



## Implementation of Home Economics Teaching at Municipal and School Level in Finland

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### Abstract

*This study examines the implementation of the HE teaching at municipal and school level in Finland. It uses the framework of quality criteria for basic education as a reflective base (Ministry of Education and Culture, 2012). The study examines the factors that guide the planning of teaching, HE contents and collaboration. There were 111 responded to an electronic survey. The data was analyzed using crosstabulation, K-mean cluster and content analyses. The curriculum (national or school) is the most important factor guiding teaching (68.5%). Teachers agree to follow curriculum objectives, but contents are emphasized as desired. Teachers are collaborators with HE colleague: 1) solitary (n = 23), 2) independent (n = 19), 3) collaborators (n = 42) and 4) tandem (n = 27). In compulsory HE lessons, food is prepared every time (90.1%) and in optional HE (91.9%). During the 8th-9th grades, pupils had 2 weekly hours of teaching HE as an artistic and practical subject elective (n = 89). Optional HE was offered so that a specific content was defined, or as a short or long elective. Primary school (grades 1-6) HE teaching was club-like and teaching in high schools was minimal. Teachers have autonomy, schools and municipal have much freedom. HE teaching is flexible for local needs but there is no uniformity.*

**KEYWORDS:** HOME ECONOMICS (HE), CONTENT, CURRICULUM, COLLABORATION

### Introduction

In Finnish HE education, a foundation is created for pupils' household skills. HE teachers support pupils' growth into consumers who can maintain the basic prerequisites of daily life at home. Pupils develop their ability to take care of other people, and they grow as active members of the family, home and society (Finnish Board of Education, 2014). It is interesting how these goals are pursued in school HE classes.

HE as a school subject has always been multidisciplinary and the aim of the subject has been to improve the quality of life of individuals, families, and households (Elorinne et al., 2017). In Finland, the contents defined for the HE teaching in the National Core Curriculum for Basic Education are broad and fragmented (Wennonen & Palojoki, 2015). HE teacher is faced with an almost impossible task to smoothly integrate into her teaching the contents of food knowledge and food culture, living and living together, and consumer and financial knowledge at home. This may be reflected in the fact that some content areas and objectives are completely

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omitted, or some content areas are emphasized more than others (Wennonen & Palojoki, 2015). On the other hand, this challenge also offers an opportunity to collaborate with other subject teachers to expand and deepen the contents of the teaching (Haapaniemi et al., 2019). HE has many connections with other subjects (Elorinne et al., 2017), such as mathematics (Autio et al., 2021; Brante & Brunosson, 2014; Venäläinen & Metsämuuronen, 2015), health education, chemistry (Fooladi et al., 2023; Venäläinen & Metsämuuronen, 2015), social studies, crafts, and biology (Autio et al., 2021; Venäläinen & Metsämuuronen, 2015).

HE as a discipline is characterised by cooperation. The study by Venäläinen and Metsämuuronen (2015) examined the cooperation of HE teachers with other teachers. Half of the HE teachers ( $n = 163$ ) reported that they had one HE colleague in the same school, in a quarter of the schools they were the only HE teacher, and in a fifth of the schools there were a total of three HE teachers (Venäläinen & Metsämuuronen, 2015). HE teachers often collaborate with a HE teacher colleague (69 %) in 2013-2014. A large part of the amount of cooperation in the HE can be explained by the nature of the subject, as it is often worth purchasing ingredients and materials together and at the same time doing lesson planning. With other schoolteachers, 60% of HE teachers reported that they cooperate a little and 39% have not cooperated at all.

According to the National Core Curriculum for Basic Education (2014), the goals of HE education is practicing practical skills, cooperation and interaction skills, and knowledge management skills (Finnish Board of the Education, 2014). According to the Finnish National Education Evaluation Center, there has been challenges in the implementation of the National Core Curriculum (Saarinen et al., 2021). The obstacle to achieving the goals of the curriculum is the abstraction, open to interpretation and idealism of the goals (Saarinen et al., 2021).

An effort is made by teachers to follow the curriculum, even if it is considered idealistic. 92% of HE teachers stated that they use the National Basic Education Curriculum in their work. 91% of the teachers stated that they use the local curriculum and 9 % teach according to the textbook (Venäläinen & Metsämuuronen, 2015). In Venäläinen and Metsämuuronen's study (2015), 85% of the HE teachers stated that they emphasize on food knowledge the most and consumer knowledge the least (15%) even though the He curriculum guidelines direct consideration of all contents equally (Finnish Board of Education, 2014; Tuomisto et al., 2017).

