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In-service Home Economics Teachers' Attitudes to the Integration of Sustainable Topics in the Home Economics Subject

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Education for sustainable development is essential for the well-being of present and future generations and is one of the key objectives in the discipline of home economics. The purpose of this research was to ascertain whether in-service teachers of home economics recognise the opportunities to educate students about sustainable development in their courses and if they can identify the topics related to sustainable development that they can integrate into the subject of home economics. To determine this, a study using a questionnaire with a non-random sample of 89 Slovenian in-service home economics teachers was conducted. The results were qualitatively and quantitatively analysed. According to the research results, in-service home economics teachers understand that the topics of the subject promote education for sustainable development. They see the most opportunities for integrating sustainable topics arising in the fields of food and living environments, and less in economics and textiles. This is evident because sustainability topics are predominantly connected to food and the living environment classes in the current education system. Based on the research results, it can be deduced that in-service home economics teachers should be offered ongoing professional development in order to achieve the competences needed to teach sustainable development as part of the home economics subject. The need to update the curriculum of this subject has emerged as it offers numerous opportunities to educate the young in topics related to sustainable living.

Keywords: sustainable development, education for sustainable development, home economics, home economics teachers

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Odnos učiteljev gospodinjstva do vključevanja trajnostnih vsebin pri predmetu gospodinjstvo

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≈ Vzgoja in izobraževanje za trajnostni razvoj sta pomembna za kakovostno prebivanje zdajšnjih in prihodnjih generacij; predstavljata eno izmed ključnih izhodišč delovanja discipline gospodinjstvo. Namen raziskave je bil ugotoviti, ali učitelji, ki poučujejo gospodinjstvo, prepoznajo možnosti za vzgojo in izobraževanje učencev za trajnostni razvoj pri predmetu gospodinjstvo, ter prepoznati vsebine, ki jih učitelji gospodinjstva vključujejo v predmet gospodinjstvo in so povezane s trajnostnim razvojem. V raziskavi je bil uporabljen nenaključnostni vzorec 89 slovenskih učiteljev gospodinjstva. Za potrebe raziskave je bil razvit anketni vprašalnik. Rezultati so bili kvalitativno in kvantitativno analizirani. Izsledki raziskave so pokazali, da učitelji menijo, da vsebine predmeta gospodinjstvo spodbujajo vzgojo in izobraževanje za trajnostni razvoj. Največ možnosti za vključevanje trajnostnih vsebin vidijo na področju prehrane in bivalnega okolja, manj pa pri obravnavi vsebin s področja ekonomike gospodinjstva in tekstila, kar se izkazuje tudi v izvajanju vzgojno-izobraževalnega procesa, v katerem trajnostnim vsebinam, povezanim s prehrano in z bivalnim okoljem, namenjajo največ pozornosti. Na osnovi izsledkov raziskave lahko sklepamo, da je treba učiteljem gospodinjstva ponuditi permanentno strokovno izobraževanje, ki bi bilo namenjeno doseganju kompetenc za poučevanje trajnostnih vsebin v okviru predmeta gospodinjstvo. Kaže se tudi potreba po posodobitvi in aktualizaciji učnega načrta predmeta, saj ponuja številne priložnosti za izobraževanje mladih o temah, povezanih s trajnostnim življenjem.

Ključne besede: trajnostni razvoj, vzgoja in izobraževanje za trajnostni razvoj, gospodinjstvo, učitelji gospodinjstva

Introduction

In the literature, there are different definitions of the concept of sustainable development (SD) (Holden et al., 2014; Lorek & Spangenberg, 2014; Meadowcroft, 2007), while the definition most often used is the one given by Brundtland's Commission of 1987, defining SD as a 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p. 43). SD includes several disciplines, such as the environment, biology, medicine, nutrition, agronomics, geography, engineering, architecture, citizenship, sociology, psychology, political science, history, law, economics, and business (DeFries et al., 2012). Thus, due to its disciplinary diversity, home economics has the potential to influence the development of measures in various sectors of society, including the environment (IFHE, 2008), with many authors (Dale & Newman, 2005; Luppi, 2011) emphasising the importance of an interdisciplinary approach for providing effective education for SD.

