learning has been around since the 1970s. It stood out as a contrast to surface learning. In deep learning, the student seeks to understand and interact critically with the content of learning, relates ideas to previous knowledge and experience, and examines the logic of arguments and relates evidence to conclusions. In contrast, in surface learning, the student memorizes the content and accepts ideas without questioning anything and accepts concepts and facts without seeing any underlying patterns or principles (Entwistle & Ramsden, 1983). A state-of-the-art paper, entitled "Deep and surface learning" by Beattie et al. (1997), focuses on higher education and explores the distinctions between deep

and surface level learning. The conclusion is that specific learning conditions can foster deep learning, in contrast to the general belief that it is inherent characteristics in students that enable deep learning to occur. According to Pellegrino and Hilton (2012), the goal of deep learning is that students have knowledge about when to apply what one has learned and the skills to apply what one has learned. In the Norwegian context, a research report by an expert group (NOU 2015: 8) laid the foundation for introducing the concept of deep learning in the national curricula. They emphasize students' gradual understanding of concepts and methods, their gradual understanding of connections within a school subject, and their understanding of topics and questions across subjects and knowledge areas. Relevance is a keyword here. Furthermore, the research report points at the importance of analyzing and solving problems and reflecting one's own learning in order to construct sustainable knowledge about a topic (NOU 2015: 8).

Meanwhile, teachers in Norway are confused about the term deep learning (Winje & Løndal, 2020). Winje and Løndal (2020) investigated the term's definitions by reviewing publications from 1970 to 2018, limited to primary and secondary education, and found that there are two main definitions of deep learning, namely: *deep learning as meaningful learning* and *deep learning as transfer of learning*. The first one, deep learning as meaningful learning, covers most of the publications. It occurs when learners seek to understand the intention of the learning material rather than merely learning something by rote. They relate new knowledge to previously acquired knowledge, try to see relations between the different parts of what is learned and between the school context and life outside of school. Meaningful learning also involves learners' intrinsic motivation. In other words, learners' motivation stems from own interests rather than from external factors. The second category of definitions, deep learning as transfer of learning, has its origin in educational psychology investigating whether enhanced mental function influences other functions in the human brain. This is when learners apply what they have learned in one situation to other new situations.

A recent study states that most commonly teachers refer to *deep-level* versus *surface-level* learning when reflecting on deep learning (Furberg et al., 2023), which is in line with the origin of the term as reported in in Entwistle and Ramsden (1983) and in Beattie et al. (1997). Moreover, recent findings from a research study evaluating the current curriculum, "Fagfornyelsen i møte med klasseromspraksiser", reveal that the three interdisciplinary themes in the curriculum (democracy and citizenship, health and life skills, and sustainable development) enhance deep learning (Furberg et al., 2025). The subject English is responsible for two of the three interdisciplinary themes (*democracy and citizenship* and *health and life skills*). Another study, an action research study entitled "Deeper learning – How?" conducted by Støren in 2023, involved 14 schools and set out to intervene in classroom practices by focusing on deep learning. The findings indicate a significant progression in deep learning from the first year of the current curriculum (2020) to the next two years. The enhanced aspects pointed out in this project are as follows: trigging students'

understandings, providing more open tasks, fostering more self-evaluation, initiating more creative and innovative learning, and allowing for longer learning tracks across subjects (Støren, 2023). Longer learning tracks occur when students work with certain topics for extended periods of time, for instance in cross-curricular projects. Finally, other approaches to deep learning, for example embodiment and performative aspects, are called for as well (Østern et al., 2019). More specifically, embodiment and performative aspects have the potential to help students apply knowledge in various ways and in unfamiliar contexts, while interacting with others, which over time, contributes to their growing abilities to tackle challenges in the respective subject(s).

