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Education Outside the Classroom in Norway: The prevalence, provision, and nature of uteskole

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ABSTRACT

This article presents data from a national survey on the prevalence, provision, and nature of education outside the classroom ("uteskole") in Norway. Uteskole can broadly be defined as the practice of relocating traditional classroom teaching to outdoor settings such as forests, parks, school gardens, or cultural and societal institutions as a supplement to indoor classroom teaching. Herby, uteskole facilitates enriched, experiential, and context-based learning has inspired school practices in other parts of Europe, such as the UK, Germany or Switzerland. Despite its widespread use and impact on teaching nationally and internationally, no reliable data on the prevalence, provision, and nature of uteskole exists to date. From a total of 2671 schools contacted via an online questionnaire, $n = 535$ (20.0 %) provided valid data. To account for a possible non-response bias, a random sample of $n = 460$ of the remaining non-responding schools was additionally contacted by telephone. Of those, $n = 334$ offered complete replies, resulting in a representative sample. Based on a total sample of $N = 869$ schools (32.53 %), the results reveal a prevalence of 87.6 % of uteskole practice in Norway in grades 1–10, and 68.7 % practice uteskole at least half a day every second week. Uteskole is taught almost across all subjects and is reported to be connected to the indoor teaching and is strongly influenced by the tradition of friluftsliv ("outdoor-life"). This is also represented in the respective teacher qualifications, as specific uteskole competences are mainly acquired in physical education teacher training. We conclude that to align the teachers' qualifications with the widespread uteskole practices, it should become a mandatory element in teacher education across all subjects. With the substantial evidence highlighting the positive effects of uteskole, we firmly believe that Norway is uniquely positioned to provide its future generations with an education that equips them to meet the challenges that confront our world.

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1. Introduction

1.1. Education outside the classroom in the Nordic countries

The idea of using the school surroundings as a resource in education is based on the belief that the body and senses must play a central role in the learning process. This view is firmly grounded in both classical pedagogical philosophy and learning and developmental psychology. There is a continuity from Dewey's, Vygotsky's, and Piaget's theories, emphasizing the importance of senses and experience in the process of cognition, to recent neuro-psychological research highlighting the bodily foundation for learning (Chawla, 2021; Jordet, 2010).

In the past three decades, the primary and secondary educational approach internationally termed as Education Outside the Classroom (EOtC) (Braund & Reiss, 2006; Lee et al., 2022) has gained prominence as an innovative teaching method (Mygind, 2020). EOtC can broadly be defined as the practice of relocating traditional classroom teaching to outdoor settings such as forests, parks, school gardens, or museums as a supplement to indoor classroom teaching. Most often the class teachers conduct the lessons outside the classroom, however, sometimes, the lessons are partly provided by external learning professionals, such as museum educators or nature interpreters. Herby, EOtC facilitates enriched, experiential, and context-based learning (Beames et al., 2012, 2023; Waite, 2017). In the socio-cultural educational tradition of Scandinavia, the teachers enjoy significant autonomy in selecting teaching methods (Helgøy & Homme, 2016), allowing them to move education out of the classroom and to use the school environment as a resource in their teaching, which has been a central theme in educational thinking and practice over the past century (Jordet, 2011). This regular use of EOtC is termed in Norwegian "uteskole" (Jordet, 1998), in Danish "udeskole" (Bentsen et al., 2009), and in Swedish "utomhuspedagogik" (Dahlgren & Szczepanski, 1998) and specifically aims at a transfer of learning opportunities between inside - and outside of the classroom (Bærenholdt et al., 2022). In the research context, "regularity" is often defined as a minimum threshold of at least half a day every second week (Barfod et al., 2021, 2016; Bentsen et al., 2010, 2009).

Not least due to several major Danish studies on "udeskole" (Bølling et al., 2023; Mygind, 2005; Nielsen et al., 2016), this teaching approach has gained a lot of international attention (Mygind, 2020) and has inspired school practices in other parts of Europe, such as the UK (Forest School Association, 2023), Germany, or Switzerland (Jucker & von Au, 2022).

Research on EOtC has so far focused mainly on physical activity and school motivation, revealing that children are physically more active during EOtC sessions (Bølling et al., 2021; Mygind, 2007, 2016; Schneller et al., 2017), and that students' learning motivation is enhanced (Bølling et al., 2018; Dettweiler et al., 2015). In addition, EOtC research has demonstrated positive effects on students' health, well-being, and academic achievement (Becker et al., 2019; Dettweiler et al., 2017; L. Mygind et al., 2019; Otte et al., 2019; Winje & Løndal, 2021b), including better biological stress regulation, brain function and development (Dettweiler et al., 2023) and improved attention spans and reduced disruptive behaviours among students with emotional, cognitive, and behavioural disabilities (Szczytko et al., 2018). EOtC has also been found to strengthen student-teacher relationships (E. Mygind et al., 2019), to have a positive effect on students' pro-social behaviour (Bølling, Niclasen et al., 2019) and social relationships (Bølling, Pfister et al., 2019), although the latter association is still inconclusive (Ellinger et al., 2023; Lauterbach, 2023). Furthermore, EOtC has been associated with the improvement of levels of participation (Quay, 2003) and inclusion, particularly among students with immigrant backgrounds (Lauterbach et al., 2023). Moreover, real-world settings in the local surroundings are important to develop and practice environmental citizenship (Iversen & Jónsdóttir, 2018).

