PEER-REVIEWED PAPER

Headteachers' Knowledge, Perceptions and Prioritization of the School Subject Food and Health in Grades 1–4 in Norway

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Abstract

The purpose of this study was to investigate headteachers' knowledge and perceptions of the school subject Food and Health (FH), and how they prioritize it in grades 1–4. To gain insight into headteachers' knowledge, perceptions and priorities, semistructured interviews were carried out with headteachers from eight schools in four main regions of Norway. Data were analysed using conventional content analysis.

The results showed that most headteachers saw few challenges related to teaching FH in the lower primary level. They seemed to have little interest in FH and gave class teachers much freedom in designing, planning, and carrying out their teaching. The perceived importance of FH in grades 1–4 varied based on headteachers' own interest, competence, and values. This may lead to undesired variation in quality and number of lessons in FH in grades 1–4 and should be followed up by clearer guidelines and expectations from national education authorities.

KEYWORDS: **FOOD AND HEALTH, HOME ECONOMICS, HEADTEACHER, PRIMARY SCHOOL, CURRICULUM**

Introduction

Schools are considered the best place for food and nutrition education (Food and Agriculture Organization [FAO], 2019; World Health Organization [WHO], 2004, 2006), and childhood is a crucial period when eating habits that persist into adulthood are formed (Ares et al., 2024; Mikkilä et al., 2005; Smith et al., 2022; WHO, 2006). Patton and et al. (2018) assert that investing in adolescents' (10–24 years) healthy diets and creating opportunities for adolescents and their families to make healthy choices, will yield large benefits for current and future generations alike.

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Lavelle et al. (2016) have reported on the importance of learning cooking skills at an early age for skill retention, confidence, cooking practices, cooking attitude and diet quality. In the same vein, Lichtenstein and Ludwig (2010) claim that providing a mandatory food preparation curriculum in schools may be among the best investments societies could make: educating students comprehensively about the scientific and practical aspects related to food will provide them with the skills they need to choose, handle and prepare food with confidence. Home Economics education has also been associated with higher levels of food knowledge among several age groups (Worsley et al., 2016).

In Norway, children start primary school at the age of six. The first ten years of schooling is compulsory, consisting of primary and lower secondary school education, which is based on a single, national curriculum (Ministry of Education and Research, 2023). Subjects, subjects' curricula, and number of teaching hours in each subject are decided with a common, legislative framework (Eurydice, 2025). The specific curricula have the status of regulations (Ministry of Education and Research, 2019a) and are therefore legally binding for school owners (i.e. the municipalities) and schools alike (Holthe & Veka, 2019). The County School Governors are responsible for supervision and counselling of all schools on behalf of the national school authorities (Eurydice, 2023, 2025).

95% of all Norwegian children attend public schools (The Norwegian Directorate for Education and Training, 2022), which are administered by the municipalities and free of charge (Norwegian Directorate for Higher Education and Skills, n.d.). Hence, the Norwegian primary school system lays a good foundation for establishing healthy eating habits in children, if the schools provide proper food education.

Home Economics (HE) has been a compulsory subject in Norwegian schools since 1959. In 2006, the subject was revised and renamed "Food and Health" (FH). According to the national FH curriculum, the subject has three core elements: healthy diets, sustainable food habits and consumption, and food and meals as an expression of identity and culture. The subject is practical, with an emphasis on preparing meals and cooking healthy, safe and sustainable foods (Ministry of Education and Research, 2019a). In addition, students should understand the association between diet and health, critically assess health claims and other information about food and diet, and they should be able to develop their creativity by exploring and using their senses in practical activities (Djupegot et al., 2023). Hence, FH covers the food, nutrition and health part of the broader HE subject, as well as parts of consumer science.

The total number of teaching hours in FH is set to 197 in grades 1–10 (The Norwegian Directorate for Education and Training, n.d.), and. the FH curriculum contains competence aims after years 4, 7 and 10. These describe what the students should master at the various levels. Hence, students have the right to develop competence as expressed in the subject curriculum, regardless of where in the country they attend school (The Norwegian Directorate for Education and Training, 2019, p. 11). Nevertheless, previous research has shown that FH teachers in Norway often base their teaching on their own perceptions rather than the formal, statutory curriculum (Veka et al., 2020). Ask et al. (2020) also reported that many of the FH teachers in grades 1–4 called for better framework factors in the subject, including dedicated, scheduled lectures in FH on the timetable for grades 1–4.