UNESCO (2014) points out that quality education is crucial for increasing the quality of life for individuals and for advancing SD. Education for sustainable development (ESD) is 'a process of learning how to make decisions that consider the long-term futures of the economy, ecology, and the equitable development of all communities' (UNESCO, 2009, p. 1). It encompasses content from natural sciences and technical studies, social sciences, and the humanities (Devetak & Krek, 2013). Most theoretical concepts of SD include three dimensions: economic, environmental, and social (UNESCO, 2009). Dresner (2008) indicates that there is no existing consensus about whether these three dimensions of SD should be considered equally important. Teachers rarely apply all three dimensions of SD in ESD, generally emphasising the environmental dimension and less often the economic and social dimensions (Burmeister et al., 2013; Haapala et al., 2012; Summers et al., 2004). Breiting (2000 in Borg, Gericke et al., 2012) emphasises that SD is often viewed as an extension of environmental education, which is defined as an 'educational process that deals with the human interrelationships with the environment and that utilizes an interdisciplinary problem-solving approach with value clarification'. (UNESCO-UNEP, 1983 in Pavlova, 2013). Vartiainen and Kaipainen (2012) point out that ESD is every teacher's duty, and this has also been emphasised by Buza (2010) since natural sciences teachers believe that environmental education should be included in the entire education process. Pre-service and in-service students of pre-school education and students of environmental sciences in Slovenia expect their teachers to promote the principles of SD (Torkar, 2013).

As a multidisciplinary field, home economics integrates topics of different disciplines, using an interdisciplinary and transdisciplinary approach (IFHE, 2008). Since the problems of modern times and everyday challenges are far from simple, an individual should possess different types of knowledge and skills in order to solve them successfully. It is for this reason that the importance of home economics as a multidisciplinary field is emphasised (IFHE, 2008; Sproles & Sproles, 2000). Hira (2013) points out that the concept of home economics literacy integrates various literacies: environmental literacy together with nutrition, health, and financial literacies. Gale Smith (2015) notes that increasing environmental problems and the need for SD are undoubtedly an important reason to include the topics of the home economics field in the education process. Moreover, Lice and Reihmane (2015) draw attention to the fact that many SD topics are part of the home economics school subject. The purpose of home economics education is to capacitate a person and families for the development and activities that help increase the quality of life and their readiness for life-long learning, but also to capacitate future generations to manage different global challenges (Pendergast, 2006, 2012; Renold, 2008). One study (Dewhurst & Pendergast, 2011) revealed that home economics teachers think that having sustainable topics within home economics education is essential, and they view themselves to be sufficiently competent in delivering them. Dewhurst and Pendergast (2011) note that it is essential to address sustainable topics in home economics education.

The Slovenian nine-year compulsory school is organised into three-year cycles with students ranging from six to fifteen years old (Eurydice, 2018). Students are expected to acquire knowledge of a healthy lifestyle and sustainable organisational forms of social and economic life. They should also develop a responsibility for their own health and the abilities that will enable them to function in society, engage in life-long learning and continuous personal growth, and develop the necessary skills and knowledge to be able to preserve the natural environment (Kalin et al., 2011). The nine-year compulsory school curriculum includes the home economics subject, which is compulsory for 5th graders (children 10 years of age) and 6th graders (children 11 years of age) and represents the basis of home economics education. Within this education, students acquire knowledge and skills pertaining to natural and social sciences. The subject includes four different teaching modules: 1) Economics, 2) Textiles and clothing, 3) Living and the Environment, and 4) Nutrition. In the 5th grade, the subject is taught for 35 hours. Students learn about the topics of the Economics and Textiles and Clothing modules. In the 6th grade, 52.5 hours are dedicated to home economics education, in which students learn about living

and the environment and nutrition. Home economics education stimulates students to reflect on contemporary problems as they occur at the individual, family or societal level. Students acquire the knowledge and skills for the sustainable use of natural and social resources, which are necessary to meet basic living needs. The topics of individual modules enable them to be taken from the perspective of an SD concept. Economic and environmental principles are intrinsically connected to SD, which are taken into account during the realisation of general curricular goals. However, the term 'sustainable development' is not mentioned in the Slovenian Home Economics curriculum (Elementary school programme, Home Economics ..., 2011).