It has been found that there are unquestionable practices in Finnish HE education, which include, the inclusion of food preparation in the lesson despite the learning goals of the lesson, which takes time away from other content, the effort to make the pupils comfortable, and the separation of practical and theoretical teaching (Tarsa, 2014). HE textbooks and teacher's guides also emphasize food content (Tarsa, 2014). In Finland, teachers have a great deal of pedagogical freedom to choose the contents to the lessons and there is high trust in their skills (Sahlberg & Walker, 2021). Finnish teachers' have perceived control over teachers' work unnecessary, due to their high professionalism, while Estonian and German teachers think that they have complete freedom to choose within limits (Erss, 2018).

In Finland, HE teachers emphasize on sustainable food education (Autio et al., 2021; Pollari et al., 2021; Sekki et al., 2021) and teach consumer education and sustainability skills in a variety of ways related to clothing, living and consumption (Autio et al., 2021). Finnish HE teachers consider all aspects of HE important and emphasize on digital skills as part of HE education (Kuusisaari et al., 2021). In HE lessons the teachers' goal in the future is to reduce teacher-led lecturing and food preparation (Kuusisaari et al., 2021) and to continue integrating HE education with other content areas and school subjects (Haapaniemi et al., 2019).

In many countries, food and food preparation are part of the HE core curriculum (IFHE, 2008) or as part of similar education, such as in the US as part of Family and Consumer Studies (Poirier et al., 2017). In Norway, the curriculum strongly focuses on teaching food preparation, unlike in Finland (Tuomisto, et al., 2017) and the subject is called Food and Health (Nordgård Vik et al., 2020). In Norway, HE classes should also teach nutrition, but the goals of the curriculum are not realized, as the focus is on practical food preparation (Beinert et al., 2020). In Sweden, HE is close to Finnish teaching in terms of the basics of the curriculum, with the name being Home and Consumer education (Board of Education, 2018; Bohm, 2023). In Sweden, the subject is taught in grades 1-9 with the content of food, meals and health, consumption and personal finances, as well as the environment and lifestyle, which includes clothing maintenance and cleaning (Board of Education, 2018). Cooking is emphasized in teaching also in Sweden (Board of the Education, 2018; Lassen & Hjälmesskog 2021; Bohm, 2023).

At Finnish school food preparation and other contents are taught to all pupils as compulsory three weekly lesson per year in the 7th grade (Venäläinen & Metsämuuronen, 2015). 55% of the teachers think that the number of compulsory HE lessons is appropriate, and 45% see it being too small (Venäläinen & Metsämuuronen, 2015).

HE is often chosen as an optional subject because pupils like it. Many schools' pupils would like to choose HE in the 8th and 9th grades more than the school is able to offer. The National Core Curriculum (Finnish Board of Education, 2014) limits the choice by tying the HE to the common quota of artistic and practical subjects, music, visual arts, crafts, physical education and home economics, where five weekly lesson per year is the maximum number of lessons. In many municipalities, the choice of artistic and practical subjects is limited as a regular optional subject (Rantamäki & Palojoki, 2017.) In the national HE evaluation, 8.3% of the sample pupils answered that they hadn't had the opportunity to choose HE as an optional subject (Venäläinen & Metsämuuronen, 2015). In the national HE test, the competence of pupils who studied HE as an optional subject and did household chores at home was better than pupils who had only participated for compulsory HE teaching (Venäläinen & Metsämuuronen, 2015).

## Research question

This study examines the implementation of the HE teaching at municipal and school level in Finland. It uses the framework of quality criteria for basic education as an aid to analysis (Ministry of Education and Culture, 2012) (Figure 1). The description of quality factors aims to demonstrate the research basis of quality factors and to attach them to the guidance and planning system of basic education (Ministry of Education and Culture, 2012). The study investigates how HE teachers are implementing the Finnish National Core Curriculum for Basic Education. The research question is tripartite: What is guiding their planning? What kind of emphasis do they give on different HE content areas and how they collaborate with colleagues?

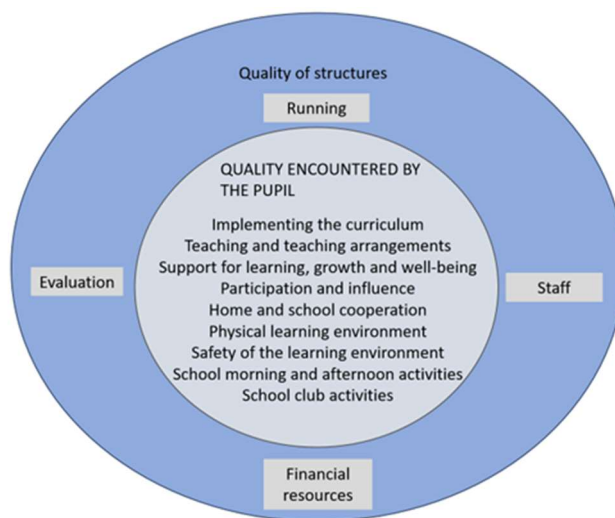


Figure 1 Reference framework for quality in basic education (Ministry of Education and Culture, 2012, p. 28)

## Research data

The research material was obtained as an online survey using the Webropol program. The survey consisted of six sections and four areas are reported: 1) background information, 2) the provision of HE education, 3) organizing one's own work and 4) cooperation with a HE teacher colleague. Question concern collaboration with HE teacher colleague is the same as in Venäläinen and Metsämuuronen's (2015) teacher survey.