A recent scoping review on research about EOtC in the Nordic countries shows that teachers' perspectives are most frequently investigated, followed by studies about ideal practices and potentials of outdoor education, well-being, and cognitive learning. Fewer studies explored teaching and learning processes, digital resources, and education for sustainability (Remmen & Iversen, 2022).

EOtC in Scandinavia is a routine part of the school schedule which aligns it to some extent with the "forest schools" in the UK (Waite et al., 2016). In Scotland, for example, outdoor education and play experiences are integral components of Scotland's Curriculum for Excellence for children aged 3–18 (OECD, 2021). Outdoor learning is also incorporated into the Professional Standards for teachers set by the General Teaching Council for Scotland (General Teaching Council for Scotland, 2021). The provision of outdoor schooling in Scotland has been mapped three times, in 2006, 2014, and 2022. On average, students in primary school spent seven minutes per week with outdoor learning in 2022. Out of the total time spent outdoors, 87 % occurred within or near the school premises as well as visits to woodlands and local greenspaces (parks and gardens). The primary curricular themes outdoors were health and well-being, science, and mathematics, with a focus on practical activities, teamwork, nature, and play (Mannion et al., 2023).

But despite its widespread use, the prevalence and practice of EOtC in Scandinavian schools remain somewhat underexplored, especially in Norway and Sweden. Nevertheless, investigations into prevalence and provision, combined with positive outcomes can offer a more solid foundation for data-driven investments and more effective resource allocation for both governments and municipalities (Mandinach & Honey, 2008). In Denmark, for example, systematic research on the prevalence and nature of "udeskole" has been conducted throughout the past 15 years and witnessed an increase in EOtC. The results from the first Danish mapping in 2007 indicated that approximately 14 % of all public schools had one or more classes practicing udeskole on a regular basis (Bentsen et al., 2010). This number grew to 17.9 % for public schools in the schoolyear 2013/2014 (Barfod et al., 2016) and remained at about that same level in the most recent mapping survey. However, the provision of udeskole was larger among special-needs schools (34.0%) than among public schools (19.5%) in the 2019 investigation (Barfod et al., 2021). But as EOtC, that had started mainly as a grassroots movement, gains popularity (Passy et al., 2019), there is an increasing need for critical examination and assessment of what is actually being taught and how (Barfod & Daugbjerg, 2018).

1.2. Uteskole in Norway

The focus on student engagement and the integration of the local environment have been fundamental in Norwegian education throughout the 20th century, but this still needs to be more thoroughly researched for EOtC (Jordet, 2011).

In 2000, a nationwide school survey had been undertaken in Norway to assess school meals and physical activity in Norwegian primary schools. Hereby, "uteskole" had been identified as one source of physical activity (Bjelland & Klepp, 2000). The survey revealed that more than 90 % of first graders participated in uteskole activities for either half or a whole day each week. However, as students progressed through their schooling, there was a gradual decline in provision. By the time students reached the seventh grade, only 10 % of them were engaged in regular uteskole activities once a week (reported in Bentsen et al., 2010; unfortunately, the original report could not be retrieved). Apart from this early survey on uteskole in Norway and two master theses that focused on uteskole in different Norwegian regions (Limstrand, 2001; Vestøl, 2003), no recent data on the prevalence and nature of uteskole in Norway are available.

While the concept of EOtC encompasses teaching activities both outdoors and indoors, such as in cultural institutions and companies, the practice of uteskole in Norway is particularly influenced by the concept of "friluftsliv" and outdoor environments as a setting for personal development and learning (Winje & Løndal, 2021a). The Norwegian cultural heritage of valuing outdoor life or friluftsliv is grounded on a long tradition of outdoor activities (Tordsson, 2010). It has been argued that the concept of friluftsliv is connected to the formation of the (new) Norwegian national identity after its independence in 1814 (Slagstad, 2008) and the national romantic movement (Faarlund et al., 2007). It has been used as a unifying element to evoke feelings of pride of the Norwegian nature and was therefore considered to be an important topic in education (Skille et al., 2023). There has been a long-standing emphasis on friluftsliv in the curriculum for nearly eight decades. In the "normalplanen" from 1939, the word "friluftsliv" was mentioned for the first time in a Norwegian curriculum (Helle, 2017). With the curriculum reform in 1994, friluftsliv was integrated as a specification in upper secondary physical education in Norway. Three years later, guidelines for friluftsliv were developed for all school forms, that explicitly encouraged the use of the local community as an educational resource across all subjects. In the wake of these curriculum revisions, this form of teaching gained momentum and the term "uteskole" was used to describe this practice (Jordet, 2007). Arne Jordet's case study from the early 2000s, based at Lutvann Primary School in south east Norway, provided insights into regular uteskole practices, where friluftsliv is defined as an integral part of uteskole, among others (Jordet, 2002, 2009). In his influential book "The Classroom Outdoors", Jordet argued that uteskole encourages active, sensory learning through personal experiences outside the classroom, bridging the gap between indoor and outdoor education (Jordet, 2010).

