

Finnish Home Economics Teachers Enabling Sustainability and Consumer Skills for Young People

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Abstract

Today, teachers around the world face the challenges of the ecological crisis. In Home Economics, ecological as well as economical viewpoints are intertwined in teaching. In Finland, sustainability education is integrated into different subjects as well as in transversal competencies in the curricula. Our study sheds light on how Finnish Home Economics teachers view themselves as sustainability and consumer educators and how they collaborate with teachers of other school subjects. Based on quantitative (N=153) and qualitative (N=256) survey data, we argue that teachers emphasize sustainable food education and that they teach consumer and sustainability skills broadly, varying themes from clothing to housing and spending. Teachers acknowledge their key role as consumer educators and consider young people well motivated regarding sustainability and consumer themes. Teachers prefer to cooperate with social studies, mathematics, and crafts on consumer education and with biology, social studies and crafts on sustainability education. The study indicates that the education of Home Economics teachers should be developed to provide more tools for teaching future sustainability and consumer themes.

Introduction

“Every lesson through the ecological lenses... we don't sprinkle the bills down the sewer or into the compost.” – Home Economics Teacher, Spring 2020 –

This Home Economics (HE) teacher's view addresses ecologically and economically responsible food consumption in her teaching. Contributing to the discussions of ecological challenges has been one of the main focuses of Home Economics science since the life work of Ellen Richards (1842–1911). She argued that quality of life depends on the ability of society *to teach its members* how-to live-in harmony with the environment (Swallow, 2014). The importance of consumer skills as a means of achieving everyday family well-being has also been focal in Home Economics. Early scholars (Kyrk, 1930, Hoyt, 1938) emphasize the family's management skills in spending and budgeting.

Today - more than ever - it is relevant to understand how consumer behaviour is related to sustainable development (for example climate change). Learning is seen as one driver improving the state of the environment (Sterling, 2010), meaning that people should re-learn ways to live, consume, and transform their current ‘way of life’ towards a sustainable path in eating, leisure, mobility, housing (such as used materials and energy), and clothing – and earning and spending money. Thus, the promotion of sustainability concerns all practices and institutions in society. In the field of Home Economics, young people, families, and teachers in particular are focal actors. Due to financial, social, and cultural constraints, parents do not necessarily have the capabilities to discuss sustainability and consumer issues at home with their children (see Lusardi et al., 2010; Collins, 2015). Thus, the school as an institution provides a context in which children and young people can learn skills for life (see Renwick, 2016). However, in our study context, Finland, only one-third of young people think that they had learned financial knowledge and

skills at school (Pekkarinen & Myllyniemi, 2018), according to the Finnish Youth Barometer (2017).

Both consumer and sustainability education are, nevertheless, included in the Home Economics curriculum in Finland (The Finnish National Core Curriculum for Basic Education, 2014). How Finnish teachers perceive themselves as sustainability educators has received some scholarly attention (Haapala et al., 2014; Elorinne et al., 2020), but how they practice consumer education in their teaching has been studied less (Autio, 1999). There are also no in-depth studies of cross-curricular projects in sustainable and consumer education from the viewpoint of Home Economics. Our study focuses on how HE teachers value and practice sustainable and consumer education in their work and how they perceive students' motivation to learn these issues. In addition, we explore how HE teachers see collaboration with other school subjects on these issues. We examine these questions within the HE curricula in Finland.

Sustainability and Consumer Education in Home Economics Education

Eleanore Vaines' ecological thinking and her metaphor – “*world as our home*” – build on Ellen Richard's profound idea of environmental thinking. Vaines argued that Home Economists need to be eco-centered (Renwick, 2019). She also introduced the idea of HE teachers as transforming actors (1985), meaning that they assist people in clarifying their needs and wants as global citizens in socially responsible ways. She felt that Home Economists should become active participants when aiming towards an ecologically sustainable society (Vaines, 2004; Johnson, 2014). Recently, the United Nations (2015) formulated 17 sustainable development goals (SDGs) as well as education for sustainable development (ESD).

