

FOOD AND NUTRITION RELATED VALUES IN FINNISH HEALTH EDUCATION AND HOME ECONOMICS SECONDARY SCHOOL TEXTBOOKS

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The purpose of the study was to examine value-oriented food and nutrition information in the most commonly used Finnish health education and home economics secondary textbooks (n=7). Information was categorized into individual (nutrition, health, psychology, and sensory quality), social (social life, culture, religion, society, politics, economy) and environmental system level (ecology) according to the nutrition ecology model (Spitzmüller & Leitzmann, 1994). Value-oriented information was expressed mostly at the individual level emphasizing the importance of food as a source of vital nutrients and health. Food was also considered as an important source of pleasure and part of social life. Home economics textbooks in general focused on societal, cultural, economical and environmental aspects more than health education textbooks which were mainly health-oriented.

Textbooks have an essential role in instruction posing both negative and positive effects on development of instruction (Heinonen, 2005). A good textbook should reflect the current pedagogical thinking and contain the contents and objectives of different subjects provided by the national curriculum (Heinonen, 2005; Mikkilä-Erdmann, Olkinuora & Mattila, 1999).

The Finnish National Board of Education used to review all textbooks for quality before the year 1992. This practice improved the quality of textbooks and raised their importance in instruction. Possibly, partly due to this practice, the Finnish instruction culture has been accused of being too textbook-centered (Mikkilä-Erdmann et al., 1999).

Based on our earlier studies (Rauma, Himanen, & Väisänen, 2006) we know that Finnish home economics teachers' differ from each others in their teaching practices. Home economics teachers who follow the national and local curriculum use more pupil-centered methods in their teaching and are not as likely to use textbooks as a guide for how and what to teach. In contrast, teacher-centered methods focus more on textbooks, trends in home economics and on the instructor's own interest, use less modern student-centered teaching methods and integration e.g. science and mathematics.

According to Heinonen (2005) textbooks-centered teaching usually results in teacher-centered methods and can even be an obstacle in the development of teaching. In some cases textbooks can have positive influence on development pupil-centered methods (Heinonen, 2005). Therefore, it is important to know what textbooks we use in teaching and how they could be developed to enhance student-centered teaching.

Nutrition Education in Finnish Basic Curriculum

Finnish basic education needs to follow the national curriculum and guidelines on teaching set by the Finnish National Board of Education. In the national curriculum food and nutrition education is incorporated into two different disciplines: home economics and health education (Finnish National Board of Education, 2004). Both subjects are required for all pupils in secondary school (in grades 7-9). In primary school health education is incorporated into different subjects such as environmental and natural studies (in grades 1-4),

biology/geography and physics/chemistry (in grades 5-6) (Finnish National Board of Education, 2004).

The contents of home economics curriculum is comprised of the following four topics: family and living together, nutrition and culture of food, the consumer and a changing society, and home and environment. Health education curriculum (for the grades 7-9) includes respectively topics such as growth and development; healthy choices in daily living; resources and coping skills; and health, society and culture. Examples of specific nutrition topics are: nutritional needs, dietary recommendations, special diets, food quality and safety, meal planning and basic food preparation methods (Finnish National Board of Education, 2004).

The main goal of nutrition education is to educate pupils about nutrition and encourage them to adopt everyday food habits in order to maintain good nutrition and health (Contento, 1995; Nupponen, 2003). Based on the current learning concept all instruction should provide knowledge, skills and critical value consideration (Finnish National Board of Education, 2004). It is emphasized that health education should take into account the pupils own priorities and context of everyday life (Finnish National Board of Education, 2004; Kannas, 2005; Svedbom, 2005). In addition to the food and nutrition content knowledge and specific objectives of different subjects, the national curriculum provides that all instruction is based on basic values such as human rights, equality, democracy, natural diversity, preservation of environmental viability, and the endorsement of multiculturalism. Furthermore, the recently launched curriculum provides that responsibility for the environment, well-being and sustainable future should be taking into account in all education (Finnish National Board of Education, 2004).