In the newest curriculum reform ("fagfornyelsen") from 2020/21, varied learning environments, activities, the use of nature and the local community, collaboration, exploration, and character development are important themes. Although the term "uteskole" is not explicitly used, the idea that outdoor teaching can effectively align with the new curriculum remains robust (Flatmo, 2021).

The continuity of indoor and outdoor teaching, however, has been questioned in a recent study by Winje and Løndal (2021a) who found that the "connections between *friluftsliv activities* and *theoretical learning activities* are seldom emphasised" (p.133, cursive in the original) and there are only a few studies to date that explicitly examine uteskole practices (Remmen & Iversen, 2022).

Based on the lack of comprehensive research on the prevalence and nature of uteskole in Norway and the ambiguities between friluftsliv and uteskole, the purpose of this study is to examine the prevalence of uteskole in Norway and find out more about the properties and conditions of its practice.

2. Methods

2.1. Research design and instruments

The project had been designed in January 2020, right before the COVID-19 pandemic. An online questionnaire was developed in close cooperation with one author of the Danish mapping project (MB), who is also co-authoring this study. To secure comparability to the findings obtained in Denmark, items in the Norwegian questionnaire had been aligned to the Danish version as much as possible and adapted to the Norwegian context. The Norwegian questionnaire had been tested for practicability and intelligibility by a total of 21 teachers, school officials, and colleagues in teacher education. Their feedback had been incorporated in the final version of the questionnaire. Email addresses with the permission to use them for the purpose of this study had been obtained by the Norwegian Directorate for Education and Training (Udir), and the questionnaire had been approved for compliance with The General Data Protection Regulation (GDPR) by the Norwegian Agency for Shared Services in Education and Research/Sikt (ID: SIKT-500,199).

2.2. Sampling and data collection

To obtain data least affected by the pandemic, the data collection was conducted in October 2021 four weeks after Norway had officially lifted all COVID-19 restrictions, allowing the schools to readjust to "normal" school life. An online questionnaire including four items asking about the use of uteskole during and after the pandemic was sent out to $N = 2671$ schools in Norway (classes grade 1–10). For this article, only the quantitative data on the provision of uteskole during and after the pandemic are considered.

To estimate the prevalence of EOtC in Norway, a two-stage approach was performed. First, one representative of the school (for instance the school leader) was asked to fill in the online questionnaire on uteskole practice at their respective schools. Of the responses, 80 % came from principals, 8 % from assistant principals, 8 % from teachers, and 4 % from administration personnel. Two items were used to determine the prevalence of uteskole: item 1 first briefly introduced the concept of uteskole as a teaching form

where "a class is regularly taught in the local area, in the urban environment (e.g., museums, science centres or other cultural institutions) and/or in nearby outdoor areas or on school grounds". Residentials, 'brain breaks' or physical activity breaks outside the classroom were explicitly excluded from the definition of uteskole. We then asked if the school practiced uteskole or not. Item 2, which was conditioned on the answer "yes" to item 1, asked to which extent uteskole was practiced, giving predefined frequency options (see table 1, column 1). To enable comparison to the Danish mapping research (Barfod et al., 2021), similar frequency categories were used: (1) No uteskole, (2) Very irregular, only a few days of the school year; (3) Regularly, but less than half a day every two weeks; (4) Regularly, approximately half a day every two weeks; (5) Regularly, approximately half a day each week; (6) Regularly, approximately a whole day every two weeks; (7) Regularly, approximately a whole day each week; (8) More frequent than a whole day each week.

From all contacted schools, $n = 535$ (20.0 %) provided valid data to calculate the prevalence. To account for a possible non-response bias (Berg, 2005) of those schools answering the online questionnaire that favour practicing uteskole in their schools, a random sample of $n = 460$ of the remaining non-responding schools was additionally contacted by telephone and were asked to answer items 1 and 2. Of those 460 schools, $n = 334$ offered complete replies to the two questions, resulting in a 95 % chance for a sampling error of maximally 5.0 %, which means that the sample of responses contacted by telephone is a representative sample of the initially non-responding schools.

To explore the nature of uteskole in Norway, a set of eleven more comprehensive items were included in the online survey, asking for example for pedagogical goals in uteskole, the teachers' training, or the distance to natural environments, also providing space for open-ended answers.