Although HE have historical roots in ecological thinking, sustainability issues have received little scientific interest in the field (e.g. Dewhurst & Pendergast, 2011, Haapala et al., 2014). The study of Dewhurst and Pendergast (2011) is one of the first studies that focus on sustainable education in the HE context. Their research showed that HE teachers “*considered sustainable development to be an important issue, and the formal Home Economics curriculum made significant contributions to the education of this topic* (p. 569)”. However, scholars have also argued that the field of sustainable development education has neglected the study of Home Economics education (such as teachers' perceptions about sustainable education). Within the last ten years, sustainability issues have increasingly gained scholarly attention in the context of HE (Øvrebø, 2015; Erjavšek et al., 2020). Sustainable food education in particular has been studied in HE teaching, such as how pupils participate in sustainable food education at school (Gisslevik et al., 2019) and what kinds of attitudes teachers have towards food waste (Elorinne et al., 2020). According to Øvrebø (2015), HE teachers emphasize practical food skills over theoretical teaching, and although they feel that it is important to teach how to save water and electricity, for example, they do not link these themes to sustainability. According to the study by Gisslevik et al. (2019), HE teachers think that they are unable to promote pupils' everyday skills and critical thinking from the perspective of sustainable food education even though they share the objective of promoting sustainability in HE teaching. The study by Fife et al. (2021) also finds that HE teachers see it as a challenge to achieve the objectives of sustainability education as defined by the national curriculum. Teachers emphasize basic skills related to food and food safety in education, and the concept of sustainability is primarily linked to the school's culture, for example, to enabling recycling and composting.

The purpose of consumer education is to educate skilled and critical citizens who can take into account the challenges of sustainable consumption in society (e.g., McGregor, 2012). Although consumer education research has a long history in HE teaching (e.g. Kyrk 1930), empirical studies that focus on the teachers' view on the content knowledge and pedagogical practices have not garnered interest. According to Autio (1999), Finnish HE teachers in vocational education and training schools considered consumer skills important but did not think that they had enough resources to teach the subject. According to Ahava and Palojoki (2004), 14-15-year-old Finnish pupils' experiences of consumer education integrated both financial and sustainability aspects such as waste sorting, comparing prices and the principles of saving (water, energy, money). According to a more recent study by Uitto and Saloranta (2017), Finnish HE teachers emphasized economical aspects over ecology.

Thus, it seems that empirical studies on consumer education are lacking in the context of HE. For example, the study by Pajari and Harmoinen (2019) found that Finnish primary school teachers identify with consumer education themes such as sustainable development, media and technology literacy, personal finance, management and participation at home, and responsible social participation. The fact is that, while consumer skills are becoming an integral part of sustainability education, HE teaching emphasizes the sustainability of food and cooking (e.g. Gisslevik et al., 2019; Fife et al., 2021). In this study, we ask whether other topics, such as the sustainability of clothing, housing and money management, are seen to be equally important.

Objectives for Home Economics

The Finnish National Core Curriculum for Basic Education 2014 (FNCBE, 2014) emphasizes sustainable development as one of the key elements throughout the whole curriculum. It is maintained in different subjects (i.e., home economics, biology, and chemistry) and in transversal competencies as 'participation, involvement and building a sustainable future'. The FNCBE (2014, p. 14) argues: "Basic education recognizes the need for sustainable development and eco-social education, acts accordingly and guides pupils to adopt a sustainable lifestyle." In Home Economics, the focuses are: (i) Food knowledge and skills and food culture, (ii) Housing and living together, and (iii) Consumer and financial skills at home. The task of HE is "to develop the knowledge, skills, attitudes, and readiness required to master everyday life and to adopt a sustainable way of living that promotes well-being" (FNCBE, 2014, p. 437).

Sustainability and consumer skills are intertwined throughout HE education. Learning assignments promote pupils' skills to make sustainable choices, to act sustainably in daily life at home, and to plan, work, and manage resources. According to Kortessalmi and Autio (2019), the FNCBE 2014 emphasizes pupils' agency and the importance of sustainable consumer education as well as the consumer skills required in the changing economic environment. Furthermore, the teaching of consumer and sustainability skills integrates with many other school subjects (i.e. cross-curricular teaching). According to the Nordic Council of Ministers (2009), consumer issues can, and should be, discussed from different perspectives such as home economics, languages, environmental science, social studies, arts and crafts, sciences, psychology, and mathematics. Sund and Gericke (2020) have pointed out that education for sustainable development (ESD) is interdisciplinary by nature. The study by Haapala et al. (2014) found that only 19% of Finnish HE teachers occasionally participate in cross-curricular projects on sustainability themes.