Values in Nutrition Education

Dietary guidelines as well as our daily food choice reflect value-orientation. In the contemporary society, health is accepted as basic value, however, in addition to health, there are several other value-oriented factors that can be linked to food and nutrition which are not so easily defined (Figure 1).

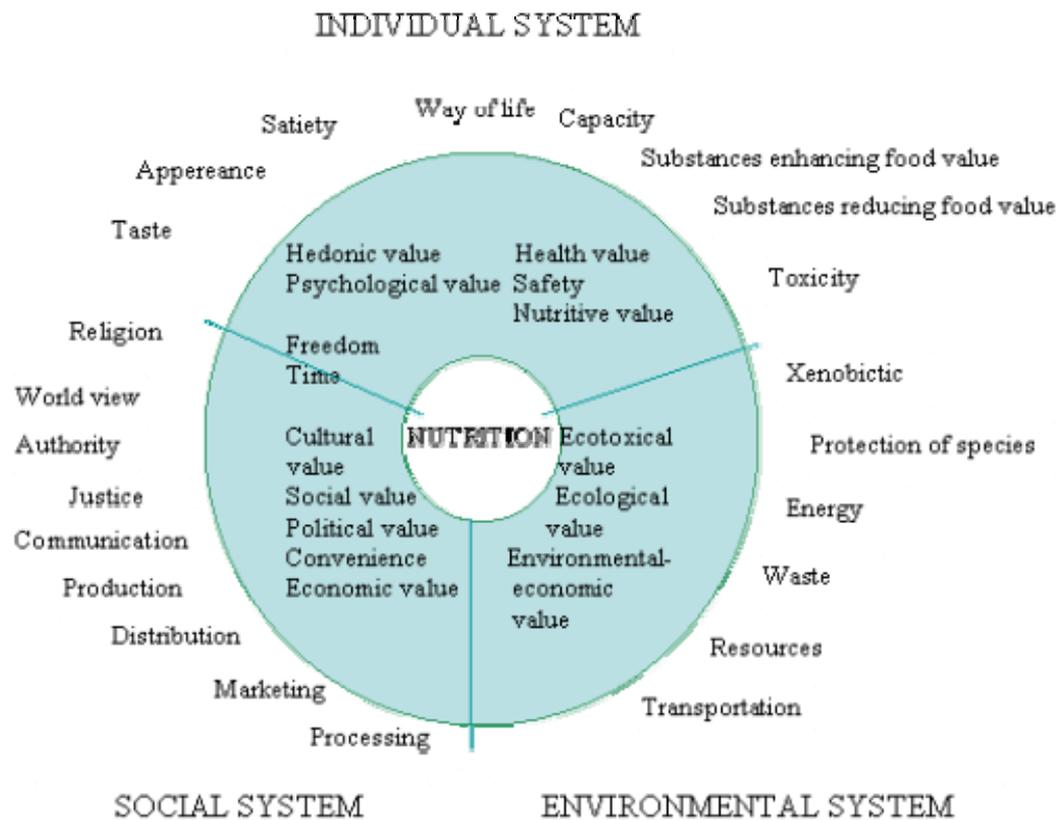


Figure 1. Nutrition Ecology Model (Spitzmüller & Leitzmann, 1994).

The nutrition ecology model shows that both food choice and food consumption have individual, social and environmental effects. It also relates food and nutrition to general values such as health, hedonic, social, political, cultural and ecological values (Table 1).

Considering values in individual or social level, one can see similarities between the nutrition ecology model and Rescher's (1982) general classification of value orientations as well as Scheler's (1973) value-modalities.

In addition, the nutrition ecology model takes into account environmental values which can be compared with Schwarz's universal values. Schwarz's universal value theory has been used, for example, when studying motivation and values related to the consumption of organic foods (Grunert & Juhl, 1995; Kihlberg & Risvik, 2006). In Finland Schwarz's theory has been applied when studying attitudes towards food and meals (Puohiniemi, 2002), as well as to identify the values regulating the food choices (Tiilikainen, 1999). In both of these studies connections between food choice and values were recorded. Ethical principles are also discussed in the context of biotechnological production of food (Häyry, 2000).