Deep learning in the subject English

In the English subject, deep learning may be understood in relation to the core elements presented in the curriculum, namely communication, language learning, and working with texts in English. For instance, working with comparisons between languages, at both lexical and grammatical levels, may equip learners with life-long skills needed to successfully navigate communication challenges. In terms of language learning, recognizing and valuing the potential of productive and receptive multilingualism in young learners may contribute to increasing their life-long motivational learning, also outside of the classroom. An important aspect of working with texts in English is empowering learners in addressing comprehension challenges. For example, working with linguistic awareness and uncovering mechanisms of word formation may increase deep learning as it helps learners recognize orthographic similarities between words and may thus also foster their ability to understand the meaning of new words. This type of knowledge and skills may be extended and utilized across language subjects, both first and foreign languages, such as Norwegian and German.

As mentioned in the previous section, the new interdisciplinary themes in the Norwegian curriculum have shown to enhance deep learning. The interdisciplinary themes are inherently cross-curricular, for example ‘Democracy and citizenship’ in English includes knowledge and skills relevant in at least subjects such as Norwegian, Social Science, Music, Christianity, Religion, Philosophy of Life and Ethics. Likewise, English may be used to explain, understand and enhance knowledge in other subjects, such as Natural Science. Thus, English is learned and absorbed when students talk about content in other subjects. It could as well be argued that the nature of the subject English – including both language and content aspects (cf. CLIL – content and language integrated learning) – may for some students (for example minority language students) trigger deep learning. Moreover, language aspects of the subject English are highly relevant to relate to other languages students know. For instance, one main objective in the subject English is that students should “discover and play with words and expressions common to both English and other languages with which the pupil is familiar” (after Year 4). Finally, curriculum objectives in English using

words such as “associate”, “play”, “explore”, “discover”, “participate” and “initiate” inspire multimodal learning approaching, where teachers may use embodiment and performative methods. To our knowledge, our study is the first one investigating deep learning specifically for the subject English. In the following, we will describe the methods we used to collect and analyze data on English teachers’ conceptualizations and practices of deep learning.

Methods

Sample

Using convenient sampling, we selected nine English teachers at four primary schools according to the size, economy, and location of the schools (rural or urban area) in south-eastern part of Norway. Table 1 shows who the teachers were at the different schools. There was good mix of gender, age, seniority, and competency in English. In fact, most of the teachers had more formal competency in English (ECTS) than required for teaching in primary schools in Norway.[1]

Table 1. The four schools and the nine teachers who participated in the study.

School 1	1 female teacher, 34 years old, BA in English, has taught English for 15 years
School 2	1 female teacher, 36 years old, teacher certification, has taught English for 13 years 1 male teacher, 50 years old, teacher certification, has taught English for 20 years
School 3	1 female teacher, 51 years old, teacher certification, has taught English for 27 years 2 male teachers, 27 and 29 years old, teacher certification, have taught English for 1.5 and 2.5 years respectively
School 4	1 male teacher, 29 years old, has studied English for 1 year, has taught English for 6 months 2 female teachers, 47 and 58 years old, respectively, both have studied English for 1.5 years, and have taught English for 3.5 years and 13 years, respectively

[1] Teacher education in Norway includes several school subjects. Primary school teachers study English for minimum half a year (equivalent to 30 ECTS) in teacher education.

Data collection

The study was given ethical approval by the Norwegian Agency for Shared Services in Education and Research (Sikt)[2]. Interviews and classroom observations were used to collect data from the same teachers in two consecutive school years, 2021-2022 and 2022-2023. The same semi-structured interview guide and observation protocol were used in both years. The interview guide consisted of several open questions related to the implementation of the curriculum. There were four questions related to school level regardless of specific subjects and five subject-specific questions related to classroom level. The parts of the interview guide that are relevant for this article asked the teachers "How have you worked with deep learning at your school and in the subject English?" Certainly, the teachers did mention deep learning also in other parts of the interview, for example related to the interdisciplinary themes where we asked, "How have you worked with the interdisciplinary themes at your school and in the subject English?". Focus group interviews were preferred, but one-to-one interviews were also used for practical reasons (e.g., only one English teacher at a very small school). The interviews were audio recorded and transcribed by the researchers.