Norwegian Headteachers' Duties and Responsibilities

School leaders are responsible for the school's operation, and headteachers have overall responsibility for their school, including pedagogical, personnel, and administrative management (Eurydice, 2023). The headteacher must organize the school in accordance with the students' right to attend school and in line with their rights regarding the content of primary and lower secondary education (The Education Act, 1998, Chapter 2, Section 2–3). Further, the headteacher is responsible for high quality in education, for students' learning results, the school environment, and for facilitating sound learning processes at school (The Norwegian Directorate for Education and Training, 2025).

School leadership implies to provide direction for the teachers in their job. Hence, headteachers may play a decisive role in school development (Helleve & Eide, 2020). Already at the turn of the millennium, Moos and Carney (2000) pointed out that educational leadership was a central element of headteachers' work, including both leading the students' educational processes (i.e. their learning) and responsibility for teachers' development of professional skills and reflexivity (Helleve & Eide, 2020, p. 200). According to several studies (see for instance Coelli & Green, 2012; Pont et al., 2008), school leaders can make a difference in school and student performance, provided they are granted autonomy to make important decisions. As Masters (2008, p. 41) pointed out: "School leadership has been identified as being second only to classroom teaching in its potential to influence student learning."

Robinson et al. (2008) have highlighted the following leadership dimensions as important for student outcomes: establishing goals and expectations; resourcing strategically; planning, coordinating and evaluating teaching and the curriculum; promoting and participating in teacher learning and development, and ensuring an orderly and supportive environment. Persson and Haraldsson (2017) also stressed that school managers have a large influence on what is prioritized in school, which in turn affects students' school performance. Hence, the perceived importance of a particular subject, and how headteachers prioritize limited resources—both financial and human—between different school subjects, may affect the quality of teaching in a subject as well as the students' learning outcomes.

In this study we therefore wanted to assess what headteachers know about the school subject FH, how they perceive FH and how they prioritize it. The study is part of the research project "Early efforts in the school subject Food and Health ", where the purpose was to gain insight into the teaching offered in FH in grades 1–4, and to shed light on variations and challenges that characterized today's teaching (Ask et al., 2020). As this is a field where relatively little research has been carried out (Beinert, 2021, p. 2), especially for the lower, primary level (Aadland et al., 2023), we wanted to obtain a better understanding of headteachers' perceptions of the importance of the school subject FH, their knowledge of the subject, how teaching of FH in grades 1–4 was implemented at their school, and their prioritization of the subject in lower, primary school.

Investigating headteachers' knowledge, perceptions, and prioritization of FH in the early years may be of international interest because it addresses a set of challenges shared by many education systems. Across the Nordic countries, HE/FH often struggle to secure sufficient time, resources, and legitimacy within school curricula dominated by academic core subjects (see for instance Bjørkkjær et al., 2023; Bohm, 2022). Understanding how school leaders interpret the purpose of FH and how they prioritize it within their local school structure can provide insight

into the mechanisms that shape the learning opportunities young students receive in this subject area. As pointed out by Pont et al. (2008), Coelli and Green (2012) and Masters (2008), headteachers' beliefs and priorities may strongly influence resource allocation, staffing decisions, and the overall status of a subject, factors that may affect teaching quality and student learning across educational systems. By documenting these leadership perspectives, this study may contribute insights relevant for countries seeking to strengthen food, nutrition, and health education in schools.