Table 1

Similarities between nutrition ecology model and different value theories

Spitzmüller & Leitzmann (1994)	Freedom	Self-direction	Schwartz (1992)	
	Psychological value	Stimulation		
	Hedonic value	Hedonism		
	Authority	Achievement		
	Economic value	Power		
	Health, safety	Security		
		Conformity		
	Cultural value	Tradition		
		Benevolence		
	Justice, ecological value	Universalism		
	Values in individual system	Self-orientated values		Rescher (1982)
	Values in social system	Other-orientated values		
	(e.g. social, cultural, political values)	- in-group-orientated values (family-, profession-, nation-, and society-orientated values) - mankind-orientated values		
	Hedonic value	Values of the agreeable and the disagreeable		Scheler (1973)
Economic value				
Health, nutrition value	Vital values			
Justice, cultural value	Spiritual values			
Religion	Values of the holy and the unholy			

Values can be defined in several ways, depending how they are understood (for example, value subjectivism v. objectivism). In this study, we use the term values based on value constructionism (Niiniluoto, 1984) which means that values are considered socially constructed artifacts of human beings, used primarily to justify behaviour.

Values in society are subject to change and this change can be seen also in our basic curriculum. When secularization, liberalization and pluralism have taken place in Finnish society, ethical educational thinking has been changed from ethical objectivism to ethical constructivism and subjectivism, emphasizing the individual choices of pupils instead of values of society (Launonen, 2000). This change has been verified also in the study of moral ideas in the Finnish ABC books (Koski, 2001). This study indicated the transformation in moral education from the divine harmony to social (ideals of welfare state) and individual harmony.

Textbooks are essential learning tools, and they reflect and represent the values of our society. Therefore, it is important to know what textbooks we use in teaching and how they could be developed. Textbooks have traditionally been studied by the different researchers from the viewpoint of readability, pedagogy, and content knowledge (Väisänen, 2005). whereas the value dimension has rarely been examined both in national and international scale (Selander, 1991). In this paper we research how different values linked to food and nutrition are expressed in selected health education and home economics secondary school textbooks.

The Aims of the Study

The purpose of this study was to examine value-oriented food and nutrition information in selected Finnish health education and home economics secondary school

textbooks. Value-oriented information is defined as references which reflect the values related to food and nutrition on an individual, social and environmental level.

The following research questions were addressed:

1. What kind of value-oriented information related to food and nutrition is found in the textbooks?
2. How is this information expressed in different textbooks?

Data and Method

Study data consisted of four home economics and three health education most commonly used textbooks (Table 2). All books were published after launching the latest National Core Curriculum for Basic Education in 2004.

Table 2

Home Economics and Health Education Textbooks (N=7) and analysed Food and Nutrition Contents

Textbook ^a (ABBR, No. of pages)	School year ^b	Food and Nutrition Titles ^a (No. of analysed pages ^c)	Reference
<i>Home Economics</i>			
Basic domestic skills (Hecon 1, 263 p)	7	Feeling good - please Our common dining table yesterday, today, and tomorrow (65 p)	Hämäläinen, Isotalo, Kojo, & Mäkinen, 2005.
Good Food, Mood and Company (Hecon 2, 359 p.)	7-9	Energy for your day Get together (85 p.)	Immonen, Liimatainen, & Palojoiki, 2004.
Domestic skills 7 (HEcon 3, 306 p.)	7	Shopping for food Evaluating food choices (65 p.)	Haverinen, Löytty- Rissanen, & Näveri, 2006.
Domestic skills 8-9, an optional course (HEcon 4, 240 p.)	8-9	Choices and responsibility Let's celebrate Differences between food cultures (52 p.)	Harjula, Haverinen, Löytty-Rissanen, & Näveri, 2004.
<i>Health Education</i>			
Dynamo (HEd 1, 248 p.)	7-9	Food is a pleasure – entity matters (23 p.)	Orkovaara, Cacciatore, Furman, Hirvihuhta, Hämäläinen, Kekki, & Korteniemi-Poikela, 2005.
For your health (HEd 2, 444 p.)	7-9	Food matters Earth as an environment (partly) (49 p.)	Reinikkala, Ryhänen, Penttinen, Penttilä, Pesonen, & Vertio, 2005.
Health Stairs (HEd 3, 372 p.)	7-9	Live to eat or eat to live? Am I what I eat? Evaluating meals (30 p.)	Eloranta, Kalaja, Korhonen, Nykänen, & Välimaa, 2005.

