

Education for Sustainable Development at Home Economics

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Abstract: Each period of time in the world is characterized by its distinctive features. This time is connected with a rapid growth of mankind's well-being. Scientific achievements promote rapid progression of well-being, but problems are observed parallel with the positive traits. It is a challenge to mankind for its sustainable existence. Sustainability requires a common vision on society and nature. Sustainable development can be ensured if there is a correlation not only between the developments of national economy, social sphere and protection of nature, but it is necessary to ensure an active public participation in the development. Sustainable development is characterized by three interrelated dimensions: environmental, economic and social. The essence of education for sustainable development is an invitation for people to act responsibly in everyday life and to live and fulfil themselves in accordance with the social, cultural, economic and natural environment around them. The task of the sustainable education development is not only to give the knowledge about the sustainable development but also to develop skills, form the values and increase the motivation for active cooperation in carrying out the sustainable development. The education for sustainable development mainly is carried out as an interrelated subject link and it is integrated in the content corresponding to the level of education and the specifics of every subject. Home economics and technologies is one of the subjects at school. It deals with various topics related to sustainable development. The research has been carried out within education for sustainable development at Home Economics and technologies lessons. The aim of the research is to clarify students' understanding and preparedness for sustainable development. The used methods: questionnaires, discussion and observation. The place of the research: elementary school in Jelgava, Latvia. The obtained results reveal that the respondents understand the essence of the education for sustainable development. Students in their stories first emphasized real events around them, their surroundings. They understand their responsibility and the necessity to preserve the environment.

Keywords: sustainable development, education in school, Home Economics and technologies.

Introduction

The last decades in the world development are characteristic not only with high scientific achievements, the development of information technology, the growth of economics and the high level of culture. Alongside with the rapid growth of well-being and the development of the national economy it is possible to observe some threatening problems in the context of the environment. The complications with the power supply, the rapid climate changes, the globalization of economics, the decrease of the natural resources, the pollution of air and other environmental and development problems cause threats to the future of the mankind.

Due to the scientific and technical progress the activities of a human being nowadays has become the factor that forms the surrounding environment. To a great extent the activities of human beings can threaten their own survival. That is why the present situation asks for active participation in the recovery of the environment (Kļaviņš, 2012).

The observations and specific research of many scientists in the world have revealed the real situation in the depletion of the planet Earth. According to their conclusions radical changes are necessary to promote the sustainable development. It is necessary to concentrate on the introduction of new consumption, production and distribution principles.

"The sustainable development is the development which satisfies the needs of the present generation, without causing problems to the next generations to satisfy their needs"- says the definition of the United Nations (UN) Environment and development commission (Report of..., 1987). It emphasizes that on the one hand – the development is necessary to satisfy the peoples' needs and improve the

quality of their life but on the other hand – it must be done in the way that would preserve the similar opportunities of the nature and environment availability now and in the future (Zaļoksnis, 2009).

The sustainable development is not a new conception. It is the newest expression of the age long ethics connected with the relations between the people and the environment and the responsibility of the present generation to the next generations. The sustainability functions only in the direction from the bottom to the top. It needs such society whose majority supports the participation in the achievement of the sustainable development aims and which cooperates both in the local and regional level (Rompczyk, 2007).

According to the global directives of the UN and UNESCO the Law of Environment protection of Latvia formulates: sustainable development- is the integrated and balanced development of the society's well-being and economics satisfying the present social and economic needs of the inhabitants and providing the observation of the environmental protection demands not threatening the possibilities to satisfy the needs of the next generations as well as ensuring the preservation of the biodiversity (Vides aizsardzības..., 2013). It has also been emphasized in the Sustainable Development Strategy of Latvia until 2030 (Sustainable Development..., 2010) specifying the basic idea of the sustainable development invites to satisfy the needs of the present generation, balancing public welfare and environmental and economic development interests and currently ensuring the observation of the environmental requirements and the preservation of the natural diversity in order to avoid the reduction of possibilities to satisfy the needs of the future generations.

The sustainable development can exist if there is a mutual interaction between the economic development of the national economy and the social sphere and the environmental protection and an active participation of the society members in the development process is provided (Rompczyk, 2007, 39).