The questionnaire had been available in all three national languages in Norway, i.e., Bokmål, Nynorsk, and Northern Sámi.

2.3. Calculation of prevalence of EOTC in Norway

To determine the sensitivity of the data collection mode (online vs. telephone) and to calculate a more accurate prevalence of uteskole in Norway based on the whole dataset with $N = 869$ schools (32.53 %), Bayesian logistic regression models with binary response variables were used for (a) the schools' own definition of uteskole (item 1, "yes"/"no") and (b) an ex-post definition of uteskole provision of at least half a day every second week based on item 2 ("uteskole practice meets duration-criterion" with two levels, "yes" and "no", with "yes" coded as 1, and "no" coded as 0). In both models, the mode of data collection was included as a categorical predictor variable, again with two levels, "online" (0), and "telephone" (1). A detailed technical description of the models can be found in the supplementary material.

3. Results

3.1. The prevalence and provision of uteskole in Norway

Table 1 provides the summary statistics of the responses in both data collection modes, the online data collection and the follow-up via telephone in the respective response categories. Following the "Danish Model" (Barfod et al., 2021, 2016; Bentsen et al., 2010), only categories (4)-(8) are defined as uteskole (i.e., regular use of EOtC) to calculate the prevalence of uteskole in Norway and are coded "yes": = 1. Answers in categories (1)-(3) are coded "no": = 0, while answers in categories (9) and (10) are coded as missing for the statistical analysis.

For the schools' own definition of uteskole practice (a), the logistic regression model determines virtually no difference (0.0 %) between the two data collection modes and reveals a prevalence for having uteskole of 87.6 % (95 % CRI 84.3 %-90.8 %) in Norway (see Table A1 in the appendix).

The model for the ex-post definition of uteskole (b) reveals that the corrected prevalence in Norway is 11.1 % lower than obtained by the online survey, i.e., 68.7 %, with credible values ranging from 56.4 % to 78.9 % within 95 % credibility (see Table A2 in the appendix).

At county ("fylke") level in Norway, the data show that uteskole is a teaching approach used nation-wide (cf. Fig. 1, Table 2), with a constant prevalence throughout the country. Only the city of Oslo has significantly less provision of uteskole (50.2 %), whereas in

Table 1
Responses in the respective categories on uteskole provision in the two collection modes (telephone and online).

	telephone (%)	online (%)
(1) No uteskole	11.1	11.4
(2) Very irregular, only a few days of the school year	8.4	4.1
(3) Regularly, but less than half a day every two weeks	8.7	6.9
(4) Regularly, approx. half a day every two weeks	9.3	13.3
(5) Regularly, approx. half a day each week	24.6	32.6
(6) Regularly, approx. a whole day every two weeks	2.4	7.5
(7) Regularly, approx. a whole day each week	23.7	22.4
(8) More frequent than a whole day each week	1.8	1.9
(9) Do not know item 2	4.5	0.9
(10) Do not know item 1	5.7	0.0