HE teachers who belong to the target group were contacted during March-May 2023 from the HE teachers Facebook group and through the Association of Home Economics Teachers. At the beginning of the survey, the respondents were informed about the study and asked for their consent to participate. The research informant received information about the use of the collected material for scientific research and about data protection. See background information from Table 1.

Table 1 Background information of survey respondents (n = 111)

Background Variable	N	%
<b>Gender</b>		
Women	109	98.2
Men	2	1.8
<b>Qualification</b>		
Home economics teacher	105	94.6
Qualification for teaching another subject	4	3.6
Nonqualified Home economics teacher	2	1.8
<b>Work experience as Home economics teacher</b>		
Less than 1 year	3	2.7
1-5 years	40	36.1
Over 10 years	32	28.8
Over 20 years	36	32.4
<b>Regional administrative agencies</b>		
Eastern Finland	30	27
Southern Finland	24	21.7
Western and Inland Finland	21	18.9
Northern Finland	13	11.7
Southwestern Finland	7	6.3
Lapland	1	0.9
<b>Number of students in the school</b>		
Less than 500	56	50.5
Over 500	55	49.5

The survey was answered by 111 HE teachers, who were mainly women (98.2%). In terms of teacher qualification, most HE teachers were qualified for their duties (94.6%), which is a very similar number to the report by the Finnish Board of Education (2020) (93.3%). Only two did not have a teacher's qualification at all and four had a qualification for teaching another subject. The teachers had varied work experience. There were relatively more HE teachers who responded from large population centers, where there are more schools and teachers (Statistics Finland, 2022), which is why it is challenging to compare regions with each other.

### Data analysis

The data was analyzed using quantitative and qualitative methods, and the reference framework of the quality criteria for basic education has been used to structure the analyzes (Ministry of Education and Culture, 2012). The open questions regarding the course offerings of HE was analyzed with data-driven content analysis, where the classification of the analysis is based on the themes emerging from the data (Krippendorff, 2019): compulsory home economics, artistic and practical subject electives, optional home economics, primary school home economics, and high school home economics.

The data was analyzed in the SPSS27 program, and the statistical testing used key figures, cross-tabulation,  $\chi^2$  independence tests and K-means clustering. In K-means clustering, the data is divided into groups based on average values, so that the findings are as similar as possible within the group, but there are as many differences as possible between the groups (Hastie et al., 2009). The analysis requires the fulfillment of certain conditions, such as the size of the data at least 50 (Hair et al., 2010; Heikkilä, 2002; Metsämuuronen, 2008). For this study, the material was large enough. K-means clustering is a widely used analysis method, the reliability of which improves if the initial situation for clustering is clear and enough clustering repetitions are done (Fränti & Sieranoja, 2019). In this study, the answer options always, often, rarely, and never guided the selection of clusters to four, but other options were also tested.

## Results

### Home Economics teachers planning their lessons

HE teachers are guided by various factors when planning their teaching (Table 2). Most importantly, 68.5% of HE teachers are guided by the curriculum (national or school), 14.4% by their own expertise, 7.2% by HE textbooks, teachers' guide with their possible annual plans, and 9.9% by prevailing views on the various aspects of HE teaching.

Table 2 Home Economics teachers' ( $n = 111$ ) teaching planning factors in order of importance (1 = most important, 5 = least important)

Ordinal scale	1	2	3	4	5
National Core Curriculum for Basic Education	42.4%	26.1%	11.7%	7.2%	12.6%
Schools curriculum	26.1%	30.7%	18.0%	18.0%	7.2%
Own expertise	14.4%	22.5%	43.3%	17.1%	2.7%
Home Economics textbooks, teacher's guide and their annual plans	7.2%	14.4%	17.1%	33.4%	27.9%
Prevailing views (trends) about different areas of Home Economics education	9.9%	6.3%	9.9%	24.3%	49.6%

From the point of view of the quality criteria of basic education (Ministry of Education and Culture, 2012), it is worrying if the curriculum does not guide the planning of the teaching as the most important factor. This may cause big differences in the goals, content and assessment of teaching in different parts of Finland.

### A distribution of Home Economics lessons in a school year

Schools have large autonomy to arrange the HE tuition during grades 7 to 9. Based on the data, in 93% ( $n = 103$ ) of the schools, compulsory HE, the three weekly lesson per year, is held in the 7th grade. The content is said to be in accordance with curriculum. From the teacher's point of view, this means that all the contents of HE should be taught to 7th graders. This certainly affects the choice of contents, because some contents related to becoming independent and moving away from home is thought to be still far from the everyday life of a 7th grader.