^aAuthors' translation ^bPupils are 13-16 years old in grades 7-9.

^cIn addition, nutrition related texts from other parts of books; the number of pages includes these texts.

In a theory-based qualitative analysis, a framework was adapted from the nutrition ecology model presented by Spitzmüller & Leitzmann (1994). This model was chosen because it represents the scientific approach which encompasses the entire nutrition system, with special consideration of the effects of nutrition on health, the environment, society, and the economy (Leitzmann, 2003).

Textbooks and especially food and nutrition chapters (Table 2) were read thoroughly, and sentences and phrases expressing value-oriented information concerning food and nutrition either on the individual (nutrition, health, psychology, sensory quality), social (social life, culture, religion, society, politics, economy, time) or environmental level (ecology) were extracted from the text. In our analysis we classified as value-oriented information the expressions where adjectives such as good, bad, right, wrong, nice, wise or ideal were found, and sentences where informative, persuasive and commanding comments related to food behaviour were reasoned by individual, social or environmental factors shown in nutrition ecology model.

Results

Value-oriented information indicating the implications of food was seen in every level researched (Table 3). Health-oriented expressions were abundant in all textbooks studied. Generally, home economics textbooks considered cultural, societal, economical and environmental issues more than health education textbooks which were mainly health-oriented.

Value-oriented information consisted of expressions in which the importance of food was emphasized from the individual, social or environmental point of view. They included straight value statements such as: “A good meal is...”, “It is important to eat...”, “It’s good to prefer...” and “It’s wise to choose...”. In addition, value-oriented information concerning food behaviour included informative (I), persuasive (P) as well as commanding (C) knowledge, comments and advice. Examples of value-oriented expressions are given in Table 3, and after that value-dimensions on individual, social and environmental system level are considered in more detailed.

Table 3

Examples of Food and Nutrition Related Value Expressions

Individual system	Social system	Environmental system
<i>Nutrient intake</i>	<i>Social life</i>	<i>Environment</i>
“It is good to eat raw or minimally processed vegetables. The nutritional value in fresh vegetables is the best.” (I, P) (HEcon 1, p. 141)	“It is important to eat peacefully with family members.” (P) (HEcon 3, p. 224)	“Choosing regional food is a commendable environmental act.” (P) (HEd 1, p. 119)
		“Vegetarian food production requires less natural resources and causes less releases and contaminants than production food of animal origin. Organic food is also a good choice for the sake of the environment.” (I, P) (HEcon 2, p. 78)

Health

“A balanced diet strengthens your muscles and bones and improves performance. It makes your hair shine and keeps your skin beautiful. Therefore don’t be content with and eat just any food. Wrong eating habits in adolescence have a strong effect on health problems in the future.” (I, P, C)

(HEd 2, p. 164)

Food safety

“We Finnish people are fortunate to have clean drinking water, of good quality.” (HEd 1, p. 107)

Sensory quality and psychology

“Enjoy food with all your senses. Enjoyment begins from the aroma of food, delicious appearance and color.” (C) (HEcon 2, p. 43)
“Good food is an important source of pleasure and enjoyment.” (HEd 2, p. 152)

Culture

“It is important to appreciate and preserve your own food traditions in the international world.” (HEcon 4, p. 200)

Economy

“Meat is an expensive foodstuff. Therefore you should think carefully, what kind of meat is needed and how the food will be prepared.” (I, C)

(HEcon 2, p. 215)

Society and politics

“It is good to prefer domestic vegetables and berries.” (P) (HEcon 1, p. 89)

“It would be ideal that every country could produce enough food for the needs of its own population.”