Research Problem

The main objective of home economics is to improve quality of life and promote lifelong learning (Benn, 2008), thus encompassing individuals' and societal needs. Various research works (IFHE, 2008; Pendergast, 2006; Torkar & Koch, 2012) note that addressing sustainable topics within the home economics curriculum appears to be necessary for society. Kostanjevec et al. (2017) have found that different stakeholders, who deliver or are connected to the process of home economics education, hold the opinion that during the literacy process carried out within formal education, students should develop functional home economics literacy that includes knowledge and skills typical of the area of SD and consumption. Hira (2013) points out that the quality of this process may contribute to the development of adequate home economics literacy among students, which in turn fosters a change in behaviour and a higher quality of life for an individual. Kostanjevec et al. (2017) note that Slovenian teachers reported on having observed the positive effects of home economics education on the students' development of sustainable attitudes to the environment and acquisition of a higher-level environmental awareness. The above-mentioned leads to the conclusion that neither the topics of the subject nor the role of home economics teachers in the elementary school can be of marginal significance regarding sustainable development education (Höjjer et al., 2011; Lichenstein & Ludwig, 2010; Pendergast & Dewhurst, 2012; Slater & Hinds, 2014). Therefore, home economics education should include topics related to SD (Gale Smith, 2015; Grayson, 2013). Zsóka et al. (2013) argue that the attitude and behaviour of current generations of students may influence the future of the environment.

With regard to this, the role of in-service home economics teachers is relevant as they have the didactic knowledge regarding how to effectively integrate SD topics into home economics teaching. However, problems arise

if teachers do not identify the importance of SD topics that are not explicitly stated in the curriculum. To the best of our knowledge, in Slovenia, no relevant research on which topics home economics teachers recognise as being relevant to encourage ESD and which of them they integrate into teaching has been conducted.

The aims of the present research are a) to determine whether home economics teachers recognise the opportunities of their subject to educate students for SD and b) to identify the topics that are integrated into the home economics school subject, which are related to SD, by home economics teachers. Based on the aims of the research, two research questions (RQ) were formed:

RQ1: What are teachers' opinions about the role of the home economics school subject in the process of encouraging ESD?

RQ2: Which SD topics do teachers integrate into home economics courses, and in which teaching modules?

Method

Qualitative and quantitative research approaches were used. Data were collected with a survey questionnaire, which was completed by teachers who taught home economics in the nine-year compulsory school.

Participants

The sample was a non-random, purposeful one. E-mail addresses of all 452 Slovenian nine-year compulsory schools were obtained from the national teachers' database, retrieved from the web site of the Ministry of Education, Science, and Sport of the Republic of Slovenia. Headmasters of all the 452 nine-year compulsory schools were sent a letter with instructions to forward the on-line questionnaire to in-service teachers of home economics in the fifth and sixth grades. Altogether, 89 in-service teachers gave complete answers to the on-line questionnaire. These respondents represent the final sample of the research. The sample consisted of 86 (96.6%) females and 3 (3.4%) males. Most in-service teachers were between 41 and 60 years old (76.4%) and 23.6% of them were between 21 and 40 years old. The average work experience of the respondents was 23.7 years ($SD = 8.76$; $Min = 2.00$; $Max = 36.0$). Altogether, 57 (64%) in-service teachers had completed the Home Economics study programme (biology and home economics teachers, home economics and chemistry teachers, technology and home economics teachers), and 32 teachers (36%) were not educated in home economics (primary school teachers, biology and chemistry

teachers, maths and physics teachers, geography and history teachers, natural history teachers, an arts teacher and a teacher with a degree in food technology studies).