In recent years, several researchers have studied the planning and implementation of teaching FH in Norway (Beinert, 2021; Holthe & Veka, 2019; Lassen & Hjälmeskog, 2021; Veka & Djupegot, 2025; Veka et al., 2018, 2020) However, Borgen et al. (2023, p. 13–14) recently published an overview of previous research on the practical-aesthetic subjects (PAS—Arts and Crafts, Food and Health, Music, and Physical Education), where they concluded that both headteachers' and school owners' perspectives on PAS seemed to be absent. In the same vein, Veka and Djupegot (2025, p. 42; 44) underlined the lack of studies examining perspectives of students as well as school management in their systematic review of FH research in Norway 2006–2023. To the best of our knowledge, no one has previously examined how headteachers perceive the school subject FH, and how they prioritize it in lower primary school.

Materials and methods

Instrument Development and Ethical Considerations

To explore these issues more in depth, a qualitative design (Malterud, 2017; Postholm & Jacobsen, 2018, p. 95) was applied, and we prepared a semistructured interview guide consisting of four parts. The first part consisted of background information about the headteachers; their education, years of experience as headteachers, and teaching experience with FH. We also asked whether they had any formal competence in FH. The second part dealt with the framework factors for FH at the individual school (see Aadland et al., 2023; Ask et al., 2020; Helland et al., 2021, for details), including who was responsible for teaching FH in grades 1–4 at each school, and why this person was chosen. The third part of the interview revolved around teaching FH itself, e.g. content, teaching material, and collaboration with the local community in relation to teaching FH. In addition, we asked how FH teaching was prioritized and organized for grades 1–4. In the fourth part we asked which challenges the headteachers saw in implementing FH education in grades 1–4 in the future.

The research project was ethically reviewed and approved by the Norwegian Centre for Research Data prior to data collection (project number 59050). In line with ethical considerations, the headteachers participating in this study received written information about the project ahead of data collection, and all study participants provided written informed consent. They were also informed that study participation was voluntary, and that they could withdraw their contribution to the research project at any time without explanation. The general guidelines for research ethics provided by the Norwegian National Research Ethics Committees (2019) were followed throughout the research process. The protection of the participants' privacy included informed consent, confidentiality in data storage, and protection of participants' identities when sharing results and publications. Furthermore, no sensitive personal information was collected as part of this study.

Sample and Data Collection Procedures

In 2018, we contacted five universities covering the five different regions in Norway and asked for a list of primary schools used as practice schools in their teacher training courses. Schools were drawn from each list randomly by using Research Randomizer (RR; Urbaniak & Plous, 2018). The headteachers at the selected schools were contacted by phone and subsequently by email and asked if it were possible to interview teachers in grades 1–4 and the headteacher about FH. If the school refused, a new school was chosen with the help of RR. This was done until a total of 12 schools, evenly distributed across the country, had agreed to participate.

From four of the participating schools, we could not conduct interviews with the headteacher or a representative from the school management as the headteachers were busy. In total, we conducted interviews with nine headteachers at eight different schools in four regions in Norway. These schools were coded from A–H in data analysis. As two of the participants represented the same school, we chose to exclude the interview with the assistant headteacher at school A from further analysis. Each interview lasted 30 to 60 minutes. The interviews were recorded, and audio recordings were transcribed verbatim, except for names, as all data were anonymized during transcription.

Data Analysis

A conventional, thematic content analysis was carried out (Fauskanger & Mosvold, 2014), following Hsieh and Shannon's (2005, p. 1278) definition of qualitative content analysis as a "research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns". According to Hsieh and Shannon (2005), conventional content analysis is used in studies where the aim is to describe a phenomenon to obtain a better understanding of it. Knowledge generated from such a content analysis may be based on participants' unique perspectives and grounded in the actual data (Hsieh & Shannon, 2005, p. 1280) and was therefore considered an appropriate approach for exploring headteachers' subjective perceptions and priorities related to FH teaching in their schools.

The interviews were first transcribed verbatim, before the content was systematized manually in tables based on the various themes in the interview guide. Data were analysed and interpreted by all authors in collaboration, by categorizing the replies from the eight headteachers, based on the following themes:

1. Responsibility for teaching FH in grades 1–4 at this school
2. Number and duration of lessons given in FH at grades 1–4
3. Knowledge of competence aims for FH after year 4
4. Prioritizing teaching in FH in grades 1–4
5. Challenges related to implementing FH education in grades 1–4 in the future.