Research Data

To complete the objective of understanding how Finnish HE teachers view sustainability and consumer education as integrated into their work, we conducted both a quantitative and qualitative data collection. Data was collected via an online questionnaire (N=153, Table 1) entitled “*Towards sustainable Home Economics education.*” It was distributed to participants through multiple channels. First, the chairperson of the Finnish Association of HE Teachers sent an email to Finnish HE teachers with a link to the questionnaire. Second, the research team posted a link to the questionnaire in a HE teachers’ Facebook-group. Finally, an email was sent to regional units of the Finnish Association of HE Teachers. The data collection was organized in spring 2020 (late April-May).

Table 1. Respondents’ descriptive information (N=153)

Descriptive information	<i>n</i>	%
Gender		
Female	149	97
Male	4	3
Age		
– 29	24	15
30 – 39	21	14
40 – 49	37	24
50 – 59	59	39
60 – 64	12	8
Teacher education		
Master of Education, Home Economics Teacher	125	82
Master of Education, other main subject	16	11
Home Economics Teacher Student	9	5
Other education	2	1
Graduation year		
1981 - 1989	31	20
1990 - 1999	38	25
2000 - 2009	36	24
2010 - 2020	36	24
Missing	12	7

Following the national curriculum, the online survey included questions on sustainable food, recycling, housing and clothing, consumption, lifestyle and family, and sustainable education in general (FNCBE, 2014). The survey also included open-ended questions aimed to assess issues such as how one teaches sustainable food (N=107), consumer education (n=95), and sustainability (n=54). Furthermore, we also asked: What subjects would you like to cooperate

with regarding (i) consumer education, and (ii) sustainable education? The survey collected demographic data such as gender, age, educational background, and graduation year. While it is notable that the data does not represent the whole professional group of HE teachers in Finland, the extensive data collection procedures described above led to diverse data with regard to the demographic background of the participants (Table 1).

Altogether, we received 256 answers to the open-ended questions. Sustainable food was the most frequent topic of discussion. In addition to these 107 answers regarding sustainable food, 18 out of 95 consumer education answers and 17 out of 54 sustainability education answers dealt with food themes as well. Altogether, 142 answers (55%) out of 256 focused on food and sustainability issues.

We analyzed the sustainability and consumer education claims in which teachers reflect on their own activities as teachers and how they see the interest of young people towards these topics. The analysis of open-ended questions focuses on, first, sustainability themes, then consumer issues and, finally, both of these themes together. The consumer and sustainability themes merged in the teachers' answers, and food and cooking held a rather focal position in teaching practices.

Sustainable Food Emphasis and Challenges for Teacher Education

Although teachers mentioned a variety of sustainability topics in the open-ended answers, sustainable food was the most frequent theme (55%). These results are in line with previous studies in which sustainable food and cooking are core themes (Gisslevik et al., 2019; Elorinne et al. 2021; Fife et al., 2021). The study by Haapala et al. (2014) argued that Finnish HE teachers have the confidence to teach sustainability issues (79% agree, N= 71). However, the scholars recognized a need to strengthen HE teachers' integration of sustainability education into their teaching. These scholars also suggested that HE teachers have already internalized the principles of sustainability on a personal level, but they often lack the resources and incentives to teach them. Our results are in line with the study by Haapala et al. (2014): only 24% of HE teachers agree that their own education has provided enough resources to teach sustainability (Table 2).

Furthermore, according to Haapala et al. (2014), teachers who have not taught or who only occasionally taught themes of sustainable development were not sure about their pupils' interest in sustainability topics. On the other hand, some teachers felt that their pupils' interest motivated them to teach sustainability and our data indicates that teachers believe that pupils are interested in sustainability education (Table 2). It can be argued that, for example, climate change issues have been topical, and a general awareness of the consequences of environmental problems for the well-being of people has increased since the study by Haapala et al. (2014) was conducted.

Table 2. Statements of teachers' views of sustainable education in the questionnaire, %. Measured on a five-point Likert scale (5) Fully agree - (1) Fully disagree.