Instruments

An on-line questionnaire was developed for this research. The questionnaire was based on comparable research carried out in the field of home economics (Dewhurst & Pendergast, 2011). The initial part of the questionnaire contained questions about respondents' general demographic data, and the second part contained open-ended questions about the integration of SD topics into home economics courses in reference to the four teaching modules: 1) Economics; 2) Textiles and Clothing; 3) Living and the Environment and 4) Nutrition in the Slovenian Home Economics curriculum (elementary school programme, Home Economics ..., 2011). Teachers' attitudes were measured with a four-point Likert scale (1 – do not encourage at all, 2 – do not encourage, 3 – encourage, 4 – encourage a lot). Participants answered the following questions: (1) How significantly do home economics courses encourage ESD?; (2) How significantly do the four teaching modules encourage ESD?; (3) Which topics related to SD do you integrate into teaching modules?

Research design

At the beginning of the research, the e-mail addresses of Slovenian elementary school headmasters were obtained from the national teacher database. The headmasters were sent a letter inviting them to participate in the research. In-service teachers of home economics who teach in the fifth or sixth grades were also invited to take part. The final sample of participants was formed, after consideration of the response rate by the in-service teachers of home economics. Teachers included in the research filled in the on-line questionnaire, designed on the IKA electronic application for surveys (<https://www.ika.si/>). Teachers' responses were collected in electronic form. Data analysis was carried out with the Statistical Package for the Social Sciences (SPSS, version 22). Descriptive and inferential statistics were used to analyse quantitative data. Basic descriptive statistics of numerical variables (mean, standard deviation and frequency) were employed. One-way repeated measures ANOVA and Bonferroni post hoc test were conducted to compare in-service home economics teachers' attitudes regarding the way how home economics teaching modules encourage ESD.

To analyse the open-ended questions, qualitative data analysis was used. It was carried out by employing the following steps. First, the material was edited, then an inductive approach was used for coding. Formulated according to home economics terminology, codes were determined upon an analysis of responses to the open survey questions. To ensure the adequacy of the codes, coding was carried out by two independent researchers. They compared and reconciled the possible discrepancies between certain codes. After reaching a consensus, different codes were classified into several sub-categories depending on their similarities and differences. Different sub-categories were further classified into main categories.

Results of Research

Attitudes of in-service home economics teachers regarding the way home economics encourages ESD

The home economics curriculum includes many topics that can be integrated effectively with SD. In the research, participating in-service home economics teachers were asked how home economics courses encourage ESD. The results show that a big majority of participating teachers think that home economics courses encourage (69.7%) or strongly encourage (29.2%) ESD (Table 1).

Table 1

In-service teachers' attitudes regarding how home economics courses encourage ESD

How do Home Economics courses encourage ESD?	1		2		3		4		<i>M</i> ^a	<i>SD</i>
	<i>f</i>	<i>f</i> %	<i>f</i>	<i>f</i> %	<i>f</i>	<i>f</i> %	<i>f</i>	<i>f</i> %		
	0	.0	1	1.1	62	69.7	26	29.2	3.28	.48

Note. ^a Average value (*M*) is calculated based on 4-point Likert scale (1 - do not encourage at all, 2 - do not encourage, 3 - encourage, 4 - encourage a lot).

Home economics courses in Slovenia include four teaching modules: Economics, Textiles and Clothing, Living and the Environment, and Nutrition.

The research aimed to establish how home economics teaching modules encourage ESD, according to teachers. Table 2 shows that the teachers believe that the nutrition teaching module is most applicable, followed by living and the environment, and economics. According to the teachers, the textile and clothing teaching module is somewhat less suitable for integration of ESD (Table 2).