Results

Participants Demographics

Table 1 shows relevant characteristics of the headteachers interviewed in this study. Schools A and B are from Northern Norway, and C and D from Central Norway. Schools E–G represent Western Norway, whereas school H represents Eastern Norway.

Table 1 Gender, education, Headteacher experience, formal FH education and teaching experience in Food and Health (FH) among the Headteachers interviewed (*n* = 8)

Interviewee	Gender	Education	Headteacher Experience	Formal FH Education (credits)	Teaching Experience in Food and Health
Headteacher, School A	Female	General teacher education, Master in school management	One year	Yes (15 credits)	Yes, 3–4 years (grades 3 and 9)
Headteacher, School B	Male	General teacher education	7 years	Yes (15 credits)	Yes, one year (grade 3)
Department Manager, years 1–4, School C	Female	General teacher education, school management	9 years	Yes (15 credits)	No
Headteacher, School D	Male	General teacher education, school management	7 years	No	No, but done a bit of cooking in outside in connection to outdoor life
Headteacher, School E	Female	General teacher education, management training	4 years	No	No
Headteacher, School F	Male	General teacher education	25 years	No	No
Headteacher, School G	Female	General teacher education, school leader education	11 months	Not stated	Yes, three years (grade 6 and grades 8–10)
Deputy Headteacher, School H	Male	General teacher education	4 years	Not stated	Yes, one year, as assistant teacher (grade 6)

Responsibility for Teaching FH in Grades 1–4

Two of the headteachers said they were responsible for the teaching in FH, while the others stated that this was the class teacher's responsibility. Headteacher A said:

> Ultimately, I am the one responsible for all education

while headteacher D was the only one who did not really know who was responsible:

> No, it's probably the class teacher. Yes. Or the team, then, that has that subject, or the class, or the year. It comes more as part of the subject- and timetable-distribution…

The remaining headteachers had a good overview of who was responsible.

We also asked why these specific teachers were given the responsibility for teaching FH, and the replies varied. Only one of the headteachers mentioned formal qualification in FH as a reason, whereas several mentioned the subject- and timetable distribution, or that teaching FH was the responsibility of the class teachers, by definition. Headteacher A also referred to the relation the teacher had to the students, as a factor influencing the choice. One headteacher (F) mentioned that sometimes there were teachers with proper FH education who conducted teaching in FH, but other times, when the grade level lacked FH teachers, other teachers had to take on the subject. Another headteacher (H) referred to the teacher's own desire to teach FH but was not sure whether this teacher had any formal FH qualifications.

Implementation of Teaching FH: Number and Duration of FH Lessons in Grades 1–4

There was significant variation in the number of teaching hours allocated to FH in years 1–4 across the different schools. School A had allocated 60 minutes per week in grade 4, and lumped the lessons together, so that they could teach 120 minutes every other week. In school B, 30 minutes were set aside per week for FH in grade 3. This school had chosen to implement longer sessions in grade 6 and use less time on the subject in grades 1–4. School C had allocated 30 minutes to the subject per week in grade 1 and 30 minutes in grade 2, but this was "on paper," as school leader C put it. In practice, the teachers at this school taught FH whenever it fitted into the schedule, and most of the teaching was interdisciplinary. School D resembled school C, as they did not have specific teaching hours allocated for FH, either. Instead, they saved up time, compressed into individual sessions or days, and mostly created "happening days", which was the term used by headteacher D. Schools E and F had set aside one lesson per week in grade 4, according to the headteachers. The headteacher for school F specified that this was 45 minutes lessons (even though the curriculum refers to 60 minutes lessons) but stated that they spent more time on lessons in grade 6 to compensate.

School G had chosen to spend only 10–20 minutes of FH per week for years 1–4. They also prioritized to teach FH in grade 6 and encouraged class teachers to save up time for cooking or focus on cooking activities during designated outdoor days, for instance. Whereas for school H, 60 minutes was set aside for FH in the teaching kitchen per week. The headteacher at school H emphasised that the class teacher could choose whether to use the teaching kitchen or work interdisciplinary, and that this was the teacher's choice.