Statements	Agree					Disagree		Mean	SD
	%					%			
My education provided me with sufficient skills to teach sustainability issues.	7	17	21	30	26	2,5	1,23		
Young people are interested in sustainable development or sustainability themes.	26	50	21	3	0	4,0	0,79		

According to Haapala et al. (2014), teachers' main topics in teaching sustainable development were waste avoidance, the promotion of recycling, and the use of resources and materials at home. Teachers also stressed Fair trade products, organic food, and ecotourism. However, while open-ended answers in our data showcase that sustainable food is the most frequent topic, teachers captured a wide range of other themes in their teaching. In any case, the key elements of HE teaching are food, consumption, and clothing, as one teacher narrates:

Sustainability in consumption, food choices in a sustainable way, and clothing care and cleaning in a sustainable and environmentally friendly way. Chemicals, clothing materials (for example, the problem of synthetic fibers), the problems of social, economic and ecological sustainability of the clothing industry and home materials (furniture, textiles, etc.) and economy, also in a sense that not buying saves the most money and the environment. – HE Teacher, 1-2 years' experience, Respondent 52.

Although teachers perceive sustainability as important, they may emphasize different subjects differently due to personal knowledge and confidence in teaching specific topics. Elorinne et al. (2020) found out in their Finnish comprehensive school teachers' study on food waste (62% of the HE teachers) that teachers have a dichotomic attitude towards food sustainability. Teachers who understand sustainability in a broader sense (e.g., holistic, global, and communal views) see themselves as professionally skillful and want to enhance their students' critical food thinking. Teachers who consider sustainability in a more restricted way emphasize individualistic and hedonistic views (e.g., free will, food taste and appearance) in the context of sustainable food education. In our study, the avoidance of food waste is also a topical theme. As one teacher notes: "*Sustainable education is repeatedly discussed in connection with food waste*" (11-15 years' experience, Respondent 131).

Towards Adulthood with Sustainable Consumer Skills

As argued above, empirical consumer education research in the context of teaching HE has been neglected. Thus, we wanted to find out how teachers perceive their position as consumer

educators. When asked if parents were responsible for teaching consumer and financial skills, teachers disagreed (61%), implying that the school is the main educator of these skills. Teachers reported that they teach pupils how to handle money and what they should take into account moneywise when pupils move into their own home. One teacher narrates: *“For seventh graders, I teach [consumer education] throughout the year when the context suits ... For ninth graders (optional), there will be a ‘Living a Student's Life’ package in the spring, which consists of themes of budgeting and financial matters”* (over 15-years’ experience as teacher, Respondent 136).

Regarding consumer education, we also asked the teachers whether they thought young people were interested in learning consumer issues (Table 3). According to our results, teachers felt that the planning of finances, such as budgeting, interests young people. It seems that HE teachers have a broad understanding about topics in consumer education as two experienced teachers’ stories indicate:

I keep this on the agenda [consumer education] in every course; partly in theory, always in practice. For example, the leftovers of food are salvaged and utilized.... Students reflect on their own consumption needs and reflect on different consumption options. We visit live flea markets and shops as well as similar sites online... We calculate the prices of meals and the prices of different consumption choices. ... We consider savings targets and their achievability, and we consider different ways to earn and save (in food, housing, transport, personal expenses, etc.) – Teacher, over 15-years’ experience, Respondent 54

I emphasize "less is more." When, for example, buying clothes, you don't always have to buy a new one. For some occasions, you can borrow clothing from your friend. Instead of price, we look at the material and care instructions of clothes. – Teacher, over 15-years’ experience, Respondent 15

According to Uitto and Saloranta (2017), Finnish HE teachers take financial aspects into account in their teaching more often than other teachers, and HE teachers also consider economical sustainability significantly more than, for instance, teachers of mathematics. Venäläinen (2015) found that Finnish HE teachers preferred consumer education as the third most valuable theme for them while carrying out continuing education. As Autio (1999) noted, HE teachers feel that teacher education has given them rather modest skills and knowledge to teach consumer education (also Haapala et al., 2014). Thus, it seems that the tradition of teaching consumer education (e.g. saving, economical use of resources, money management) has given teachers tools for teaching economical sustainability to pupils, although the teachers themselves think that they need more knowledge on consumer issues (Venäläinen, 2015; Haapala et al., 2014).

Table 3. Statements of teachers' views on consumer education in the questionnaire, %. Measured on a five-point Likert scale: (5) Fully agree - (1) Fully disagree.

Statements	Agree				Disagree				Mean	SD
Consumer education	%				%				%	
Teaching consumer and financial skills are primarily the responsibility of parents.	4	12	23	46	15	2,4	1,01			
Young people are interested in financial issues and the management of their own finances.	8	48	33	10	1	3,5	0,83			

Collaborating with Subject Teachers

Sustainability and consumer education are complex phenomena that include a variety of topics in the context of Home Economics education. In our study, we also focused on the collaborative practices of HE teachers when teaching consumer and sustainability issues with teachers of other subjects. Regarding consumer education, teachers prefer to cooperate mainly with other teachers from the fields of social studies, mathematics, and crafts (Figure 1). In turn, biology, social studies, and crafts science are the most popular subjects of collaboration when HE teachers educate on sustainability.