In addition, whole-day classroom observations were conducted by the researchers, to complement the findings from the interviews. The classroom observations were preceded by a short informal talk with the teacher, among other things asking to what extent deep learning was going to be the focus of the lessons. The researchers invited themselves to the teachers' classrooms, underlining the fact that they were there to observe normal teaching practice, not anything extra or particularly planned for the researchers. Even if we encouraged the teachers to carry out their lessons as usual, we cannot exclude the effect of the observer's paradox (cf. Labov, 1972) on our findings. In other words, the teachers and their choice of methods may have been influenced by the researchers' presence in the classroom, in the sense that the teachers may have behaved in a way they assumed was expected. The researchers' notes from the classroom observations followed a pre-agreed rubric where we collected information about the context (time of the day, subject, number of students, number of teachers), topic (e.g., animals in English), learning materials/resources, "What I see" (factual descriptions), and "My comments/assessments" (evaluative descriptions).

Data analysis

The interview transcriptions were analyzed by the researchers using the constant-comparative method of analysis (Corbin & Strauss, 2008), where the researchers read through the transcriptions, coded, and categorized them according to meaningful units, in this case meaningful units highlighting any aspect we

[2] This institution has changed its name after our study was approved. At the time of approval, it was called the Norwegian Center for Research Data.

perceived as relevant to conceptualizing deep learning based on the definitions presented above and practicing its principles in the classroom. The notes from the classroom observations were used to elaborate on, discuss, and complement the interview data. The data from the interview transcriptions were categorized into two main categories: *English teachers' conceptualizations of deep learning* and *English teachers' practices concerning deep learning*. These categories are used to structure the Results and discussion section below. For each of the two main categories, we found three meaningful units leading to the following sub-categories: interdisciplinary themes, formative assessments, and multilingual practices.

Results and discussion

English teachers' conceptualizations of deep learning

The English teachers in this study showed a highly varied understanding of the term deep learning and expressed multiple conceptualizations thereof, corroborating the findings from the mapping review by Winje and Løndal (2020). At school 1, with only one English teacher, the teacher did not initially recognize the term, but she talked a lot about cross-curricular activities, i.e. students working with relevant topics in English in tandem with other school subject curricula. It is important to underline that the researchers observed more examples of classroom practices that can be related to definitions of deep learning than what the teachers said they related to deep learning in the interviews. This will be elaborated in the next section.

Other teachers equated deep learning with facilitating internalization by creating associations between subject matter input and relevant aspects in students' own lives (cf. NOU 2015: 8). For instance, one teacher at School 3 mentioned that: "… we try to think of deep learning and being able to connect knowledge to something in the student's life which is relevant, which helps them remember things" (our translation from Norwegian). However, most teachers at the four schools conceptualized deep learning in relation to one or more of the following areas: interdisciplinary themes, formative assessment, and multilingual practices. According to the teachers in our study, deep learning may generally be fostered by work with these interdisciplinary themes (cf. Furberg et al., 2025): *democracy and citizenship* and *public health and life skills*, for three main reasons. Firstly, the extensive nature of interdisciplinary projects, usually unfolding over several weeks or months, provides students with extended time to explore selected topics in depth, which corroborates the first curriculum-based implication for teaching practice regarding spending more time on fewer topics (cf. Gilje et al., 2018), also supported by the findings by Støren (2023) in her intervention study. To illustrate, a teacher at School 2 explained that "what we tried during the first interdisciplinary period was exactly this, to have lots of time to go into detail, see the bigger picture (…), and actually have time to work on it in depth" (our translation from Norwegian). Secondly, interdisciplinary

projects allow for repeated and extensive exposure to the same concepts in various contexts, for example citizenship in English and Social Science, which contributes to the students' acquisition and subsequent use of these concepts (National Research Council, 2000). Finally, work with the interdisciplinary themes entails multi-layering of information, namely working in a manner similar to CLIL (content and language integrated learning). This means that, for example, content input is in Norwegian, while output is in English. In terms of deep learning, this would facilitate motivational learning, as new terminology is learned and used in English (cf. the fourth implication by Gilje et al. (2018) and the second principle by the National Research Council (2000)).