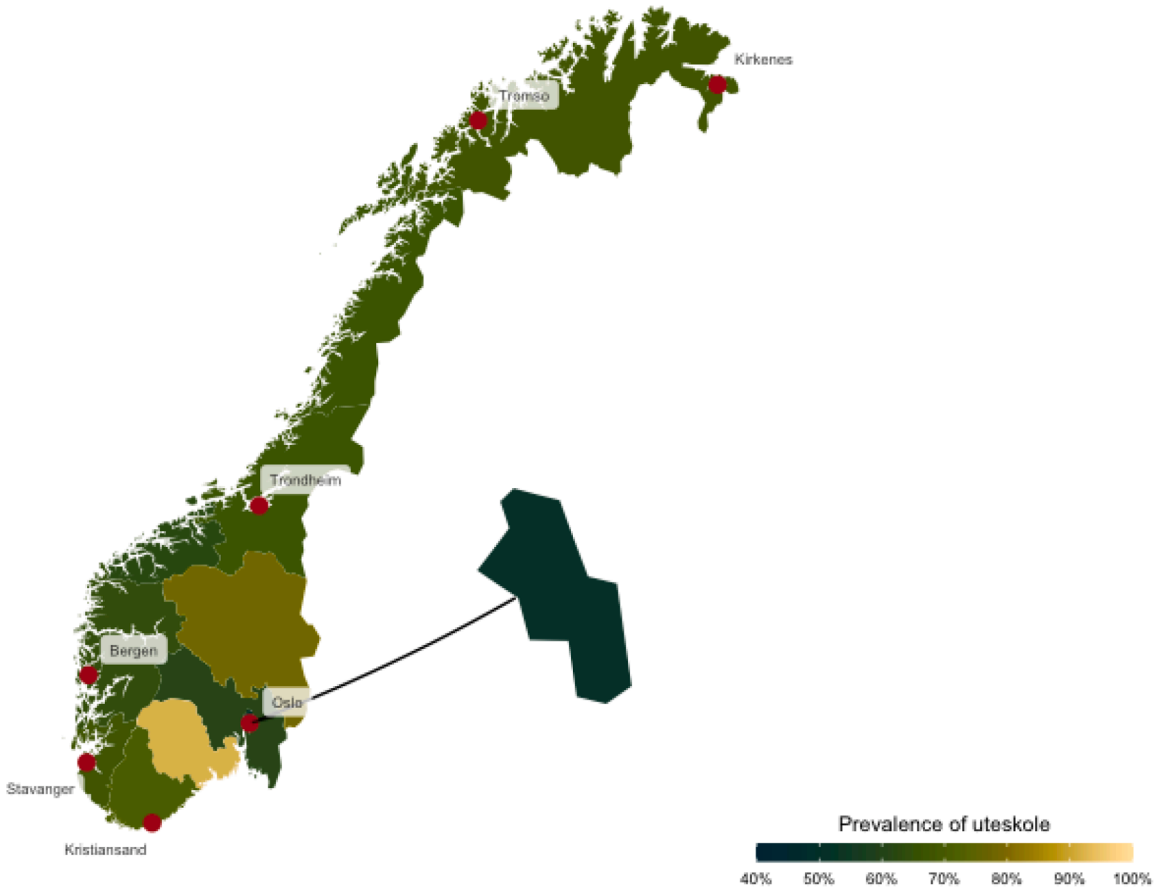

Fig. 1. displays the geographical distribution of the prevalence of uteskole in Norway based on the online data corrected for non-response bias. The county of Oslo is depicted to the right in a larger scale for better visibility.

Table 2
Prevalence of uteskole in the counties (fylke).

Fylke	Prevalence [%] [1]	Pearson Residual
Agder	70.0	0.31
Innlandet	77.9	1.31
Møre og Romsdal	61.8	-0.74
Nordland	66.4	-0.15
Oslo	**50.2**	**-2.22***
Rogaland	67.1	-0.06
Troms og Finnmark	67.4	-0.02
Trøndelag	66.4	-0.15
Vestfold og Telemark	**91.4**	**3.04****
Vestland	64.0	-0.45
Viken	60.6	-0.89

[1] Based on online data and corrected for non-response bias. The Pearson residual denotes significant deviations from the expected value. The threshold for statistically significant deviations follows the z-score table with ± 1.96 for α=0.05 (*) and ± 2.33 for α=0.01 % (**).

Vestfold and Telemark the provision is exceptionally high (91.4 %).

The data also show that 59 % of the responding schools increased the provision of uteskole during the COVID-19 pandemic. Of those schools, 44 % have continued with higher provisions in the school year 2021/22 after the pandemic, and no schools reported to have less provision than before COVID.

Applying the Danish definition of uteskole (categories 4–8, table 1), and based on merged online and telephone data ($N = 869$), the most popular model in Norway to teach outside the classroom is “half a day every week”, which is practiced by 40.7 % of the schools offering uteskole, whereas 32.2 % go out “a whole day each week”. 16.6 % have uteskole “half a day” and 7.8 % “a whole day every two

weeks". 2.6 % of the schools that practice uteskole go out "more frequently than a whole day each week" (cf. Table A5 in the appendix).

As Fig. 2 shows, uteskole is most frequently used in the lower school grades, with the highest provision in grades 1–4 (ca. 80 %), decreasing slightly in grades 5–7 (ca. 68 %). There is a clear drop from grade 7 to 8 (ca. 42 %), which also marks the transition from elementary school (in Norway, "barneskole", grades 1–7) to lower secondary school (in Norway, "ungdomsskole", grades 8–10). The answers to the open-ended questions indicated that there exists no "culture" for the use of uteskole in the lower secondary schools in Norway. Nevertheless, there are still 43 % of the responding lower secondary schools that use uteskole with at least one class per grade.

3.2. The nature of uteskole practice in Norway

In the following, all quantifications are based on the Norwegian schools' definitions of uteskole (item 1) and therefore comprise also irregular provisions that were excluded in the previous section. Of the responding schools, 88 % claimed that they have access to suitable uteskole places within ten minutes, 9 % within 30 min walking distance, 1 % need to take public transport, and 2 % provided no information.

Hereby, the accessibility to places for teaching outside the school building is associated with the provision of uteskole: 90 % of the responding schools with access to suitable places within 10 min walking distance, practice uteskole. This provision decreases to 83 % when the walking distance is up to 30 min. And more than half of the few schools that need to use public transport answered that they still practice uteskole.

42 % of the responding schools with uteskole answered that there exists some sort of formal embedding of uteskole in their teaching plans. Of all responding schools, 46 % have teaching staff who had been formally trained in friluftsliv or uteskole during their teacher education. In total, 38 % of the schools have staff with informal competence, for example acquired through several years of experience as uteskole teachers or tour guides, or personal enthusiasm for the outdoors. Of the responding schools, 14 % have staff who are part of a uteskole related network, for example "Den Naturlige Skolesekken" (i.e., "The Natural School Backpack") (Nasjonalt senter for naturfag i opplæringa, 2023). Moreover, 24 % answered that they do not have staff with specific uteskole competence.