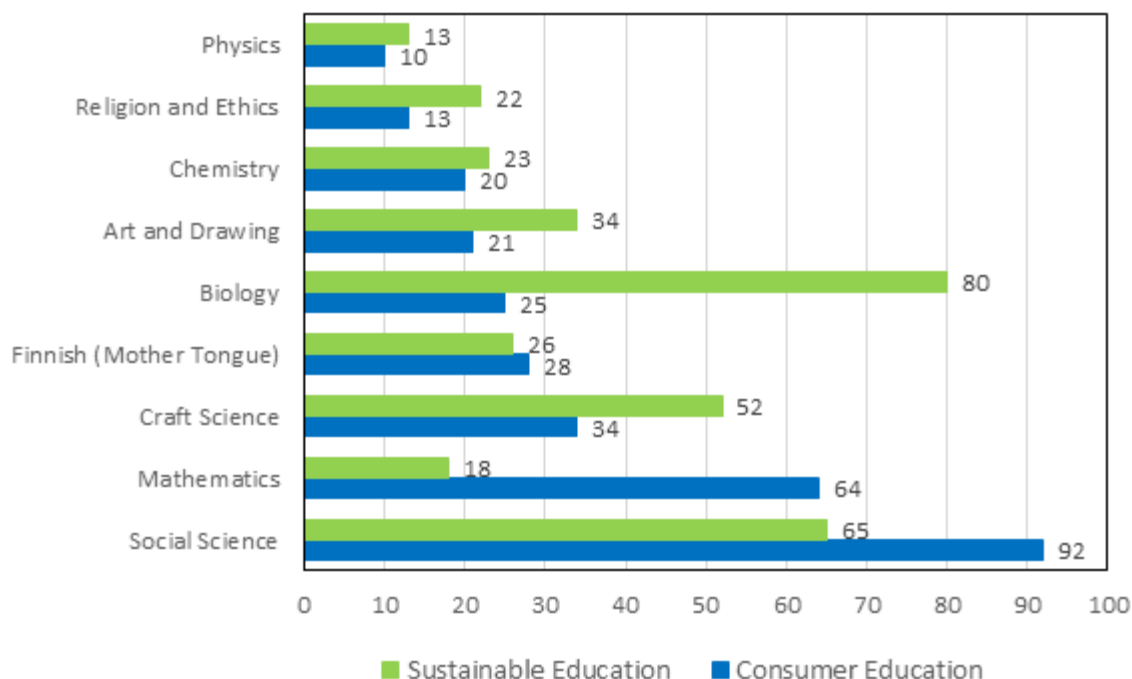
According to Mykrä (2021), ecological sustainability education in Finnish schools is mainly taught in fields of science (e.g., biology, chemistry, geography). However, she noticed that home economics and craft science have broad objectives in terms of ecological sustainability as well. In this way, it is interesting that HE teachers relate to biology and crafts sciences as favorable subjects of collaboration in teaching sustainability – next to social studies. Furthermore, they see mathematics and social studies as key collaborative subjects in consumer education, perhaps referring to the personal financial (money management) and political-economic environment (acting as a responsible agent in society). HE teachers explain that cooperation with social studies concerning consumer skills is important with regard to the skills needed in the transition to independent living:

A joint project in the 9th grade with a social science teacher, "Steps towards your own life." – Teacher, over 15 years of teaching experience, preferably cooperates with teachers of social studies, mathematics, and the Finnish language, Respondent 18 –

In terms of sustainability education, there is no mention of cooperation with any subject in the answers to the open-ended questions. However, different thematic projects could operate as a platform for collaboration:

In the 7th grade, we have a project on waste sorting and recycling, in the 8th grade, circular economy, and in the 9th grade we have cooperation with the World Wildlife Fund – Teacher, over 15 years of teaching experience, preferably cooperates with teachers of social science, mathematics, biology, and the Finnish language, Respondent 133 –

Figure 1. Subjects that teachers would like to collaborate with when teaching consumer education and sustainable education.