Some English teachers in our study (School 2) believed that working with formative assessment may foster deep learning when students are able to have a meta-perspective on their own learning processes (Allal & Ducrey, 2000). This is in line with *deep learning as transfer of learning* (Winje & Løndal, 2000) and meta-cognitive skills (third principle by the National Research Council (2000) defining deep learning). One of the teachers explained that achieving deep learning through formative assessment would involve "using assessment not just for assessment in itself but using it actively in one's learning process" (cf. the first principle by the National Research Council (2000) defining deep learning). In this case, the teachers in the study would create opportunities for the students to actively participate in and even lead certain assessment processes (Allal, 2016). This aligns with the most common definition of *deep learning as meaningful learning* triggering intrinsic motivation (Winje & Løndal, 2000). Moreover, the teachers at School 2 experienced having more time the second year of data collection, and in turn provided students with more time "to reflect and see relationships et cetera" (our translation from Norwegian), as one of the teachers at School 2 explained.

English teachers at School 3 indicated that deep learning may be facilitated by two types of multilingual practices. Firstly, comparing English and Norwegian in English lessons was mentioned as a way of promoting deep learning, especially for vocabulary acquisition in first grade. Secondly, the teachers mentioned that deep learning would be fostered by extensive exposure to English throughout the entire school day. One English teacher claimed that they "use English all the time (…) a little bit of English here and there in Norwegian, Maths, everything. (…) So maybe this is deep learning, that they are exposed to English, and hear the language often every day" (our translation from Norwegian). The first case may be classified as part of a *design* approach to implementing multilingual practices in the classroom (see García et al. 2017), meaning that the teachers have planned the inclusion of a multilingual approach in their teaching. In the second case, the teachers would spontaneously alternate between English and Norwegian during various lessons, which may be regarded as a *stance* component of multilingual approaches to teaching (see García et al., 2017), where teachers have a favorable attitude towards multilingualism – at least concerning this specific combination of languages. At School 4, the teachers believed that the English

textbook was too superficial for deep learning. They defined deep learning as continuous in-depth work across subjects (fourth criteria in Gilje et al., 2018; second criteria by the National Research Council (2000). They acknowledged students' high level of competency once they are given the opportunity to study topics in depth.

In sum, the nine English teachers' conceptualizations of deep learning seem to mainly echo the definitions and principles provided by the National Research Council (2000) and Gilje et al. (2018). By contrast, the explanation provided by the Norwegian Directorate for Education and Training (2017), based on the expert research report from 2015 (NOU 2015: 8), does not seem to be widely present in the teachers' conceptualizations of deep learning. Nevertheless, the teachers mentioned the importance of relating subject matter to the students' everyday lives, thus activating the students' pre-existing knowledge. Bridges between new knowledge and pre-existing knowledge may also be built by adopting a multilingual approach, where students compared new words in English with familiar words in other languages they already mastered, such as Norwegian, or other home languages. Moreover, the English teachers referred to work with the interdisciplinary themes by creating a cognitive network of knowledge and various viewpoints concerning the same concept across different subjects. Finally, the English teachers presented formative assessment as a springboard for facilitating deep learning by allowing students to drive their own learning processes (Allal, 2016; Allal & Ducrey, 2000; Gilje et al., 2018).

In the following, we turn to actual classroom practices that the researchers had observed and were able to relate to what the teachers said in the interviews and to scholarly definitions of deep learning.