Table 2

Attitudes of in-service teachers regarding how home economics teaching modules encourage ESD

Module	<i>M</i> ^a	<i>SD</i>
Textile and Clothing	2.97	.55
Economics	3.27	.58
Living and Environment	3.31	.60
Nutrition	3.65	.50

Note. ^a Average value (*M*) is calculated based on 4-point Likert scale (1 - do not encourage at all, 2 - do not encourage, 3 - encourage, 4 - encourage a lot).

One-way repeated measures ANOVA showed a statistically significant effect of the teachers' attitudes regarding home economics teaching modules and integration of ESD (Wilks' Lambda = .378, $F(5, 86) = 47.13, p < .000$). The Bonferroni test for Pairwise Comparison showed a statistically significant difference between nutrition and all other teaching modules; Economics ($p < .000$), Textile and Clothing ($p < .000$), and Living and the Environment ($p < .000$). Moreover, there is a statistically significant difference between the Textile and Clothing module and all other teaching modules: Economics ($p < .000$) and Living and Environment ($p < .000$). Differences between teaching modules Living and the Environment and Economics are not statistically significant ($p < 1.000$) (Table 3).

Table 3

Results of Bonferroni post hoc test for Pairwise Comparisons between pairs of home economics teaching modules

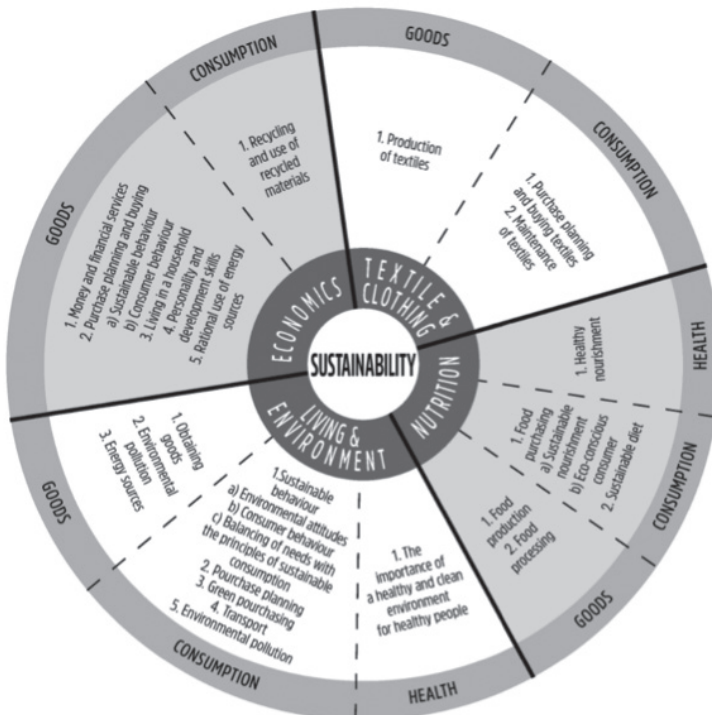
Module 1	Module 2	Mean Difference	<i>SE</i>	<i>p</i>
	Textile and clothing	.303	.067	.000
Economics	Living and the environment	-.045	.069	1.000
	Nutrition	-.382	.057	.000
Textile and clothing	Living and the environment	-.348	.064	.000
	Nutrition	-.685	.059	.000
Living and environment	Nutrition	-.337	.062	.000

Overview of SD topics' integration into teaching modules of Home Economics

Teachers were asked to identify which SD related topics they integrate into their home economics courses and teaching modules (RQ2). They wrote their answers separately for each teaching module. The answers were coded and classified into main categories and subcategories. After coding, three main categories were identified: goods, consumption, and health. Figure 1 presents the SD topics that in-service home economics teachers integrate into the home economics teaching modules. The three main categories do not appear in all teaching modules of home economics subjects. For teaching the modules of Economics, Textiles and Clothing, goods and consumption were identified. For the teaching modules Living and the Environment and Nutrition, the health category was identified.

Figure 1

Main and sub-categories of the topics referring to SD that in-service teachers integrate into home economics teaching modules



Below, a more detailed analysis of sub-categories related to each category and teaching module is presented.