(HEcon 1, p. 107)

Value expressions on the individual system

Value-oriented information related to nutrition and health as well as the pleasure of eating was mentioned in every textbook. The importance of food was emphasized because it is a source of energy and vital nutrients. “It is important to get enough vitamin D from food during the wintertime in Finland when there is lack of sunlight.” (HEd 3, p. 268) “It’s important to eat enough at the lunch to be able to concentrate your studies.” (HEcon 2, p. 69)

Textbooks considered healthy food choices and the effects of food consumption on health frequently. The most typically used value-expressions were such as “healthy food”, “good meal”, “good diet”, “wise choice” and “right eating habits”.

“A good meal is diverse, balanced, moderate and gives pleasure.” (HEcon 3, p. 222)

“What does a person eat when he/she is following a good diet? He/she selects diverse foodstuffs containing vegetables, potatoes, grain and dairy products, meat, fish and egg as well as little bit fat...” (HEcon 4, p. 38)

Recommendations were reasoned by the importance of own well-being and self-respect as well as avoiding consequences of unhealthy diet (e.g. overweight and diseases). “Diabetes, overweight, coronary heart disease and hypertension are the most common national diseases, and the risk of developing them could be best decreased with a

good and healthy diet.” (HEcon 4, p. 40) “With your own choices you can effect what do you look like, how healthy you stay and how well you will shape up in the future --- It’s worthwhile to take care of your own body. Your food choices have far-reaching consequences. Weigh up therefore what you put in your mouth.” (HEd 5, p. 120)

When dealing with weight control and appearance, health education textbooks criticized beauty and body image formulated by the media. They emphasized healthy weight and differences between the individuals.

“Reducing weight doesn’t make you a more gorgeous, popular or valuable person than what you already are!” (HEd 1, p. 114) “Normal weight is the best option for the sake of our health.” (HEd 2, p. 174) “How much one should weigh or what is an ideal weight, are strange questions. If people in any case are different and individuals, why should the ideal weight be the same for every man of the same height?” (HEd 1, p. 111)

Psychological and hedonistic valuations were seen in the sentences where pleasure of eating or sensory properties of food (e.g. delicious appearance, taste or flavour) were explained. There were recommendations on enjoying eating. Feasting is appropriate on occasion, but moderation is important most days, while still enjoying the food. “Good food is an important source of pleasure and enjoyment.” (HEd 2, p. 152) “Enjoy your food with all your senses. Enjoyment already begins from the food aroma, delicious appearance and color.” (HEcon 2, p. 43) “Fragrant bread encourages a good mood and the taste of it rewards the baker.” (HEcon 2, p. 285)

It is good to feast, if you remember moderation! (HEd 1, p. 108)

Textbooks consisted also consist of expressions in which health and hedonistic values were combined together, and with the social and cultural aspects of food. “From food I easily get the nutrients I need. Moreover, good bread, vegetables, berries, and fruit as well as fish and meat, all taste good!” (HEd 1, p. 107) “A good meal consists of appetizing aroma, eye-pleasing colors, a warm atmosphere and nice company.” (HEcon 1, p. 109) “Sweets and confectionery are an essential part of the food culture and the enjoyment of life.” (HEd 1, p. 109)

Value expressions on the social system

Value-oriented food and nutrition information in the context of the social system dealt with time management and convenience, social life, culture, religion, economy, society, and politics. Straight value statements concerned mainly social life, however, there were a few indicating the cultural value of food. The social value of food was mentioned in every textbook and in four of the textbooks the importance of the shared family meal was emphasized. “A shared dinner with the family is a nice way to get to together after the school or work day, there’s enough reason to give back its’ proper worth again.” (HEd 1, p. 110) “Hospitality has always been valued and people want to offer delicious taste experiences for their guests.” (HEcon 4, p. 194)