Implementation of Teaching in FH: Knowledge of Competence Aims for FH After Year 4

The headteachers' knowledge of the specific competence aims for FH after year 4 was in general low. Four claimed they knew them to a certain extent, whereas the others admitted that they did not: Headteacher B said:

> No, now I'm not going to brag about that. I used to know them before.

whereas headteacher D stated:

> Now I don't remember the competence aims myself either, from the first to the fourth… It is up to each individual teacher, too, isn't it? So, it may very well be that we have many at the lower primary level who are really good at looking at them. That, I simply do not know.

Another headteacher (E) said she had read them through, whereas headteachers A, C, F and H, all claimed they knew the main characteristics of the FH curriculum. Headteacher G replied:

> Far too little, I'm too bad at that.

Prioritizing Food and Health in Grades 1–4

For the question "How is the school's teaching in FH prioritized at grades 1–4?" there was a large variation in replies, from headteachers who stated that FH was not highly prioritized, headteachers admitting that it might be a bit random, to four headteachers claiming that FH was equated to other subjects, and that it was prioritized to the extent that they fulfilled the number of annual teaching hours set aside for the subject. Headteacher C said that it was not the highest priority, while D said:

> No—say it's a bit random. I don't know the details of all the lessons at all levels… It may be a subject, where perhaps looking at competence aims for the lower primary level, we might have a little to work on.

Whereas headteacher E claimed that they prioritized FH well with the number of lessons set aside for the subject and added that they had a "very capable teacher" who taught the subject. Another headteacher (G) stated:

> It is primarily teacher-led, we must say. And we see that there are individual differences.... But we do not have any separate annual teaching plan for Food and Health for the first to fourth grade. So, it is based on the curriculum and the teacher himself who sets up all that.

And headteacher H admitted the following:

> We are probably… at 1–4, we are extremely concerned with reading and numeracy, and that is in a way important, and then Food and Health is not weighted all the way up there, absolutely not.

Also, as regards the content of the teaching lessons, the emphasis varied, as two of the headteachers (A and B) both stressed the practical part of the subject, whereas a third headteacher (C) said the practical component (i.e. cooking) was the least prioritized part. The other headteachers did not mention the content of the lessons in their replies at all.

Potential Challenges Associated with Implementing FH Education in Grades 1–4 in the Future

When asked what they thought were possible challenges in implementing teaching in FH at grades 1–4 in the future, four of the headteachers immediately answered that they did not see any major challenges. Some of them mentioned possible budget cuts in their municipalities as a potential future challenge. One headteacher (D) brought up the number of teaching hours in his reply:

> Of course, the largest challenge is perhaps the number of hours, which is so low that it can almost be forgotten.

Headteacher B also referred to possible budget cuts and said:

> Challenges will be the municipal budget, that we will be forced to make cheaper and less [food] and actually reduce the quality of the subject. And that this subject, like all other practical-aesthetic subjects, is deprioritized and theorized. So, school becomes a theoretical arena. That is my big concern. Because what do we get then? We get restless students, who don't get any breaks in their everyday life. And then they don't bother with anything anymore, quite simply.

Whereas headteacher G said that the largest challenge was how they had organized their teaching as it tied up a lot of time in grade 6. She underlined that they thought this was a good solution, but worried that it might lead to some teachers forgetting to focus on FH throughout the year in grade 4, as so little time was left for the subject for this grade (this school had set aside 10–20 minutes for FH per week in grade 4).

Three of the headteachers did not see any challenges related to lack of formal FH qualifications among the teachers, whereas headteacher D said they were lacking teachers with formal qualifications in FH. Headteacher A would have liked a higher focus on courses, or further education within FH, to give the teachers some inspiration and enthusiasm for the subject. As he said:

> … this is a subject that requires quite a lot of pre- and post-work, and that the implementation phase is planned, so that it does not become a 'chaos- subject'.

However, headteacher B did not share these worries, and stated:

> When you are that far down the levels (i.e. grades 1–4), I think most people have enough knowledge to be able to cook that food and organize it in a sensible way.