For a human being to get involved and to function sustainably it is not only necessary to have the appropriate knowledge about the environment, economics and the society but it is also necessary to have the skill for sustainable actions. Therefore the task of the sustainable education development is not only to give the knowledge about the sustainable development but also to develop skills, form the values and increase the motivation for active cooperation in carrying out the sustainable development (Pelnēna, Kļaviņš, 2009; McKeown, 2002).

The education for sustainable development is the education which promotes the opportunities of every individual to obtain knowledge, values and skills which are necessary for cooperation in the decision making about the individual or collective activities in the local and the world level to improve the quality of life at this moment, not causing the threats to the necessities of the next generations (Vides aizsardzības..., 2013).

In the plan of the national environmental politics alongside with other political aims several goals are mentioned which promote the further direction of the education for sustainable development:

- to form common and logically organized system of environmental education in all education levels, satisfying the demand for the environment specialists,
- to improve the education methods and work out new educational aids in the environmental education for all education levels,
- to provide the educations for sustainable development,
- to strengthen the environmental education as lifelong education in cooperation with the state enterprises and public organizations,
- to promote the foundation of the sustainable development institute (Nacionālais vides..., 2004).

The 8th chapter of the Law of environmental protection „Environmental science, environmental education and education for sustainable development” determines the direction of the environmental education and development. The 42nd clause of the Law determines precisely their connection in the education process: The subject or the course standard in the compulsory curriculum corresponds to each subject specifics matching and providing succession in different education levels, including the

questions which relate to the environmental education and the education for sustainable development (Vides aizsardzības..., 2013).

The education for sustainable development mainly is carried out as an interrelated subject link and it is integrated in the content corresponding to the level of education and the specifics of every subject. The use of the right methods for different education and age levels of the students advances the effectiveness of the education for sustainable development. The aim full progression of the students' knowledge and skills revealing the unknown and helping a pupil to construct the further knowledge succeeds in a pupil's understanding of the sustainable development. It increases the inner motivation of a pupil not only to accept the essence of the sustainable development, but also to use it skilfully in his everyday life. A teacher plays a great role here.

V. Dislere indicates that Home economics and technologies teacher is an ongoing student work organizer in both in school activities and in out of school activities. Teacher's work success is largely determined by her/his good background and readiness of theoretical and practical training and organizational skills (Dislere, 2012). The paradigms of the education are changing. K. Mandolini stress that a teacher should not become an instrument in the hands of global economic demands, but a professional who actively responds to new events and social exigencies (Mandolini, 2007).

When carrying out the education for sustainable development it must be considered that the learning process should be directed to a pupil (based on students' experience and questions), to processes (attention should be paid to the natural laws), to an action (to develop the competence of action), to evaluation (to develop critical thinking and expressing one's opinion), to the society (to involve students in acknowledging and solving the real problems), as well as should the problems looked upon holistically (including economical, ecological and social aspects) (Kalniņa, 2007). When creating an integrated study model, it is possible to incorporate various aspects of study content in a meaningful whole. Teaching and learning become as one entity (Petere, 2013).

Home economics and technologies is one of the subjects at school. It deals with various topics related to sustainable development. The aim of the subject is to improve the learner's understanding of habitat environment safety and quality conditions and possibilities for its improvement, to promote the learner's practical action and social cooperation skill development, for anyone to be able to plan and organize personal household, to comply with safety conditions, to handle extreme situations adequately and with understanding and to creatively involve in the implementation of technological processes. It is firmly connected with environmental education guidelines. One of the Standard of Primary Education objectives is to promote a responsible attitude towards oneself, family, society, environment and the state (Noteikumi par..., 2014).

Throughout the century's home economics has provided its significance in increasing the quality of human life. From the beginning of the creation of the subject there is a close bond with the idea/beliefs of sustainable development. Considering the leading political and economic position/views characteristic for the age, a small insertion of sustainable development can be seen in the subject. It is due mainly to their personal household management, providing daily living needs, self-provision, taking care/thinking about tomorrow (Lice, 2003).