The importance of food was also demonstrated when writing about food traditions and feasts. Value statements related to food and multiculturalism were built in two home economics textbooks (HEcon 1, HEcon 4). “People offer their best when celebrating, that is how the organizer of the feast can honor his/her guests.” (HEcon 1, p. 114) “It is important to appreciate and preserve one’s own food traditions in the international world.” (HEcon 4, p. 200) “There are special characteristics of the culture of food in different countries and continents...” (HEcon 4, p. 216)

Time management, convenience, and the economic value of food were discussed predominantly in home economics textbooks. However, health education books mentioned

the importance of the free school meal (HEd 1, HEd 3) and the expense of gluten-free diet (HEd 2). “Using industrially prepared food has its place, when there is not much time to prepare food or the amount of food to be prepared is small.” (HEcon 1, p. 110) “The price of bread varies a lot and hence it’s worthwhile to compare the price per unit and kilo.” (HEcon 3, p. 92) “Grain products are an essential part of the Finnish diet, and therefore it is wise to pay attention to food value and price of the grain products.” (HEcon 3, p. 92) “It is wise to eat the school meal, because it is planned for your health. It is an important and even free meal.” (HEd 1, p. 108)

The importance of food within the society was discussed by including the influence of consuming domestic and local food on employment and the economy (HEd 1, HEcon 2, HEcon 4). Domestic food choices were encouraged due to their environmental value (HEcon 3), cleanness, freshness and good taste (HEcon 1). In some home economics textbooks (HEcon 1, HEcon 2) Finnish foodstuffs (natural products) were claimed to be the best in the world. “Domestic rape oil is a good choice for cooking and baking.” (HEd 1, p. 107) “It is good to use raw material and products from your own region. This also promotes employment of the neighbouring area.” (HEcon 2, p. 78) “It is worth promoting the consumption of domestic foodstuffs, because they are clean and suitable for the Finnish diet.” (HEcon 1, p. 109) “Individual who seeks exotic fish to eat will not be disappointed, because in the lakes of Finland swim the most delicious fish in the world.” (HEcon 1, p. 157)

Value statements expressing the importance of food on a global level were rare. Only one home economics book (HEcon 1) considered unequal distribution of food, and mentioned that it would be ideal if every country could produce all food on their own. Another textbook considered (HEcon 4) a balance in world trade and mentioned fair trade products as possible tools by which one could influence the balance of the world trade. The picture of the fair trade mark was illustrated in every home economics textbooks, but it was discussed mainly in picture captions.

Value expressions on the environmental system

Home economics textbooks contained more environmental information compared to the health education textbooks. However, ethical (including animal welfare) or environmental aspects were mentioned as possible reasons for food choices in all the textbooks reviewed. “The reason for changing to vegetarian regimen is usually an ethical choice.” (HEcon 1, p. 102) “Typical reasons for choosing a vegetarian regiment are health, animals’ rights, economics, the environment or religion.” (HEd 3, p. 276)

The impacts of food consumption on nature were mentioned in one health education textbook (HEd 1) and in all home economics textbooks. “What kind of food we eat and how it is produced is important to the environment. The production of food supplies is linked to many environmental factors from farming to transportation and processing.” (HEcon 2, p. 78) “By choosing domestic or organic food products, you can have an impact on environment.” (HEcon 4, p. 44)

Typically, the environmental level comments on food choice in these books were related to the production and transportation of food. Although there were statements about farming, producing, transporting, packaging of food and the impact on nature and energy ecology, they were discussed quite separately, and the model of food system was not portrayed in any of the textbooks.