A few teachers explained in more detail about their school's HE teaching arrangements in open-ended answers. In the compulsory HE, one school had language-enriched (English) and language immersion (Swedish) where part of the teaching is given in a foreign language. In four schools, special education pupils were integrated into other teaching groups. In two schools, pupils in the preparatory class worked with others in a regular group. In one school, HE is taught to special education pupils by special education teachers, if they feel that managing the HE is sufficient. Not everyone experiences this way when the pupils in the special education group doesn't receive HE according to the curriculum. In one school, the HE group of special education pupils is taught by two HE teachers together.

In 46% of the schools ( $n = 51$ ), all those who wish can take the optional courses in HE, and in 54% ( $n = 60$ ) they cannot. 91.9% of HE teachers think that food attracts pupils to choose HE as an optional subject, and 91% also consider the pupils' wishes regarding recipes in optional courses. Many of the HE teachers said that the school limited pupils' Home Economics elective course to only one option per pupil, because HE is such a popular subject.

The lengths and contents of the optional HE vary from school to school (Table 3). In the artistic and practical subject electives, most of the HE teachers ( $n = 89$ ) taught in accordance with the curriculum, where during the 8th-9th grades, the students had 2 weekly hours of teaching, the aim of which was to deepen what they had already learned. The optional HE had the most variation in terms of content and hours per week. It also varied, whether a specific content was defined for the teaching or whether it was just a short or long optional home economics. Among the named contents, the most popular were baking ( $n = 73$ ), food cultures ( $n = 27$ ), contents preparing for own home and student life ( $n = 20$ ), hygiene passport ( $n = 16$ ) and feast course ( $n = 10$ ). There were also exceptions that were only offered at the respondent's school, such as technology course, interior decorators, own cookbook and digital household. These contents are very relevant in timely and connect to the young person's own world of experience.

HE was also taught in primary school and there was a total of 46 mentions of HE teaching or after school activities. In these, the person in charge varied from a HE subject teacher, a classroom teacher, a guidance or a 4H counselor. Only six of the HE teachers also taught in high school. In three high schools it was possible to complete a high school diploma. The purpose of the high school diploma in HE is to give the student the opportunity to demonstrate special competence in the subject. The high school diploma is completed with the high school diploma course (2 credits) and includes a portfolio and essay on it (Finnish Board of Education, 2022).

Table 3 Variation arranging Home Economics lessons in schools

Variation	Grades	Length (Hours)	<i>n</i>	Lesson Information
Compulsory Home Economics	7 <sup>th</sup>	3	103	
	7 <sup>th</sup>	2	4	
	9 <sup>th</sup>			
	7 <sup>th</sup>	2	1	
	8 <sup>th</sup>	1		
	7 <sup>th</sup>	3	1	
	9 <sup>th</sup>	1		
	8 <sup>th</sup>	3	1	
7-9 <sup>th</sup>	3	1		
Artistic and practical subject electives	8-9 <sup>th</sup>	1	2	
		2	89	
	8 <sup>th</sup>	2	10	Of these, the content is defined: Snack and treat course, Kitchen skills for many tastes, For your own home
	8 <sup>th</sup>	1	2	
	9 <sup>th</sup>	1	7	Of these, the content is defined: For our own home ( <i>n</i> = 1), Hygiene passport ( <i>n</i> = 2), Food cultures ( <i>n</i> = 2)
	9 <sup>th</sup>	2	6	Of these, the content is defined: Seasonal and local food course ( <i>n</i> = 1), Own home, own money ( <i>n</i> = 1)
	8 <sup>th</sup> or 9 <sup>th</sup>	2		Home economics through the eyes of a food blogger
7 <sup>th</sup>	2		Get well (including health and physical education)	
Optional Home Economics	8-9 <sup>th</sup>	2	24	Baking
	7 <sup>th</sup> , 8 <sup>th</sup> , or 9 <sup>th</sup>	1	46	
		2	3	
	8 <sup>th</sup> or 9 <sup>th</sup>	1	52	Of these, the content is defined: Flavors from Finland and the world ( <i>n</i> = 27), Hygiene passport ( <i>n</i> = 13), Baking and hygiene skills ( <i>n</i> = 2), Food trends and social media phenomena, Catering English.
		2	33	Short courses-1 hr: Refresher course, Language cafe, Party course ( <i>n</i> = 7), Knowledgeable and skilled cook, Everyday heroes ( <i>n</i> = 2), Snack course ( <i>n</i> = 3), Sports Home Economics, Quick in the kitchen, Snacks of life ( <i>n</i> = 3), Chemistry in the kitchen ( <i>n</i> = 2), Pop up café (including social studies), Technology course, Food preparation and baking ( <i>n</i> = 2). Long courses-2 hr: Tasty in the kitchen, Skillfully in the kitchen
	5 <sup>th</sup> , 6 <sup>th</sup> and 8 <sup>th</sup> Mixed	1		Home economics and chemistry
	9 <sup>th</sup>	1	22	To become a skilled cook, Café services (Home Economics and social studies) <i>n</i> = 2, Cooking and baking, Student life ( <i>n</i> = 18), Sustainably on the plate, Cooking in english, Let's cook in Swedish, Parties here and elsewhere ( <i>n</i> = 2), Well-being (including health education), Own business (the whole school involved), Special baking, Party course, Chef's chemistry, Cooking and Baking in English (including English)
	Special	2	2	2 hrs for students studying special class
	8 <sup>th</sup>	1	4	1 hr: Trendy food, Home cook ( <i>n</i> = 2), Home baker, Hygienist, Interior decorators, Handicraft cafe ( <i>n</i> = 2), Senses in the food world, Bon appetite, Eat and move (including physical education), Decorating course, My cookbook, My baking book, Smårätter (Swedish language school).
		2	2	2 hr: Home Economics, Away from home ( <i>n</i> = 2)
7 <sup>th</sup> , 8 <sup>th</sup> , or 9 <sup>th</sup>	2		Environmental course (including biology), Digital household	