According to Sund and Gericke (2020), in sustainable education science, teachers focus on topics such as the use of energy, fossil fuels, and global environmental issues such as global warming, that is, ecological sustainability. In turn, social studies teachers focus on themes such as globalization, world trade, consumption, consumer rights, human rights, and the ecological effects of the use of natural resources, transport and climate change; that is, an emphasis more economical sustainability than science teachers. In our study, HE teachers' sustainability education focuses on themes on a personal, household, and societal level. In consumer education, teachers emphasize everyday issues, such as personal finances after moving into one's own home or teaching pupils to reflect on their needs and consumption choices.

Conclusion

Home Economics education is seen as a transformative field that can provide skills to live in an ecologically sustainable way (Vaines, 2004; Haapala et al., 2014; Renwick, 2016), facilitating ecologically as well as economically sound practices in cooking, housing, and spending. By

focusing on the perceptions and self-reflection of Finnish HE teachers as sustainability and consumer educators, this study contributes to the current literature of sustainability studies (e.g. Haapala et al., 2014; Elorinne et al., 2020) in which consumer education is neglected (e.g. Autio, 1999).

According to our results, teachers see that food education is a key element of HE lessons as well as a pedagogical tool that enhances sustainable education. In the context of HE, themes of sustainability are often integrated into cooking, as is found in earlier studies (e.g. Gisslevik et al., 2019; Fife et al., 2021). HE teachers acknowledge their key role as consumer educators, and they perceive that consumer education is primarily the schools' responsibility. Moreover, teachers feel that pupils are interested in both consumer and sustainability topics. Although Finnish HE teachers emphasize sustainability in food practices, they teach a variety of sustainable consumer skills that are related to clothing, housing, and spending (see Ahava & Palojoki, 2004).

The results of the present study imply that HE teachers understand sustainability as a multifaceted and interdisciplinary phenomenon. In consumer education, teachers consider social studies and mathematics as the main subjects of collaboration. These subjects have traditionally included consumer education objectives (FNCBE, 2014). In sustainability education, teachers hold biology, social studies, and craft sciences as preferred subjects of collaboration. However, according to our results, teachers claim that their educational background is insufficient for their role as sustainability educators. This indicates that teachers associate sustainability more with natural sciences (e.g. biology, physics), which may create feelings of uncertainty in teaching sustainability.

To better understand how the pedagogical practices of consumer education in Home Economics can enhance young peoples' capabilities, more empirical and in-depth analyses are needed. Furthermore, it seems that teachers have different kinds of commitments and competencies to teach sustainability (e.g., Elorinne et al., 2020) and consumer issues, which needs to be explored further.

References

- Ahava, A. M. & Palojoki, P. (2004). Adolescent consumers: Reaching them, border crossings and pedagogical challenges. *International Journal of Consumer Studies*, 28(4), 371–378.
- Autio, M. (1999). Teaching Consumer Education – Problems and Possibilities. In K. Turkki (Ed.), *New Approaches to the Study of Everyday Life – Part II: Proceedings of the International Household & Family Research Conference in Helsinki 1998* (pp. 154–159). University of Helsinki.
- Collins, R. (2015). Keeping it in the family? Re-focusing household sustainability. *Geoforum*, 60, 22-32.
- Dewhurst Y. & Pendergast, D. (2011). Teacher perceptions of the contribution of Home Economics to sustainable development education: a cross-cultural view. *International Journal of Consumer Studies*, 35(5), 569–577.
- Elorinne, A-L., Eronen, L., Pollari, M., Hokkanen, J., Reijonen, H. & Murphy, J. (2020). Investigating Home Economics Teachers' Food Waste Practices and Attitudes. *Journal of Teacher Education for Sustainability*, 22(1), 6–20.