Economics

As mentioned above, two main categories were identified in the Economics teaching module:

- a) goods and
- b) consumption.

The *Goods* category includes five sub-categories related to sustainability topics. The first sub-category, *Money and Financial Services*, includes topics connected to money and its functions, the economy, and saving. The second sub-category, *Purchase Planning and Buying*, includes topics such as sustainable and consumer behaviour connected to the responsible use of financial resources. The third sub-category, *Living in a Household*, includes topics connected to the principles of a person's and family's sustainable lifestyle in a household. The fourth sub-category, *Personality and Development Skills*, includes topics connected to planning one's own needs and organising work. The fifth sub-category, *Rational Use of Energy Sources*, includes topics connected to the efficient consumption of energy, water, foodstuffs, and cleaners with the financial aspect of their use emphasised.

The *Consumption* category includes one sub-category: *Recycling and use of recycled materials*, within which teachers connect the topics of recycling and re-use of various products with reducing costs in the family budget (Figure 1). Participating in-service home economics teachers rarely integrate SD topics into the Economics teaching module ($f = 15$).

Textile and clothing

The Textile and Clothing teaching module includes two main categories: a) goods and b) consumption. The category *Goods* includes one sub-category: *Production of Textiles*. The category *Consumption* includes two sub-categories. The first, *Purchase Planning and Buying Textiles*, is connected to planning purchases and selecting and acquiring clothes. The second sub-category is *Maintenance of Textiles* (Figure 1). Participating in-service teachers of home economics rarely integrate SD topics into the Textile and Clothing teaching module ($f = 5$).

Living and environment

Three main categories were identified in the Living and Environment teaching module:

- a) goods,
- b) consumption and
- c) health.

The category *Goods* includes three sub-categories. The first sub-category, *Obtaining goods*, is connected to agriculture and food production without pollutants. The second sub-category is *Environmental pollution* and the third sub-category is *Energy sources*, referring to the characteristics of renewable and non-renewable energy sources together with the impact of their use on the environment.

The category *Consumption* includes five sub-categories. The first sub-category *Sustainable behaviour*, is connected to a person's proper attitude to the environment and their consumer behaviour. Teachers deal with the influence of hyper-consumerism, fashion trends, and trademarks on a person's purchasing behaviour and point out the importance of rational consumer choices. Teachers also encourage sustainable behaviour in students by addressing topics on sustainable use of different energy sources and waste separation in one's household and about nature conservation and care for the environment. Moreover, teachers emphasise the importance of balancing one's needs with the principles of sustainable consumption. The second sub-category is *Purchase planning*, in which teachers present the influence of advertising and media on consumers' purchase decisions, which should focus on sustainability. The third sub-category is *Green purchasing*, which refers to an eco-conscious and responsible consumer. The fourth sub-category is *Transport*, also connected to the fifth sub-category, which is *Environmental pollution* as the consequence of the negative impact of consumption on the environment.

The category *Health*, includes one sub-category: *The importance of a healthy and clean environment for healthy people* (Fig. 1). In-service home economics teachers integrate many topics related to SD ($f = 68$) in the Living and environment teaching module.

Nutrition

Three main categories were identified in the Nutrition teaching module:

- a) goods,
- b) consumption and
- c) health.

The category *Goods* includes two sub-categories. The first sub-category, *Food production*, is connected to the methods used in food production, featuring concepts such as organic farming, and organic and integrated food production. At the same time, teachers emphasise the importance of food production in terms of local self-supply as they deal with the topics of locally produced food and point out the importance of short-distance transport of such food.

The second sub-category, *Food processing*, includes the topics of different mechanical and thermal food processing in order to preserve the nutrition and sensory quality of foodstuffs. Teachers point out the importance of appropriate food storage to prevent their deterioration and emphasise the importance of food preservation, as it significantly influences the quantity of food waste.