English teachers' practices concerning deep learning

The three main areas where teachers in the interviews reported implementing deep learning in the classroom were interdisciplinary themes, formative assessments, and multilingual practices. The classroom observations at School 1 indicated a high degree of meaningful activities where English teachers made their students explore concepts individually and with peers, used embodiment as a way of understanding new words (Østern et al., 2019), and related new words to life outside of school (NOU 2015: 8). This aligns with *deep learning as meaningful learning* (Winje & Løndal, 2000), but it also extends it to embodiment by involving physical activities based on theoretical concepts – an approach called for in the literature (Østern et al., 2019). Some teachers, for example at School 2, worked with interdisciplinary themes by selecting fewer broad topics, which is in line with the first implication for deep learning presented by Gilje et al. (2018) and Støren's study (2023). Some examples of selected interdisciplinary topics were winter/Christmas, the Second World War, and the Viking age. These topics were generally established for each school year and were explored over extended periods of time in two or more subjects, such as English,

Social Sciences, and Natural Sciences. In most cases, the main method used was to read content material in Norwegian, and then produce texts in English, or the other way around. In this case, deep learning was fostered by activating either receptive or productive knowledge in English in different tasks.

During the interviews, one of the teachers at School 2 mentioned a challenging aspect of cross-curricular projects, namely that students achieved insufficient deep learning in English (see also Burner et al., 2022). Based on this teacher's experience from teaching in 9th grade, "… if the project were to be genuinely cross-curricular, then they [the students] would have one main submission, and in that submission all the subjects would be represented" However, the teacher continued, "… then it turns out that exactly this [approach] resulted in poorer deep learning than if we had worked in depth in English, or (sic) in Social Sciences, and then combined [the perspectives] at the end" (our translation from Norwegian). In other words, he suggested that a better solution for fostering deep learning in English would be to explore the selected topics in each subject independently and then combine the different perspectives from various subjects at the end of the project. Notably, during subsequent data collection (Burner et al., 2023), the same teacher found cross-curricular work convenient when he taught several different subjects simultaneously, for two main reasons: It saved time and enabled him and the students to explore the chosen topics through the various lenses of the different subjects involved (cf. NOU 2015: 8; Støren, 2023).

During the classroom observations conducted in 5th grade, the same teacher at School 2 worked with the topic winter/Christmas in a cross-curricular manner, across the three subjects he was teaching: *English*, *Norwegian*, and *Christianity, Religion, Philosophies of Life and Ethics*. During the lesson, it was observed that he used an excerpt from a short story on YouTube, where the students listened to the story and could read the written text on the screen at the same time. He explained that he worked with small portions of the A2 level (CEFR, 2025) adaptation of the *Frozen* fairy tale from YouTube, which he had chosen because it contained a combination of British English and General American pronunciation. He introduced fragments of the fairy tale progressively, and the students would eventually discover which fairy tale these fragments belonged to. It can be argued that this approach promotes deep learning by allowing the students to explore a text at their own pace during the lesson (National Research Council, 2000).

The second major way to promote deep learning was through formative assessment. The teachers agreed that formative assessment promotes deep learning when the assessment constitutes a natural part of the learning process (Allal & Ducrey, 2000; Black & Wiliam, 2018). They reported that they worked with formative assessment by promoting self-assessment, peer feedback, and allowing students to actively participate by suggesting assessment forms the students would prefer (Allal, 2016). A concrete example of self-assessment was that, at the start of a new teaching period during the school year, the students would write about what they already knew. Then, during and at the end of the respective teaching period, they

would write what they had learned and what they wanted to learn more about, at their own initiative. Some of the students succeeded in reflecting over their learning and knowledge (NOU 2015: 8), while others considered this to be merely a task to be completed before moving on to the next one. This aligns with deep learning as transfer of learning (Winje & Løndal, 2000), metacognitive skills (National Research Council, 2000), and progression (Gilje et al., 2018; NOU 2015: 8). However, reflection over one's own learning is not sufficient, but needs to proceed further to the next step where the student knows how to apply that knowledge, as underlined by Pellegrino and Hilton (2012).