Variation	Grades	Length (Hours)	<i>n</i>	Lesson Information
Primary School Home Economics	5 <sup>th</sup>	1	4	Optional
	6 <sup>th</sup>	1	8	
		2		Artistic and practical subject elective
	Elementary	1	12	The class teacher teaches ( <i>n</i> = 1)
		2		Artistic and practical subject elective
	5-6 <sup>th</sup>	1	11	The class teacher teaches ( <i>n</i> = 2) Of these, the content is defined: Home economics and social studies ( <i>n</i> = 1)
	4 <sup>th</sup>	2	3	Cooking club
	3-4 <sup>th</sup>	2		
	5-6 <sup>th</sup>	2		The class teacher teaches
	3-6 <sup>th</sup>	2		Let's cook and go on trips, Everyday skills
	4-6 <sup>th</sup>	2		I make it myself at home, Snack Courses
	1-2 <sup>nd</sup>			Little Chef Club
	Club		10	4H association included ( <i>n</i> = 2) The Finnish model of a hobby: cooking (the school counselor teaches the lessons)
High School Home Economics	2 courses and a high school diploma ( <i>n</i> = 3) Of these, the content is defined: My life - my finances ( <i>n</i> = 1), Customs and party course ( <i>n</i> = 1)			
	Hygiene passport course			
	1 course, contents according to students' wishes (budgeting)			
	A high school student bake (2 credits), International cuisine (2 credits)			

From the point of view of the quality criteria of basic education (Ministry of Education and Culture, 2012), it is worrying when pupils receive very different kinds of HE teaching, because the number of lessons and contents varies. The question arises whether there is too much variation in home economics quality. The lack of HE teaching in primary schools and high schools is also a concern and needs development.

### Contents of the Home Economics lessons

HE teachers consider the learning of practical skills to be the main goal of Home Economics lessons (91.8%) and prefer practical homework that promotes pupils' learning of practical skills (81.9%). Teachers don't think that practical homework cannot be given, even though HE lessons should be free of charge, and not all homes necessarily have the resources (ingredients, tools and cleaning agents) to complete homework at home (75.6%). 49.5% of teachers give the pupils the opportunity to complete their practical homework in the HE class if the pupil cannot do so at home. Regular reading or written homework are preferred a little less often (63.9%). Reading homework is often given by 54.9% and written homework by 49.5% of teachers.

Almost all (99.1%) teachers think that in HE lessons it is important to learn self-care and everyday skills and to evaluate household information. It is important for pupils to learn in class how to listen, discuss, follow good manners, work alone and in a group, share tasks and evaluate the impact of their own behavior on the group's activities (100%). The teachers are very much in agreement with the HE education learning objectives mentioned in the National Core Curriculum. On the other hand, content-based consensus on teaching emphasis is not found in relation to the HE content areas (Tables 4 and 5). Even researching the topic is difficult, because several HE contents are present in the lessons at the same time even so that teacher is not aware that she is teaching them.