Of the responding schools practicing uteskole, 96 % claim that uteskole is connected to the teaching in the classroom and that this approach is used virtually across all school subjects. The ones that are less frequently used during uteskole are music education and religious education. Typically, uteskole is practiced as a blending of learning and social activities in the outdoors. For almost two thirds of the schools, cultural activities like visiting museums or theatres are not considered typical uteskole elements, whereas the remaining 37 % count such cultural activities or visits to local companies, including school gardening, as uteskole.

The newly introduced national Norwegian curriculum from 2020 defines several pedagogical goals for all subjects. Those had been summarized and the schools were asked to choose the one most central for their uteskole practice: 1) social learning and development; 2) physical activity and health; 3) inquiry-based learning and curiosity; 4) respect for nature and ecological awareness; 5) interdisciplinary teaching. No clear ranking of these five goals could be determined and the respondents clearly stated in the open-ended answers that all of them are equally important, and it became evident that uteskole is in fact a widely used strategy to formally address those overarching pedagogical goals defined in the curriculum. In addition to the offered categories, there were some schools that reported to use uteskole specifically to teach Sámi culture and traditions.

The main reasons given by the responding schools for not practicing uteskole were lack of time (37 %), too little flexibility in the school routines (23 %), and lack of interest from the teachers (23 %). 21 % of the responding schools do not recognize uteskole as relevant, and 17 % claim to have not enough knowledge to provide it. Extra costs like transportation or additional teaching staff are a

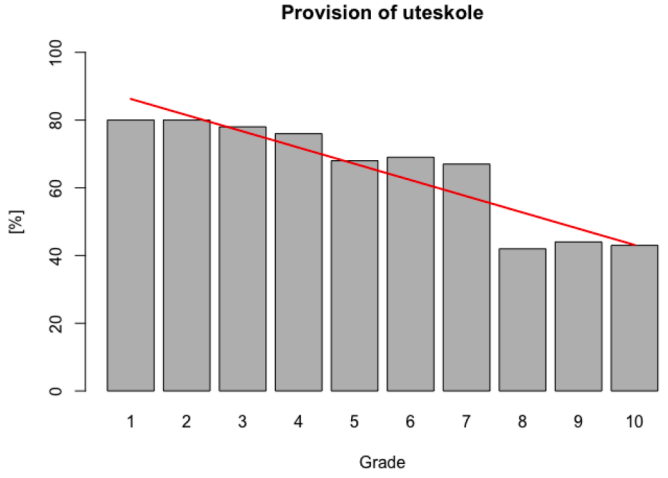

Fig. 2. depicts the decline of uteskole provision of at least half a day every second week through grades 1–10 based on the online data (item 1). With entering lower secondary school in 8th grade, the provision of uteskole drops. A linear regression (red line) indicates a highly significant decrease of provision of uteskole with increasing grade level (BF_{10}=130, R^2=0.853). However, approximately 43 % of the lower secondary schools still provide at least some form of uteskole.

barrier for 17 % of the schools. For this item, multiple answers could be given. Moreover, there are geographical areas in Norway, where the climate seems to make outdoor learning more challenging, as can be seen from the quote of one teacher: "*The biggest problem in Finnmark is probably that it is winter most of the school year*."

4. Discussion

4.1. Prevalence, provision, and nature of uteskole in Norway

Compared to international provisions of EOtC, the prevalence of 68.7 % of uteskole in Norway can be deemed exceptionally high (Dettweiler & Mygind, 2020) – also in comparison to other Nordic countries. It is difficult to compare the Norwegian data with the findings in Scotland since the methods are different and the Norwegian approach cannot reliably quantify the provision in minutes per student per week. But given the high prevalence of uteskole in Norway (68.7 %), and the fact that 72 % of those schools that provide uteskole go out either half a day (ca. 180 min) or a full day (360 min) per week, the provision in Norway is 25–50 times higher than in Scotland. The prevalence of uteskole in Norway is, however, directly comparable to data from Denmark after recalculating the data provided in Barfod et al. (2021) with the same methodology (see Tables A3 and A4 in the appendix). Based on the responses from the combined online and telephone data, the corrected prevalence for having regular udeskole in Denmark is 19.3 % (see Table A5 in the appendix). This is considerably lower than in Norway with a corrected prevalence of 68.7 % for regular uteskole (see Table A2 in the appendix).