In terms of peer feedback, which is an essential part of formative assessment (Black & Wiliam, 2018; Hattie & Timperley, 2007), it was observed during a classroom observation in 7th grade that one teacher used peer feedback after a writing task where the students worked in pairs and took turns in reading their short factual texts to their peers. The teacher provided guidance for the students concerning the form and the content of their feedback, instructing them to be kind and focus on the appropriateness of verb tense used in the text by referring to the text type in question. A more extensive discussion of form and function might have been desirable in this lesson, leveling up the students' metacognitive skills. This kind of work may be especially useful for promoting deep learning, as it integrates peer feedback with a potential discussion of form and function (National Research Council, 2000). Consequently, it may help students develop transferable skills (Deeper Learning Competencies, 2013), whereby they are able to discuss and assess the use of appropriate or inappropriate linguistic forms in new and unfamiliar contexts, by becoming aware of the connections between text types and functions, on the one hand, and linguistic forms, on the other (Norwegian Directorate for Education and Training, 2017).

Generally, the teachers agreed that the most important factor for successfully implementing deep learning through formative assessment was to continuously work with it over time (cf. the definition of deep learning in Gilje et al., 2018). More specifically, they explained that formative assessment worked better in 4th grade than in 9th grade, simply because the younger students had always worked like this, ever since the school started focusing on formative assessment, and these students thus had more practice than their older peers. Marking is introduced in 8th grade in Norway, which may be a reason why the teachers experienced more formative assessment practices in lower grades since marking can lead students to focus on comparisons rather than learning (Black & Wiliam, 2018). Importantly, the teachers also noted that promoting formative assessment involved significant work with raising the students' awareness of their own learning, which was considered a complex task in itself (cf. metacognitive skills (National Research Council, 2000) and deep learning as transfer of learning or 21st century skills (Winje & Lødal, 2000).

Finally, multilingual practices were said by the teachers to enhance deep learning by encouraging students to compare English and Norwegian words by looking at their orthography and pronunciation. This approach

was used both in Norwegian lessons and English lessons. To be more specific, a teacher who taught 1st grade mentioned that she would use comparisons with Norwegian to support the students' acquisition of new vocabulary in English. This is in line with building new knowledge on already acquired knowledge (Gilje et al., 2018; National Research Council, 2000; Winje & Løndal, 2000). The teacher also mentioned that she used significantly more English during English lessons than with previous cohorts, because the students were able to understand her, even if they probably did not understand every single word. In this case, it is noteworthy that the teacher in the interview promoted deep learning by exposing the students to novel input, while providing them with sufficient support to help them navigate her message. This finding was confirmed by the classroom observation. During the short conversation before the classroom observation conducted in 1st grade, the teacher mentioned that she aimed to use comparisons between English and Norwegian, but also English and other languages, since there were two students with a minority language background in her class. However, it was observed that the teacher only used comparisons between English and Norwegian, by working with transparent words such as *socks* ('sokker' in Norwegian) and *T-shirt* ('t-skjorte' in Norwegian) and explained differences between words similar in form, such as the minimal pair *shirt-skirt*, by using transparent words, namely the Norwegian equivalents *skjorte* and *skjørt*, respectively. This kind of work was in fact integrated into a complex multimodal approach to vocabulary teaching, where the students watched YouTube videos, sang along with the teacher, moved their bodies, and actively engaged in *total physical response* activities, which involve the use of the body to mirror linguistic content, such as, for instance, performing the physical action of clapping while hearing or saying the word 'clap' (cf. Asher, 1969). This may be considered a valid approach to fostering deep learning, as it welcomes a multitude of expression modes, such as singing, dancing, and miming (Østern et al., 2019), for exploratory vocabulary work.

However, it is notable that only Norwegian was used alongside English. The use of multiple languages could have contributed to a more inclusive approach to deep learning, taking into consideration that the students were familiar with several other languages than Norwegian. While it may be argued that the teacher simply forgot to include all the languages represented in the classroom, this is unlikely for two reasons. Firstly, the teacher explained that her fellow educators generally tend to forget that there are students with a minority language background at their school. Secondly, the teacher acknowledged during subsequent data collection that she only used languages she was familiar with herself during English lessons (see Burner et al., 2023). This is insufficient to cater for the educational needs of students with multiple home languages (Burner & Carlsen, 2022; Otwinowska, 2017; Schipor, 2022), who need an inclusive multilingual approach, where their languages are recognized, valued, and actively used in the classroom.