Table 4 Emphasis on content areas in compulsory Home Economics education

Content Area	Food knowledge and food culture	Housing and living together	Consumer and financial skills at home
10%		2.7%	18.0%
15%		5.4%	16.2%
20%		32.5%	30.7%
25%		19.8%	17.1%
30%		23.4%	13.5%
35%	1.8%	7.2%	
40%	11.7%	3.6%	
45%	5.4%	0.9%	0.9%
50%	30.7%		1.8%
55%	2.7%		
60%	27.9%		
65%	5.4%	0.9%	0.9%
70%	9.9%	0.9%	
75%		1.8%	
80%	1.8%		
85%	0.9%		
90%	0.9%	0.9%	0.9%
100%	0.9%		

Table 5 Emphasis on content areas in optional Home Economics education

Content Area	Food knowledge and food culture	Housing and living together	Consumer and financial skills at home
10%		28.9%	43.3%
15%		15.3%	20.7%
20%		25.2%	16.2%
25%		13.5%	10.8%
30%		9.0%	3.6%
35%	0.9%	0.9%	
40%	3.6%		
45%	1.8%	3.6%	1.8%
50%	12.6%		
55%	0.9%		
60%	19.8%	0.9%	
65%	2.7%		0.9%
70%	24.4%	0.9%	
75%	4.5%		0.9%
80%	24.3%		0.9%
85%	1.8%		0.9%
90%	1.8%		
100%	0.9%	0.9%	

The teacher's age or work experience were not found to be important for the emphasis on different teaching contents. 50.4% of HE teachers emphasize more than 50% food knowledge and food culture content area in compulsory HE lessons. The corresponding figure for optional HE education is as high as 80.1%. 75.7% of respondents emphasize housing and living together content 20-30% in compulsory HE education. Regarding the optional HE, there was a great variation in emphasis in the content area of living and living together. In the compulsory HE education, the contents of consumer and financial skills at home were emphasized very differently. In the optional HE, the typical weighting percentage in 80.2 % of teachers was 10-20%.

In compulsory HE education, food is prepared every time in 90.1% of the lessons of the HE teachers. At least every other time, food is prepared in 9% of the lessons and less often in the lessons of only one teacher (0.9%). In optional HE education, food is prepared even more often every time (91.9%), every other time 7.2% and less often 0.9%. 79.2% of the teachers consider cooking important in HE lessons because it motivates pupils to learn. However, if food is not prepared during the lesson, few teachers thaw something from the freezer for the pupils to eat (18%). 23.4% of teachers want to offer a proper meal in HE lessons and 71.2% prefer smaller tasting portions.

#### **Collaboration with colleagues**

Major number of HE teachers have more than one HE teacher colleague from their own school (74.8%,  $n = 83$ ). Twenty-eight HE teachers does not have a close colleague. 12% ( $n = 13$ ) of HE teachers follow the annual plan of another more experienced or HE teacher who has been at the school the longest, and 43% ( $n = 48$ ) do so partially. 45% of teachers ( $n = 50$ ) does not follow another teacher's annual plan. The reason for this for some is that they do not have a close colleague. It is typical for HE teachers to plan their work themselves (73%,  $n = 81$ ), and not completely follow a ready-made, for example, textbook plan (1.8%,  $n = 2$ ). However, 25.2% ( $n = 28$ ) partially follow the prepared plan. 69% of HE teachers often collaborate with a HE colleague in terms of lesson planning.

The HE teachers could be divided into four groups by K-mean clustering in relation to the collaboration with a HE teacher colleague (Table 6). The answer options in the questions were: 1 = always, 2 = often, 3 = rarely and 4 = never. In accordance with these answer options, the solution of four clusters was also reached in the clusters. The division into clusters was statistically highly influenced by whether the HE teacher had a colleague at the same school ( $df = 3$ ,  $\chi^2(3) = 71.51$ ,  $p = 0.001$ ).

Table 6 Home Economics teachers' cooperation profiles

	Clusters			
	Solitary teachers (n = 23)	Independent teachers (n = 19)	Collaborators (n = 42)	Tandem teachers (n = 27)
Discussion of Home Economics education	3.83	2.11	1.43	1.11
Discussion about raw material procurement.	3.91	2.32	1.60	1.11
Planning courses together.	3.96	2.68	1.17	1.04
Drawing up joint annual plans for compulsory Home Economics education.	3.96	2.63	1.24	1.04
Drawing up joint annual plans for optional Home Economics education	4.00	2.68	1.19	1.04
Preparing learning material together.	3.96	3.21	1.98	1.37
Planning the assessment together.	3.87	3.00	1.90	1.19
Participating in continuing education together.	4.00	3.21	3.12	2.07
Implementation of courses together.	4.00	3.89	3.69	2.78

*Note.* The answer options in the questions were: 1 = always, 2 = often, 3 = rarely and 4 = never. The bigger the number, the less often teachers cooperate.