The higher prevalence in Norway can probably be explained by two reasons. First, in Norway, friluftsliv is part of the physical education curriculum and activities such as hiking, making fire, and preparing simple food over campfires count as curricular learning activities. Whereas in Denmark, those friluftsliv-related activities are rarely curricular: they are a compulsory but minor topic in physical education for 7th grade students and above, and municipalities can offer friluftsliv as an elective subject. Thus, it is expected that friluftsliv is only occasionally registered as udeskole in Denmark. Second, the overarching pedagogical goals in the new Norwegian curriculum from 2020/21 are often addressed through uteskole, whereas such an incentive is not explicated in the Danish curriculum, although public Danish schools are expected to cooperate with social institutions and companies, for example also by using EOtC to follow The Open School approach (The Danish Ministry of Education, 2014).

When it comes to the different models of the provision of uteskole in Norway and Denmark (see Table A5 in the appendix), the categories "half a day every two weeks" (17 % in DK and 16.5 % in NO) and "a whole day each week" (32 % in both countries) are equally frequently used in both countries. The biggest differences are in categories (5) and (6): whereas "one day every two weeks" seems a quite popular model in Denmark (29 %) it is not so in Norway (7.7 %). There, "half a day each week" is by far the most frequently used model (41.4 %). This seems to offer the best trade-off between the benefits of uteskole and the pressure from other curricular activities and can probably best be explained by the easy access to suitable uteskole places within less than ten minutes walking distance for 88 % of the Norwegian schools. Finally, in Denmark, slightly more schools seem to offer EOtC "more frequent than a whole day each week" than in Norway (4.5 % in DK and 2.6 % in NO).

Although uteskole is a national phenomenon with almost equal prevalence in every county, there are some deviations. The provision of uteskole in Norway is lowest in the Oslo metropolitan region which might be due to more limited access to suitable uteskole places in the closer surroundings of the schools. The very high prevalence of uteskole in Vestfold og Telemark, however, can so far not be explained and needs further examination.

The stepwise decline of uteskole provision in Norway through the grades 1–4, 5–7, and 8–10 can most probably be explained by increasing academic pressure, especially in the transition from elementary to lower secondary education, which is also the timepoint when the students begin to receive grades and teachers seem to prioritize more classroom-based forms of education. The same stepwise decline of provision can be seen in Denmark (Barfod et al., 2021).

The findings show that 46 % of the schools practising uteskole can rely on teaching staff with formal uteskole/friluftsliv training, and 38 % of the schools have staff with informal uteskole competences. According to the provided data, uteskole is virtually used in every subject. So far, however, formal uteskole training in Norway seems to be concentrated mainly within physical education teacher education and this might also partly explain the high focus on friluftsliv activities in Norwegian uteskole practice.

The current survey does not provide information on uteskole practices at the subject level and does not evaluate how closely and pedagogically successful the continuity of classroom teaching in uteskole *de facto* is, or to what degree it responds to the places used. Recently, Winje and Løndal (2021a) identified some room for improvement regarding continuity and formulate how teachers can be supported in "facilitating transaction between the pupils and the environment outdoors and aid in establishing continuity between learning activities outdoors and indoors" (p. 133). In a study conducted in Germany, Lauterbach (2023) showed how the students' active engagement with specific environmental affordances in EOtC teaching settings fostered their academic engagement and well-being. The same study also described, how an EOtC approach with a strong focus on place and cultural responsivity offers possibilities for the participation of all students and opens up a promising way to more inclusive schools (Lauterbach et al., 2023).

It can furthermore be assumed that the deep anchoring of friluftsliv in Norwegian history and culture also explains the high prevalence and affects how uteskole has been and still is conceptualized and taught in Norway. This might however to a certain degree also replicate some of the exclusive tendencies in Norwegian friluftsliv with respect to social class, gender, ethnicity, and age, that had been put forth by Gurholt (2016); Gurholt et al. (2020) or Skille et al. (2023). The latter explicitly underlines the underrepresentation of Sámi perspectives and discusses the rich potential that lies in indigenous contributions to friluftsliv. The same might be the case for uteskole practice (Bergan & Laiti, 2023).

4.2. Strengths and limitations

This survey is the first systematic mapping of the prevalence and provision of uteskole in Norway, at least in the past 25 years, since the findings from the early survey (Bjelland & Klepp, 2000) could not be accounted for in the original and could not be quality-checked. This study provides robust and rich data on this widely used teaching approach, which can be used to inform educational policies and teacher education strategies (Mandinach & Honey, 2008). The alignment with prevalence assessments in Denmark and Scotland (Barfod et al., 2021; Barfod et al., 2016; Bentsen et al., 2010; Mannion et al., 2023), has bolstered the external validity and comparability of this study's findings.

However, this study also has its limitations: first, it would have been beneficial to record also the organisation number of the schools contacted by telephone to link their answers to the items for the geographical distribution analyses. This would make the study even more robust with respect to the nature of uteskole discussed in Section 3.2. Moreover, this study can only be seen as a starting point for more in-depth analyses of the nature and use of uteskole in Norway to find out how uteskole is *de facto* practiced and how the teachers are prepared for teaching outside the classrooms in pre-service and in-service teacher education. The current data for example do not capture how inclusive uteskole practice is, it can so far only be assumed that the exclusive elements that are at play in friluftsliv probably also apply to uteskole.