- Erjavšek, M., Kozina, F. L. & Kostanjevec, S. (2020). In-service Home Economics Teachers' Attitudes to the Integration of Sustainable Topics in the Home Economics Subject. *Ceps Journal*, 11(1), 1–21.
- Fife, D., Slater, J., Fordyce-Voorman, S. & Worsley, A. (2021). Food literacy education in Manitoba, Canada and Victoria, Australia: a comparative pilot study. *International Journal of Home Economics*, 13(2), 16–28.
- Finnish National Curriculum for Basic Education (FNCBE)*. (2014). Finland: National Board of Education. Publications 2016, 5.
- Gisslevik, E., Wernersson, I. & Larsson, C. (2019). Pupils' participation in and response to sustainable food education in Swedish home and consumer studies: A case-study. *Scandinavian Journal of Educational Research*, 63(4), 585-604.
- Haapala, I., Biggs, S., Cederberg, R. & Kosonen, A-L. (2014). Home Economics Teachers' Intentions and Engagement in Teaching Sustainable Development. *Scandinavian Journal of Educational Research*, 58(1), 41–54.
- Hoyt, E. E. (1938). *Consumption in our society*. New York, McGraw-Hill.
- Johnson, A. M. (2014). Educating the consumer-citizen in a world of finite resources. *International Journal of Home Economics*, 7(1), 36-47.
- Kortesalmi, M. & Autio, M. (2019). Financial and consumer education enhancing financial capability. *Journal of the Finnish Economic Association*, 115(4), 588–603. (in Finnish)
- Kyrk, H. (1930). Education and Rational Consumption. *Journal of Educational Sociology*, 4(1), 14-9.
- Lusardi, A., Mitchell, O. & Curto, V. (2010). Financial Literacy among the Young. *Journal of Consumer Affairs*, 44(2), 358–380.
- McGregor, S. L. (2012). Complexity economics, wicked problems and consumer education. *International Journal of Consumer Studies*, 36(1), 61–69.
- Mykrä, N. (2021). *Comprehensive school to promote ecological sustainability: an action research study on the multilevel challenge of change in school* (in Finnish). Doctoral dissertations of the University of Tampere 384. University of Tampere.
- Nordic Council of Ministers (2009). *Teaching Consumer Competences – a Strategy for Consumer Education. Proposals of objectives and content of consumer education*. TemaNord 2009, 588. Copenhagen.
- Pajari, K. & Harmoinen, S. (2019). Teachers' Perceptions of Consumer Education in Primary Schools in Finland. *Discourse and Communication for Sustainable Education*, 10(2), 72–88.
- Pekkarinen, Elina & Myllyniemi, Sami (2018). Education and learning. In E Pekkarinen & S. Myllyniemi (eds.) *Learning paths and borders. The Finnish Youth Barometer*. Helsinki: The Finnish Ministry of Education and Culture, Youth Advisory Board, Publication 200 (pp. 55–81). (in Finnish)
- Renwick, K. (2016). Education in a time of schooling. *Victorian Journal of Home Economics*, 55 (1), 1–6.
- Renwick, K. (2019). Home Economics: Transformative practice, ecology and everyday life [Editorial]. *International Journal of Home Economics*, 12(2), 3–5.
- Sterling, S. (2010). Learning for resilience, or the resilient learner? Towards a necessary reconciliation in a paradigm of sustainable education. *Environmental Education Research*, 16(5-6), 511–528.

- Sund, P. & Gericke, N. (2020). Teaching contributions from secondary school subject areas to education for sustainable development—a comparative study of science, social science and language teachers. *Environmental Education Research*, 26(6), 772-794.
- Swallow, P. C. (2014). *The remarkable life and career of Ellen Swallow Richards: Pioneer in science and technology*. Wiley.
- Uitto, A. & Saloranta, S. (2017). Subject teachers as educators for sustainability: A survey study. *Education Sciences*, (7,8), 1–19.
- Øvrebø, E. M. (2015). How Home Economics teachers in Norwegian lower secondary schools implement sustainability in their teaching? *International Journal of Learning, Teaching and Educational Research*, 10(2), 72–83.
- Vaines, E. (1985). Transforming actor: the role of the Home Economist. *Canadian Home Economics Journal*, 35(2), 69–71.
- Vaines, E. (2004). Postscript: Wholeness, Transformative Practices, and Everyday Life. In M.G. Smith, L. Peterat, & M. L. de Zwart (Eds.), *Home Economics Now: Transformative practice, Ecology, and Everyday Life: A Tribute to the Scholarship of Eleanore Vaines* (pp. 133–136). Vancouver, BC: Pacific Educational Press.
- Venäläinen, S. (2015). Home Economics teachers and changing school. In H. Janhonen-Abruquah & P. Palojoki (Eds.), *Creative and Responsible Home Economics Education* (pp. 46–62). Home Economics and Crafts Sciences publications 38. University of Helsinki.
- United Nations (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. Department of Economic and Social Affairs, Sustainable Development. <https://sdgs.un.org/publications/transforming-our-world-2030-agenda-sustainable-development-17981>