The 23 respondents belonging to the solitary teachers' group didn't cooperate at all, as most of them do not have colleague, except for two teachers. In the independent teachers' group ( $n = 19$ ) there are also some teachers who don't have a close colleague ( $n = 5$ ), but also those who do ( $n = 14$ ). However, if you wish, you can also collaborate with a colleague in the nearby area or one who is further away in online. The collaborators group ( $n = 43$ ) was the largest in number, where the most important forms of cooperation were the preparation of joint annual plans for compulsory and optional HE, and the planning of courses together. In the tandem teachers group were is lots of cooperation ( $n = 27$ ) teaching, learning materials, raw material acquisitions and evaluation were planned together and there was a discussion about HE. The teachers also often participated in continuing education together.

Collaborating with an HE teacher colleague would ease the teacher's own workload. However, not all HE teachers have a close colleague to work with or the desire to do so. However, 79% of teachers cooperate to some extent with their HE teacher colleague.

91% of HE teachers are happy or somewhat happy to collaborate also with other subject teachers (see table 4). In some schools, there was teaching in cooperation between different subjects, such as HE and a foreign language (English or Swedish) ( $n = 6$ ), HE and chemistry ( $n = 4$ ), HE and social studies (cafeteria course) ( $n = 3$ ), HE and physical education (sports and nutrition) ( $n = 2$ ), HE and crafts (craft café) ( $n = 2$ ), HE and health education (well-being course) ( $n = 1$ ), and HE and biology (environmental course) ( $n = 1$ ). One school mentioned having an "own business" course organized by the whole school in cooperation. In some schools, subject collaboration is done well, and the contents of the HE are wider than food preparation.

## Discussion

This study brought out how HE education can be implemented in different ways at municipal and school level in Finland. According to the Finnish Board of Education (2020), 477 secondary school HE teachers worked in Finland in 2019, so the survey reached about 23% ( $n = 111$ ) of them. The survey was long (twenty questions or question batteries), which could reduce the number of respondents. There were not an equal number of respondents from different areas in Finland, so it was not possible to examine regional differences. It would be interesting to study geographical variation in more detail with a larger dataset.

The guidelines of the National Core Curriculum for Basic Education (Finnish Board of Education, 2014) and the school curriculum should be the most important factors guiding the planning of HE teachers' teaching from the perspective of the quality criteria of basic education (Basic Education Act 21.8.1998/628; Ministry of Education and Culture, 2012). This was true for more than half of the HE teachers who responded (68.5%). The expectation was that the number would be bigger, but for 14.4%, their own expertise, 7.2% for HE textbooks with possible annual plans, and for 9.9% the prevailing views on the different areas of HE were a more important factor guiding the planning. Also, in the study by Venäläinen and Metsämuuronen (2015), some of the teachers (9%) taught according to the textbook. Also, in Sweden 48% of the teachers reported using textbook when planning lessons (Lange et al., 2014). This indicates that some of the HE teachers have strong confidence in their own expertise or that the HE textbooks and teacher's guides are in accordance with the curriculum. For example, in Finland and Sweden, the content of textbooks is not checked by the government, as is done in Japan and Korea (Eriksson & Hjalmskog, 2016; Sueun et al., 2011).

Teacher's guides have been found to bring out new pedagogical and didactic approaches (Lerkkanen, 2017; Räsänen, 2017). Despite decades of continuous criticism, textbooks and workbooks have maintained their position as the most used learning materials (Karvonen et al., 2017), reflecting the world view and learning concept typical of the era (Crawford, 2003; Karvonen et al., 2017). The materials used in teaching have a great influence on what and how one studies and learns at school (Crawford, 2003; Karvonen et al., 2017.)

HE has been very food oriented (Beinert et al., 2020; Bohm, 2023; Tuomisto et al., 2017; Venäläinen & Metsämuuronen, 2015), which was also found in this study. HE textbooks and teacher's guides have been found to place the greatest emphasis on food content (Tarsa, 2014). In compulsory HE teaching, food is prepared every time in 90.1% of the lessons of the participating HE teachers, and in optional HE 91.9%.

Regardless of the learning goal, including cooking in the lesson takes time away from the teaching of other aspects of the HE and has already been found to be an unquestioned practice (Tarsa, 2014). In this study the emphasis on cooking is supported by the idea that teaching practical skills is the main goal of HE (91.8%), teachers think that food motivates pupils to learn (79.2%) and food motivates pupils to choose HE as an optional subject (91.9%). At school, competition for optional subjects and pupils isn't a new phenomenon (Rantamäki & Palojoki, 2017). Many schools' pupils would like to choose HE in the 8th and 9th grades more than the school's resources allow. From the point of view of learning useful everyday life skills, the optionality of HE should not be limited so much.