The category consumption also includes two sub-categories. The first, *Food purchasing*, refers to consumers' sustainable behaviour when planning purchases and buying food. This goes together with the significance of eco-conscious consumer who should know and critically evaluate environmental problems of food consumption connected to the carbon footprint, the importance of short production chains and familiarity with labels on food packaging that display information on food production and processing methods.

In the second sub-category, *Sustainable diet*, teachers encourage students' positive attitudes to food and teach them to treat food with responsibility, which should contribute to decreased quantities of food waste.

The third main category, *Health*, includes one sub-category, *Healthy nourishment*, which includes the topics referring to healthy, well balanced and safe nourishment and to the influence of food on a person's health. In connection to the practical preparation of healthy food, teachers draw attention to the rational use of water and energy when food is thermally processed, and to the efficient use of foodstuffs in the preparation of meals (Fig. 1). Most frequently, the participating teachers integrate SD topics into the Nutrition teaching module ($f = 75$).

Discussion

The results of the present research indicate that three-quarters of the participating in-service teachers of home economics think that the topics of the Slovenian Home Economics curriculum encourage ESD. Home economics teachers are the key actors and promoters of the home economics discipline, who are supposed to act according to the principle of uniform philosophy for the discipline and in compliance with its umbrella principles (Hira, 2013; Wahlen et al., 2009). The key starting points for enacting and developing the home economics

discipline in the 21st century are published in the basic IFHE Position Statement, conceived by IFHE in 2008. The key starting points of home economics activities emphasise SD that refers to the question of how to obtain an optimal, yet sustainable life, where the relationship between human needs and the consumption of resources is the most advantageous. Home economics teachers are thus expected to recognise SD as one of the key areas in which home economics has a substantial impact. It is also essential for the teachers to be aware of the role that they have in carrying out high quality home economics education, incorporating the various aspects of SD. Only sufficiently competent and motivated teachers who integrate SD topics using appropriate teaching approaches can encourage the development of home economics literacy.

In-service home economics teachers were asked how home economics courses and teaching modules encourage ESD (RQ1). The results of the present research revealed that all four teaching modules were perceived as encouraging ESD; however, the teachers recognised some as being more relevant than others. In-service teachers recognised the Nutrition teaching module as the most relevant for integrating SD, followed by Living and Environment, Economics, and Textiles and Clothing.

According to the results of the present research, the Nutrition teaching module was identified as the most stimulating and suitable module for the integration of SD topics. One of the reasons could be that, in comparison to other teaching modules, this module is the most extensive one in the Slovenian Home Economics curriculum and is thus more available for teachers to include sustainable topics in this teaching module. Kostanjevec et al. (2018) have found that Slovenian in-service home economics teachers see themselves as the most competent to teach the Nutrition module.

According to the in-service home economics teachers' opinions, the Living and Environment module is similarly important to the Nutrition module for the acquisition of knowledge and skills for SD. The Slovenian curriculum of the module includes topics from the following areas: 1) attitude to the environment; 2) sustainable behaviour; 3) eco-conscious consumer; 4) production of goods, 5) consumer behaviour, and 6) consumer information on products and services (Elementary school programme, Home Economics ..., 2011). In modern society, these topics are frequently connected to SD (Ljice & Reihmane, 2015).

Within home economics education in Slovenia, fifth-graders acquire knowledge and skills in the Economics, and Textiles and Clothing teaching modules. Participating in-service home economics teachers found these modules less suitable for integrating SD topics. They also estimate that both of these

modules have inferior roles in stimulating students to become educated about SD. Given the results of the research carried out by Kostanjevec, Lovšin Kozina, and Erjavšek (2018), it can be deduced that teachers' attitudes also depend on their competence to teach particular topics. Slovenian legislation stipulates that fifth grade home economics can be taught by a primary school teacher (Elementary School Act, 2016). Banič and Koch (2015) have found that in Slovenia, 5th grade home economics is mostly taught by primary school teachers who have acquired general teaching competence during their studies, but not the subject-specific competencies essential to carry out home economics education (Information Booklet ..., 2017-18). This may be one of the factors influencing teachers' perceptions of the potential of the home economics subjects to integrate ESD. Kostanjevec et al. (2018) found that these teachers perceive themselves to be the least competent to teach the Economics and Textile and clothing teaching modules. Gisslevik et al. (2017) point out that inadequate professional qualifications of a home economics teacher can influence the quality of home economics education. This can be one of the factors influencing teachers' perceptions of whether the Economics, and Textiles and Clothing modules were suitable for the inclusion of SD topics.