Discussion

Overall, the interviews left an impression that the headteachers seemed to have little knowledge about how teaching FH was planned and executed at their school, and gave class teachers much freedom in designing, planning and carrying out their teaching. Headteachers with formal training in FH and/or own teaching experience in the subject, seemed to have a somewhat higher interest in FH, perceived it as more important and had more insight into how FH was taught at their school, compared to headteachers without formal training and teaching experience in FH. The fact that headteachers' knowledge varied, is in line with Holthe et al. (2013), who studied schools' organization of teaching in PAS in sixth grade, and found that knowledge of the curriculum in PAS varied between schools and informants, and that headteachers used terms from the curriculum to a lesser extent when they referred to PAS, as opposed to other school subjects.

Furthermore, it seemed like a majority of the headteachers we interviewed did not have sufficient knowledge about the content of FH as a school subject, i.e. the number of teaching hours set in the curriculum, nor the competence aims. This is also in line with previous findings, where Veka (2022) found that headteachers had little insight into sixth grade FH teachers' efforts to interpret the FH curriculum. In addition, the headteachers in Veka's study left the entire responsibility for teaching FH to the individual teachers (Veka, 2022, p. xi).

Additionally, our results indicate that the headteachers we interviewed "got away" with their lack of knowledge by referring to trust management, the teacher's own responsibility, and their delegation of authority. One could claim that this signals trust and confidence, but it could also be perceived as a waiver of responsibility, seen in relation to the requirements of The Education Act (1998, Chapter 2, Section 2–1), which clearly states that students have the right to a public primary education in accordance with the curriculum of each school subject. However, our findings are in line with the results from the County School Governors' joint national supervision, 2014–2017: "During these four years, we have found many breaches of the requirement that the headteacher must ensure that the [students'] training overall covers all the competence aims for the main stage, the specific subject or the individual training targets…" (The Norwegian Directorate for Education and Training, 2019, p. 11).

Such a leadership style may affect student outcome negatively, as Robinson et al. (2008) meta-analysis of school leaders' impact on student performance indicated that emphasizing the core activities of learning and teaching had a strong positive influence. One of the dimensions that proved to influence student performance was to plan, coordinate and evaluate teaching and the curriculum (Robinson et al., 2008). Thus, it may seem that a leadership style solely based on trust, where much responsibility is left with the individual teacher, as has been the tradition in Norwegian schools (Helstad & Møller, 2013; Veka et al., 2020)—and a probable scenario based on the findings in this study—is insufficient.

Veka et al. (2020) have previously reported that FH teachers often work alone, cooperating only to a small extent with others (i.e. with a limited professional community), and with little influence from the headteacher. This may create a particularly vulnerable situation for teachers without formal education in FH, which may also be the case in our study. Furthermore, Veka et al. (2018) found that many FH teachers based their teaching more on their own perceptions and experience than on the curriculum's teaching goals. When the headteachers do not monitor training in a particular subject more closely than our results indicate, this may easily lead to a similar outcome. As previously stated, children and young people have the right to education according to the competence aims in the curriculum (The Education Act, 1998, Chapter 2, Section 2–1). When this is not provided by the schools, one could therefore assert that the students' rights are violated.

On the other hand, Norwegian headteachers express a large workload (Wehus, 2023), with teacher norms (Pedersen et al., 2022) and qualification requirements in the so called "core subjects" (i.e. Norwegian, English, Maths) to be kept (Borgen et al., 2023) and may therefore prioritize these subjects at the expense of FH. Langford et al. (2015) reviewed essential components and barriers to success for the health-promoting schools' framework and found that an emphasis on academic subjects and a lack of institutional support acted as barriers to implementation of the framework. These factors may also be at play in our study, as headteacher H pointed out that they are extremely concerned with reading and numeracy at their school.

We found significant variation in the organization and implementation of teaching FH in grades 1–4 in the eight schools reviewed in our study. According to a White Paper to the Parliament, Norwegian schools are characterized by large differences, both between classrooms, between schools within the same municipality, and between municipalities and different parts of the country (Ministry of Education and Research, 2017, pages 5–6). As Borgen et al. (2023) claimed, headteachers' authority to allocate financial resources for material and teaching aids based on local priorities, and their autonomy to decide at which grade FH teaching is placed as well as the number of lessons at each level, will result in large variations in the FH training offered between different schools. Municipal self-government has long been part of the social system in Norway (Ministry of Local Government and Regional Development, 2023), but comes with some very unfortunate "side-effects", such as large variations in the quantity and quality of PAS and FH teaching between schools.