HE teachers are very unanimous supporters of the goals set for HE education. On the other hand, there isn't substantive agreement on the teaching emphasis in relation to the HE content areas. However, the varying content emphasis of HE education means that the content of the teaching isn't the same in different parts of Finland. In the national HE final exam, the best results were achieved in the administrative region of Eastern Finland and rural municipalities (Venäläinen & Metsämuuronen, 2015). In the exam, the content-based competence also tells a part of what is emphasized in the teaching. Practical skills are emphasized in the teaching because the demonstration test went well, the written tasks related to nutrition were the weakest, such as tasks related to dietary fiber, organic food, eating rhythm and folk diseases, as well as tasks related to water consumption, covering and care instructions (Venäläinen & Metsämuuronen, 2015).

Based on the data, in 93% ( $n = 103$ ) of the schools, the compulsory three weekly lesson per year is held in the 7th grade, which has also been observed in an earlier study (97%) (Venäläinen & Metsämuuronen, 2015). The lengths and contents of the optional HE vary from school to school. Optional HE, which doesn't belong to the elective quota for artistic and practical subjects, was offered in many ways, either so that a certain content was defined for the teaching, or it was only a short or long elective. Baking ( $n = 73$ ) and food cultures ( $n = 27$ ) were highlighted in the named contents. The emphasis on baking can certainly be partly explained by the fact that it is pleasant for pupils (see also Tarsa, 2014) and the basic raw materials for baking are inexpensive. The home economics electives ( $n = 20$ ) preparing for own home and student life are important from a societal perspective.

In the artistic and practical subject electives, many HE teachers ( $n = 89$ ) reported that the teaching was in accordance with the principles of the local curriculum, where during the 8th-9th grades the pupils had 2 weekly lessons. This is important information and maintains versatile HE skills. The problem here is, that not all pupils get in or choose HE as an artistic and practical subject or an optional subject, in which case the skills will also be weaker. The skills of pupils who studied HE as an optional subject have been found to be better than those who only studied compulsory HE, especially if the contents of the subject are still practiced at home (Venäläinen & Metsämuuronen, 2015). It can be thought that homework plays an important role in supporting pupils' interest in HE. In this study HE teachers prefer practical homework that promotes pupils' learning of practical skills (81.9%). HE teachers also give other homework: reading homework is often given by 54.9% and written homework by 49.5% of teachers. Homework has been found to be beneficial for students' learning through repetition (Gu & Kristoffersson, 2015) and if it is given often and little (McJames et al., 2024).

Primary school HE education or club activities, there were 46 mentions. In these, the leader was not always a qualified HE teacher or even a teacher, in which case the activity is more of a hobby. The teaching should be carried out by a qualified HE teacher and the teaching should have clear goals, content, and assessment. The teaching of HE in high school was very limited and it would also require measures to develop the teaching.

HE teachers often (69%) do joint planning with a HE teacher colleague. The same result was also reached in Venäläinen and Metsämuuronen's (2015) study. Most of the HE teachers found a colleague from their own school (74.8%,  $n = 83$ ) and the amount of cooperation varied. Not everyone cooperates with a close colleague, even if there is one. This would require a more detailed investigation into the reasons. A gratifying research observation was also that 91% of

HE teachers are also happy to cooperate with other teachers. Twenty HE teachers also mentioned the cooperative teaching of several subjects in their school, which is encouraged and mandated by the National Core Curriculum for Basic Education (Finnish Board of Education, 2014). The challenges of subject collaboration are often administrative factors, teachers' personal characteristics and resources (Jong et al., 2022; Pöntinen, 2019). To pupils, subject cooperation increases the transfer effect of learning, can increase the meaning and motivation of learning, and support the comprehensive understanding of phenomena (Pöntinen, 2019). To Teachers, subject collaboration brings new skills, different perspectives to the work, and it is felt to increase enjoyment at work (Pöntinen, 2019).


## Conclusions

This research has produced important information for researchers in the field, for the development of HE teacher training and HE teaching. The most important discoveries are that HE teachers have a lot of autonomy, schools and district have much freedom and HE teaching is flexible for local needs but there is no uniformity. The varying quantity and quality of teaching could be said to be the biggest development area of HE teaching in relation to the quality criteria of basic education (Ministry of Education and Culture, 2012). Basic Education Act 21.8.1998/628 obliges teachers to act according to the curriculum, but the loose curriculum is interpreted in different ways and time frames. Great confidence in a teacher's professionalism and a lot of autonomy in teaching (Sahlberg & Walker, 2021), can be seen as both risk and opportunity (Erss, 2018).

In HE teacher training and in-service training, more and more attention should be paid to perspectives that integrate the contents of the HE and cooperation with other subjects. Balanced HE education in terms of content should be taken as a goal in the new Finnish National Core Curriculum for Basic Education. It could be considered to combine the contents of the HE into one complete entity, for example as follows: sustainable living, consumption and food knowledge at home. Of course, even this solution wouldn't remove many contents, but it would help to visualize the functions of the home, which can be taught comprehensively. Many household chores are done overlapping at home, so why not also in HE education.

## Biography

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