Concluding remarks

The data in the present study indicate complex ways in which English teachers conceptualize and practice deep learning, most notably through interdisciplinary activities, formative assessments, and multilingual practices. Long-term projects based on the interdisciplinary themes *democracy and citizenship* and *public health and life skills* seem to be a main contributor to teaching in order to facilitate deep learning in English classrooms (cf. Furberg et al., 2025), by allowing more time and cross-curricular teaching. The same goes for formative assessment, which requires active participation and where the students need metacognitive skills to realize its potentials (Allal, 2016; Black & Wiliam, 2018). Regarding multilingual practices as a contributor to deep learning, it should be noted that in this case the pattern of switching between languages was limited to English and Norwegian, which are high status languages of education in Norway. While alternating between Norwegian and English for educational purposes may promote deep learning, it does so especially in students whose mother tongue is Norwegian, neglecting minority language speakers (Burner & Carlsen, 2022).

There is no one definition of deep learning. Thus, lessons learned from teachers' conceptualizations and teaching practices may shed light on, expand, and draw a fuller picture of what the term might mean in different settings. The conceptualizations and practices of deep learning in this study can be said to be more in line with the scholarly definitions of deep learning than the definition provided by the Norwegian Directorate for Education and Training. The present study was limited to one single school subject. There is a need for more research, preferably in other subject areas in primary schools, on how teachers conceptualize and practice *deep learning* or *deeper learning*.

References

Allal, L. (2016). The co-regulation of student learning in an assessment for learning culture. In D. Laveault & L. Allal (Eds.), *Assessment for learning: Meeting the challenge of implementation* (pp. 259-273). Springer International Publishing.

Allal, L., & Ducrey, G. P. (2000). Assessment *of* – or *in* – the zone of proximal development. *Language and Instruction*, *10*(2), 137-152. https://doi.org/10.1016/S0959-4752(99)00025-0

Asher, J. J. (1969). The total physical response to second language learning. *The Modern Language Journal*, *53*(1), 3-17. https://doi.org/10.2307/322091

Beattie, V., Collins, B., & McInnes, B. (1997). Deep and surface learning: A simple or simplistic dichotomy? *Accounting Education, 6*(1), 1-12. https://doi.org/10.1080/096392897331587

Black, P., & Wiliam, D. (2018). Classroom assessment and pedagogy. *Assessment in Education: Principles, Policy & Practice, 25*(6), 551-575. https://doi.org/10.1080/0969594X.2018.1441807

Burner, T., & Carlsen, C. (2022). Teacher qualifications, perceptions and practices concerning multilingualism at a school for newly arrived students in Norway. *International Journal of Multilingualism*, *19*(1), 35–49. https://doi.org/10.1080/14790718.2019.1631317

Burner, T., Alvestad, K. C., Brazier, E. Gustavsen, T., Kacerja, S., Ruud, L. C., Salvesen, G. S., & Schipor, D. (2022). *EvaFag2025: Evaluering av fagfornyelsen. Realiseringer av læreplanen i spesifikke fag. Arbeidspakke 1, delrapport 1*. *[Evaluation of the curriculum: Realizations in specific subjects].* University of South-Eastern Norway.

Burner, T., Alvestad, K. C., Gustavsen, T., Kacerja, S., Ruud, L. C., Salvesen, G. S., & Schipor, D. (2023). *EvaFag 2025: Evaluering av Fagfornyelsen: Suksess, muligheter, spenninger og hindringer i implementering av LK20 i fire fag. Arbeidspakke 1, delrapport 2*. *[Evaluation of the curriculum: Success, opportunities, tensions, and hindrances in the implementation of the curriculum in four subjects]*. University of South-Eastern Norway.

CEFR (Common European Framework of References for Languages). (2025). *The CEFR levels*. https://www.coe.int/en/web/common-european-framework-reference-languages/level-descriptions

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). SAGE Publications.