Despite all variation in teaching FH in grades 1–4 reported in this study, most headteachers interviewed saw few challenges related to teaching FH in the lower primary level, claiming that FH was treated equal to other subjects. When probed, it became apparent that the subject was given low priority in several of the schools studied. This finding is supported by Bohm (2022), who reported that Swedish HE teachers experienced HE to have a low status, and that it was not prioritized by headteachers (Bohm & Oljans, 2025). However, teaching in FH in grades 1–4 should be prioritized by the school management to a larger extent in the future, to enable the students to achieve the competence aims in FH curriculum (Bjørkkjær & Bere, 2019, p. 131). Also, several researchers have asserted that an early start is essential to contribute to healthy and more sustainable eating habits later in life (see for instance Ares et al., 2024; Lavelle et al., 2016; Worsley et al., 2016). This assertion is further strengthened by the Norwegian government's distinct ambition to increase the competence and status of PAS in kindergartens, schools, and teacher training (Ministry of Education and Research, 2019b).

Bjørkkjær et al. (2023, p. 6) also emphasized that variation in teacher competence and in delivery and quality of FH lessons, as well as how local school authorities prioritize and organize the FH subject, may negatively impact the systematic nature of food education. Hansen (2021) interviewed 15 adolescents currently in high school about their experience of FH in primary school, and whether the subject had motivated them to lead a healthier lifestyle. The former students said they had little benefit from their FH education and claimed that the teaching had not been motivational or "educational" enough to have an impact on their food and lifestyle choices today. These findings, seen in context with the findings from our study, indicate that the current situation is far from optimal and may affect the students' learning outcomes from FH negatively.

Holthe and Wergedahl (2013) have previously concluded that teaching FH in grades 1–4 seems to be a low priority in Norway. The findings from our study suggest that this is still the case. Wergedahl and Bjørkkjær (2019) claimed that building formal competence and increased professionalism were central for raising the status of the school subject FH in general and stated that it is vital that the school management invests in FH. The results from our study indicate that we still have a way to go. According to FH teachers, facilitation at managerial and organizational level are key success criteria for achieving the ambition outlined in the FH curriculum: that teaching FH shall contribute to promoting a healthy lifestyle for all students (Ministry of Education and Research, 2006; Østby, 2015).

When asked about future possible challenges in implementing FH education in grades 1–4 in the future, several headteachers mentioned possible budget cuts. A tight financial, municipal situation may add to the perceived pressure and workload headteachers experience (Wehus, 2023). Hence, if the government wants to be serious about the strategy launched in 2019 on PAS (Ministry of Education and Research, 2019b), it ought to be accompanied by earmarked funds to help the municipalities strengthening these school subjects. Further, it is often claimed that teaching FH is expensive due to the high cost of food items (Helland et al., 2021), and as the subject demands major physical, temporal, and human resources (Worsley et al., 2016). Hence, it may seem counter intuitive that school owners and headteachers allow for such large investments, while at the same time give the subject such low priority. If school management and school owners prioritized FH by providing a proper organizational framework and support, and if headteachers started taking their responsibilities to lead, supervise and monitor teaching in FH more seriously than what seems to be the case, it may be possible to utilize the subject's large potential (Bjørkkjær et al., 2023; Øvrebø, 2019); to teach children the basic principles they need to feed themselves and their future families within the contemporary food environment (Lichtenstein & Ludwig, 2010).

Study Limitations

This study has some limitations. Firstly, it is a small study, covering only eight schools, which limits the extent to which the findings can be generalized to all Norwegian primary schools. However, with our strategy of sampling schools from all five regions in Norway, the data material provided a good geographical spread. In addition, by random sampling of schools, we aimed to increase the reliability of our study results, so we could draw more valid conclusions from the research project. Nonetheless, as with all interview studies, the results reflect self-reported perceptions, which may be influenced by personal or contextual factors. And although the participants represented geographical diversity and provided rich qualitative insights, the small sample size limits the extent to which the results can be generalized.