5. Conclusion

The most important finding from this survey is that with a prevalence of 68.7 %, regular uteskole is indeed a widely used teaching approach all over Norway. Uteskole is most often practiced "half a day each week" which can probably be explained with the fact that the majority of Norwegian schools have easy access to suitable uteskole places within 10 min walking distance. There is a noticeable drop in the provision of uteskole with the transition from elementary to lower secondary education after grade seven, most likely due to the introduction of grading and an increasing focus on academic learning. Although uteskole in Norway is especially inspired by the concept of friluftsliv, the data reveal that it is virtually taught in all subjects and that the teaching in uteskole is considered to be connected to the indoor teaching.

Based on our findings, we can formulate the following implications for further research and educational policy:

- Given the high prevalence and considering that up to 20 % of all teaching in primary and lower secondary education in Norway takes place outside the classrooms across all subjects, uteskole should become a mandatory element in teacher training.
- Further research needs to increase expertise and capacity by developing good uteskole practices, teaching concepts, and practical guidelines.
- Further theoretical and methodological diversity for a more inclusive uteskole for all students needs to be encouraged, with a special focus on place and cultural responsivity as well as indigenous, particularly Sámi perspectives.

As this study sheds light on the prevalence and nature of uteskole in Norway, it serves as an initial step towards re-evaluating the systems of teacher training and educational practice. It is essential to acknowledge that schools play an immense role in shaping future generations, and uteskole presents significant opportunities to contribute to the students' holistic development. We emphasize that widespread incorporation of such teaching practices should be underpinned by well-trained educators. With the substantial evidence highlighting the positive effects of uteskole, we firmly believe that Norway is uniquely positioned to provide its future generations with an education that equips them to meet the challenges that confront our world.

CRediT authorship contribution statement

Gabriele Lauterbach: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Mads Bølling:** Conceptualization, Formal analysis, Methodology, Writing – review & editing. **Ulrich Dettweiler:** Conceptualization, Formal analysis, Methodology, Software, Visualization, Writing – review & editing.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.ijer.2024.102349.

Appendix

Tables A1, A2 A3, A4 and A5.

Table A1
Results from the logistic regression model for Norway, item 1. .

			Credibility Interval (95 % CRI)				
	mean	sd	2.5 %	25 %	50 %	75 %	97.5 %
Uncorrected Prevalence	0,876	0,015	0,847	0,866	0,876	0,885	0,904
Corrected Prevalence	0,876	0,016	0,843	0,866	0,877	0,887	0,908
Difference	0.00 (0 %)						

The mean and 95 % CRI boundaries are already transformed from log-odds to probabilities.

Table A2
Results from the logistic regression model for Norway, item 2. .

			Credibility Interval (95 % CRI)				
	mean	sd	2.5 %	25 %	50 %	75 %	97.5 %
Uncorrected Prevalence	0.773	0.019	0.735	0.76	0.773	0.786	0.811
Corrected Prevalence	0.687	0.021	0.564	0.647	0.688	0.725	0.789
Difference	-0.086 (-11.1 %)						

The mean and 95 % CRI boundaries are already transformed from log-odds to probabilities.

Table A3
Results from the logistic regression model for Denmark, item 1.

			Credibility Interval (95 % CRI)				
	mean	sd	2.5 %	25 %	50 %	75 %	97.5 %
Uncorrected Prevalence	0.404	0.018	0.301	0.412	0.404	0.437	0.458
Corrected Prevalence	0.201	0.022	0.13	0.175	0.201	0.228	0.286
Difference	-0.203 (-50.5 %)						

The mean and 95 % CRI boundaries are already transformed from log odds to probabilities.

Table A4
Results from the logistic regression model for Denmark, item 2.

			Credibility Interval (95 % CRI)				
	mean	sd	2.5 %	25 %	50 %	75 %	97.5 %
Uncorrected Prevalence	0.398	0.022	0.294	0.321	0.398	0.351	0.381
Corrected Prevalence	0.193	0.022	0.126	0.168	0.193	0.221	0.279
Difference	-0.205 (-51.6 %)						

The mean and 95 % CRI boundaries are already transformed from log odds to probabilities.

Table A5
Frequency of uteskole provision in Norway and Denmark.

Provision	DK[1]	NO[2]
(4) Regularly, approx. half a day every two weeks	16.5 %	16.6 %
(5) Regularly, approx. half a day each week	29 %	40.7 %
(6) Regularly, approx. a whole day every two weeks	18 %	7.8 %
(7) Regularly, approx. a whole day each week	32 %	32.2 %
(8) More frequent than a whole day each week	4.5 %	2.6 %

[1] Recalculated from the data from *Barfod* et al. *(2021)*.
[2] Calculated based on the combined online and telephone data with $N = 869$ schools.

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