Value statements related to food ecological value were few. Instead, there was general advice on how to make pro-environmental food choices in all of the home economics textbooks and in one health education textbook (HEd 1). Some textbooks not only advised individuals to make positive environmental food choices, but also encouraged individuals to do so (HEcon 2, HEcon 3, HEd 1). “By eating domestic, locally produced and mainly plant

originated food, you will save energy and natural resources.” (HEcon 2, p. 78) “Organic foods are also good choice for the sake of the environment.” (HEcon 2, p. 78) “Choosing local food is a commendable environmental act.” (HEd 1, p. 119) “When choosing vegetables, take into account ecological aspects (method of production, country of origin, packing material).” (HEcon 3, p. 89)

Pro-environmental food choices in these books included organic food as well as domestic/local food. In addition, the pictures of environmental package markings were presented. In home economics textbooks, there were also some other statements concerning the consumption of food from the environmental point of view. These were related to vegetarian food (HEcon 2), canned and convenience food (HEcon 3) as well as food packages (HEcon 1, HEcon 3). “Vegetarian food production requires fewer natural resources and results in less environmental damage than production of food of animal origin.” (HEcon 2, p. 78) “It is also worthwhile to paying attention to environmental concerns when choosing canned foods but also other convenience products.” (HEcon 3, p. 102) “Pro-environmental choices include the use refillable products, for example, soft drink bottles.” (HEcon 1, p. 49)

Discussion

The value of health was the most often cited reason for making food choice in Finnish home economics and health education textbooks. After this came hedonic and social values. Generally, home economics textbooks considered cultural, societal, economic and environmental issues more than health education textbooks which were mainly health-oriented.

Value-orientation compliments the current national curriculum goals for better health. However, when explaining the implications of food and nutrition in the context of society or the environment the value dimension may be out of focus. Sustainable development is one of the cross-curricular themes in the Finnish basic education curriculum and hence it should be more visible in the textbooks concerning food and nutrition topic. Environmental aspects are rarely expressed in health education textbooks, and the model of food system is not portrayed in any of the textbooks. Furthermore, nutrition related problems and equitable distribution of food on a global level are considered very little in textbooks although human rights and equality are set as basic values in education.

The situation is identical with nutritional sciences where research has been mainly dominated by the health aspects of food (Leitzmann, 2003). However, in past decades many researchers in nutrition sciences and nutrition education (Cannon & Leitzmann, 2006; Hoffmann, 2003; Coveney, Smith, & Carter, 1999; Clancy, 1999; Gussow, 1999) have suggested broadening the concept of nutrition to be able to rise to the challenge of sustainable development. It is important to notice that food is determined in part by the quality of the environment and the environment is influenced by food consumption habits (Leitzmann, 2003). In order to educate and empower pupils to sustainable food consumption and nutrition, one needs to give information on the impact of food consumption on all three levels including the individual level (health), society level, and environmental level. Clancy (1999) has suggested that nutrition educators should use sustainable development as a framework for their thinking in order to make nutrition education more relevant in communities.

Summary

The Finnish home economics and health education textbooks 1) emphasize the health and hedonistic value of foods, 2) tell less about social values, and 3) focus least on the ethical and environmental values connected to food and nutrition. Food was considered foremost as an important source of nutrients, which can have both a positive and negative impact on the health of the individual. In addition, food was an important source of pleasure and part of a

social life. We hope our study broadens understanding on several value-oriented factors influencing on food choice and nutrition behavior. Since the pedagogical content knowledge of both home economics and health education is broad, it is recommended that social and environmental aspects are discussed as well as individual aspects when writing new textbooks in these disciplines.

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Nutrition Education Material from European Countries. 56. Annex 3 .57.Â Healthy food and nutrition should be a high priority on every school agenda because of the positive affect on child well-being. Evidence suggests healthy food and improved nutrition improves learning ability, leading to better academic performance. A universal food and nutrition policy cannot be formulated due to the wide variation in European school systems. Individual countries, authorities or schools are therefore responsible for deciding which suggestions are most appropriate and applicable to their circumstances. In Finnish secondary schools, nutrition education is integrated mainly in home economics and health education lessons. The aim of this research was to describe the content and pedagogical style in food- and nutrition-related texts in secondary school textbooks. Textbooks are important learning tools in education in so far as they reflect current pedagogical thinking and the objectives set in the national core curriculum. The study data consisted commonly used home economics (n = 4) and health education (n = 3) textbooks. Nutrition contents of the textbooks were compatible with the national cor

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