Craik, F., & Lockhart, R. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior, 11*(6), 671-684. https://doi.org/10.1016/S0022-5371(72)80001-X

Deeper Learning Competencies. (2013). Hewlett Foundation. https://www.hewlett.org/wp-content/uploads/2016/08/Deeper_Learning_Defined__April_2013.pdf

Entwistle, N. J., & Ramsden, P. (1983). *Understanding student learning*. Croom Helm.

Furberg, A., Rødnes, K. A., Silseth, K., Arnseth, H. C., Kvamme, O. A., Lund, A., Sæther, E., Vasbø, K. B., Ernstsen, S., & Fundingsrud, M. W. (2023). *Fagfornyelsen i møte med klasseromspraksiser: Læreres planlegging og gjennomføring av undervisning om tverrfaglige tema [The curriculum meets classroom practices: Teachers' planning and carrying out teaching about interdisciplinary themes]*. University of Oslo.

Furberg, A., Silseth, K., Rødnes, K. A., Arnseth, H. C., Kvamme, O. A., Rasmussen, I., Sæther, E., Vasbø, K. B., Pettersen, K., Øistad, J. H., & Lund, A. (2025). *Fagfornyelsen i møte med klasseromspraksiser: Elevers læring i møte med de tverrfaglige temaene [The curriculum meets classroom practices: Students' learning when faced with the interdisciplinary themes]*. University of Oslo.

García, O., Ibarra, S., & Seltzer, K. (2017). *The translanguaging classroom. Leveraging student bilingualism for learning*. Caslon.

Gilje, Ø., Flygt, Ø., & Ludvigsen, S. (2018). Dybdelæring - historisk bakgrunn og teoretiske tilnærminger [Deep learning - historical background and theoretical approaches]. *Bedre Skole*, *4*, 22-27.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112. https://doi.org/10.3102/003465430298487

Labov, W. (1972). *Sociolinguistic Patterns*. University of Pennsylvania Press.

Muniasamy, A., & Alasiry, A. (2020). Deep learning: The impact on future eLearning. *International Journal of Emerging Technologies in Learning*, *15*(1), 188-199. https://doi.org/10.3991/ijet.v15i01.11435

National Research Council. (2000). *How people learn: Brain, mind, experience, and school. Expanded edition*. The National Academies Press.

Norwegian Directorate for Education and Training. (2017). *Core curriculum: Competence in the subjects*. https://www.udir.no/lk20/overordnet-del/prinsipper-for-laring-utvikling-og-danning/kompetanse-i-fagene/?lang=eng

NOU 2015: 8. (2015). *Fremtidens skole. Fornyelse av fag og kompetanser [The school of the future. A renewal of subjects and competencies]*. Kunnskapsdepartementet. https://www.regjeringen.no/no/dokumenter/nou-2015-8/id2417001/

Otwinowska, A. (2017). English teachers' language awareness: Away with the monolingual bias? *Language Awareness*, *26*(4), 304–324. https://doi.org/10.1080/09658 416.2017.1409752

Pellegrino, J. W., & Hilton, M. L. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. The National Academies Press.

Schipor, D. (2022). Jeg gotta like spille Fortnite, men I never win the game: Implementing multilingual pedagogies in a Norwegian primary school. *Languages*, *7*(2). https://doi.org/10.3390/languages7020147

Støren, K. (2023). En didaktisk refleksjonsmodell for lokalt læreplanarbeid: erfaringer og virkninger. [A didactic reflection model for local curriculum work: Experiences and effects]. *Norsk pedagogisk tidsskrift, 107*(4), 334-346. https://doi.org/10.18261/npt.107.4.5

Winje, Ø., & Løndal, K. (2020). Bringing deep learning to the surface: A systematic mapping review of 48 years of research in primary and secondary education. *Nordic Journal of Comparative and International Education (NJCIE), 4*(2), 25-41. https://doi.org/10.7577/njcie.3798

Østern, T. P., Dahl, T., Strømme, A., Petersen, J. A., Østern, A-L., & Selander, S. (2019). *Dybde//Læring- en flerfaglig, relasjonell og skapende tilnærming [Depth/learning – a multi-subject, relational and creative approach]*. Universitetsforlaget.