Modules of Home Economics curricula differ in different school systems (Pendergast, 2012). Considering the key orientations of the home economics discipline (IFHE, 2008) and the findings of some authors (Dixon, 2017; Gale Smith, 2015), it is expected that home economics topics are dealt with in the perspective of SD. The present research aimed at establishing which topics related to SD are integrated by in-service teachers. A connection between a teacher's attitude towards the suitability of home economics teaching modules to integrate sustainable topics and their actual integration in a particular module was established. Sustainable topics are most often integrated into the Nutrition, and Living and Environment teaching modules, less so in the Economics module and the least in the Textiles and Clothing teaching module. Qualitative data analysis of answers showed that various sustainable topics are integrated into the home economics education process by in-service teachers, classified in three main-categories: goods, consumption, and health; moreover, their integration differs depending on the particular module (Figure 1). There are good opportunities for the integration of sustainable topics in all home economics teaching modules. Thus, it might be beneficial to supplement the Slovenian Home Economics curriculum with topics related to sustainability, since the sustainable aspect is at present not explicitly emphasised and the notion of SD is imperceptible in the curriculum. Torkar and Koch (2012) maintain that home economics teachers should pay more attention to the integration of

root sciences (such as natural, social and human sciences) in home economics education as this is important for achieving sustainable living. Literature currently reveals a trend of updating the Home Economics curricula (Dixon, 2017; Gisslevik et al., 2017; Lind et al., 2009; Ma & Pendergast, 2011; Olafsdottir et al., 2017; Pace et al., 2015; Pridāne, 2017; Tamm & Palojoki, 2012; Tuomisto et al., 2017). The actualisation of the curricula primarily tends to satisfy the needs of an individual and society. The process emphasises knowledge and skills that enable children and youths to carry out everyday activities at home and to adopt decisions leading to responsible behaviour (Tamm & Palojoki, 2012). This additionally refers to ESD as being one of the key starting points for the effective functioning of the home economics discipline. At the same time, it would be reasonable to give in-service teachers clear guidelines for dealing with home economics topics in terms of sustainability, which can significantly influence the quality of home economics literacy, the aim of which is also ESD.

Conclusions

The results of the research have shown that participating Slovenian in-service teachers of home economics believe that compulsory home economics school subjects could encourage primary school students to learn about SD. The teachers found all four teaching modules in the Slovene Home Economics curriculum useful for integrating topics that encourage SD. However, the teachers do not view the importance of the selected teaching modules equally. In their opinion, the most appropriate module was the Nutrition module, while the Textiles and Clothing module was of lesser importance. The results have shown that this opinion is also reflected in their integration of sustainable topics into home economics courses. As mentioned, it was found that the integration of sustainable topics in home economics is inadequate and also less frequent in some teaching modules. Reasons for that may be in the fact that topics and competences related to SD are not clearly defined in the Slovenian Home Economics curriculum. This may also be the reason that in-service teachers often lack suitable ideas about how to teach in the context of ESD. Therefore, some improved university study programmes and high quality permanent professional development of teachers should be offered. The results also suggest that in-service home economics teachers understand SD primarily as environmental education. Therefore, we suggest the Slovenian Home Economics curriculum be updated so that SD topics are more clearly defined, and where all three dimensions of SD (economic, environmental and social) are clearly evident.

Limitations of this study

The limitation of the present study is that the participating in-service home economics teachers were not given a definition of SD prior to completing the survey. Therefore, there is a possibility that their limited understanding of the concept influenced their views on the integration of ESD into the home economics subject.

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