Secondly, data were collected in 2018, and although the structural conditions for FH have remained largely stable, local priorities may have shifted over time. Given the fact that school leaders' perspectives in curriculum-making within FH/HE education is a relatively understudied area in both national and international research, and as there have been no major changes in the Norwegian education system since 2018, we still think our results may provide a valuable contribution to the field of HE education.

Thirdly, our results may not be valid for the "average Norwegian school" as such, as headteachers willing to participate in the study might have be more engaged in FH than the "average headteacher". It was however a conscious choice to recruit from practice schools, assuming a priori that they would provide examples of good practice, as there is reason to believe that practice schools for teacher education may be better at implementing curricula, national signals and guidelines for teaching due to closer interaction with teacher education institutions (cf. Aadland et al., 2023). Still, our results show a rather low prioritization of FH, and little awareness of the headteachers' formal responsibilities in securing proper FH education in grades 1–4. Hence, the situation may be even worse for FH education in primary schools choosing not to participate in the study, and for schools not being practice schools.

Finally, it may also be considered a study limitation that headteachers do not always know FH details firsthand. However, we consider their level of knowledge about how FH is actually taught in grades 1–4 at their school, as an important part of our findings and not necessarily as a study limitation.

International Implications

As Smith et al. (2022) pointed out in their analysis of 11 different national, mandatory, primary school food education policies world-wide, Norway is in a unique position with its generalist food curriculum where food is the central focus topic. Still, as our study indicates, there may be quite a gap between the requirements of state-regulated, mandatory national curriculums, and how the curriculum is in fact implemented in schools (cf. Bohm, 2022). Pointing out and mapping these discrepancies may be the first steps towards closing this gap, and thereby contribute to better HE teaching in the 21st century, so that young students may receive the amount and quality of teaching they are entitled to according to national mandatory HE curriculums, in all countries where they exist (see Smith et al., 2022 for an overview).

Hence, this study shows the importance of school leaders' attitudes, knowledge, perception and prioritization of FH and how they may affect FH teaching in lower, primary school. Mapping these may be seen as a first step towards better HE teaching in the 21st century (International Federation for Home Economics, 2008).

Conclusions and Implications for Practice

The prioritization of FH in grades 1–4 seemed to vary at random between the schools included in our study, based on headteachers' own interest, competence and values attached to FH, despite Norway having clear national requirements for teaching FH. This may lead to undesired variation in the quality of teaching between schools, and to young students not achieving the competence aims in FH after year 4 of primary school. Further, the findings from this study indicate that headteachers may not be properly aware of the responsibilities they have in securing the required number of teaching lessons in FH also in grades 1–4, nor to ensure that FH teaching is in line with the competence aims set out in the FH curriculum. These legal

obligations could be emphasised more in national school leader development programs. To increase the status of FH, one could include a "crash course" on the specific requirements and demands for teaching FH—as well as the other PAS—into the national education program for school leaders.

Furthermore, if national education authorities set clearer guidelines and expectations for the FH curriculum—treating it as a legal obligation like other school subject curricula—it would place responsibilities on school owners and headteachers alike. Additionally, closer supervision from County Governors to ensure that young students receive the required number of lessons and quality of education they are entitled to according to the subject curriculum, could help headteachers prioritize their responsibilities for the FH curriculum in the early years of primary school. Finally, clear requirements from national education authorities for formal competence to teach FH at all levels in school may also contribute to increasing the subject's status and help headteachers understand the importance of young students receiving the quantity and quality of FH teaching they are entitled to. This could all lead to a stronger commitment to FH during the first years of primary school in the future.

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Disclosure Statement

The authors report there are no competing interests to declare. We would however, like to inform that several of the authors have been involved in the board of The Norwegian Association for Food & Health in Education at various points in time. At the time of data collection and until 2020, Anne Selvik Ask was a board member, while Eli Kristin Aadland and Merete Hagen Helland became board members in 2020.

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