Home economics and technologies is a specific subject at school. It is connected with a high practical prevalence. Its ways are very different, considering the students' age group. Already in the younger classes students learn to use economically a variety of materials – paper, cardboard, fabric, yarn, thread etc. When preparing the items using different technologies, students gain a concept of the extraction, processing of the material and its compliance with the requirements. When purchasing the necessary materials and products in the store, students get to know consumer philosophy, such concepts as price, packaging, label, warranty, quality etc. get more relevant. Students see the development of different aspects of life through practical work. Students obtain comprehension about the essence of the sustainable development.

Today acquisition of education for sustainable development is emphasised together with the human free willingness, choice and understanding. In home economics, the understanding of the student about the safety and quality conditions of the human living environment, the ability to creatively involve and

solve problems related to that, the ability to gain experience in creative activity is emphasized (Lice, 2012).

Based on the previously mentioned theoretical approaches and education view is called the aim of the research - to clarify students' understanding and preparedness for sustainable development. The used methods: questionnaires, discussion and observation

Methodology

The scientific research was carried out in Jelgava Elementary School No 4 (Latvia) during autumn time 2014. 140 students aged 11-12 were invited to participate in this research. The research was done within Home Economics and technologies lessons. Different research methods such as: questionnaire, discussion and observations were used in the current investigation. The results have been summarized and the relevant ones are presented graphically using calculations of percentage. The pedagogical research was focused on the aspects of education for sustainable development, sustainable consumptions, social innovation and sustainable lifestyles.

Nowadays a pupil lives and learns in the environment full of information. He receives background materials not only at school but also from the press, multimedia, advertising, different kind of movies, and the internet. He has to perceive it systematically, to filter it through his thoughts and to distinguish its quality. Information and communication technologies provide possibilities to acquire and also share personal information fast. Numerous media promotes a more rapid communication. A mobile phone is an indispensable tool in the hands of a pupil.

A discussion is an effective method in the concept of understanding and problem-solving skill development. It allows students to work more and get a feedback. The main objective of discussions is to promote critical thinking skills, democratic participation skills and other cognitive abilities and skills. Discussions are public. During a discussion students strengthen their ability/skill to express themselves, to justify their point of view. They are forced to evaluate their own and others' point of view, to substantiate it with facts and logic (Gage, Berliner, 1998).

The carried out observation was planned, long-term, it took place in a natural environment. The students' behaviour during the discussions and surveys was observed during the research. Their emotions, activity, communication, expression of ideas, respect for the mate, ability to listen to other. Observation is one of the empirical data obtaining methods. It allows understanding the nuances and meaning of a human's action. A human with his will, feelings, energetic and desiring to know is in the centre of the observations (Kristapsone, 2008).

A survey is the method of collecting information in which is due to ask the investigational group oral or written questions and to carry out statistical processing of the obtained data. The situations and circumstances have a great role in the process of a survey (Kristapsone, 2008). Six questions were included in the research questionnaire. There are questions where students choose from the given answers: yes, partially, little, no, or give a free answer. When answering these questions students give self-evaluation in a hidden form.

Results and discussion

The students showed an interest in the chosen discussions topics. The discussion topics were chosen by students themselves. Each student applied for his/her selection. They were combined in groups. The main discussion topics: preservation of nature, municipal waste, household chemicals, natural disasters, climate changes. They shared their impressions of participation in various joint works to tidy the natural spot. Many have participated in forest planting. They are worried about deforestation, river embankment littering, wrong choice of a fire place. Several students have the trees planted by their grandfathers and fathers still growing at their houses.

Thoughts about sorting the waste were different. Everyone supported it, understands the need, however does not always do it every day. Some students have observed that the waste collection from large containers in the city is ambiguous. Separately intended containers are put together in the same car. Thus, it makes no sense to sort the waste in households. Students have heard about the waste

sorting problems at a national level on television, mainly about working regulation adherence in large waste dumping grounds. However, overall, students admit that the waste sorting process in the country and in the city.

Students see the household chemistry problems firstly through household cleaning and grooming tools. They discussed the eco-products which are not dangerous to the environment and the natural cleaning products, for example, the use of soda and salt.

Students have heard about the major natural disasters from the mass media, the internet and books. In their own practice they have seen the flood when the rivers exit from the banks and the meadows, valleys and households are flooded. In recent years residential houses also in cities, for example, Ogre have been flooded. Its reasons were discussed – the unity of natural objects, the people's superficial attitude towards their responsibilities. Some students have seen how water fills their home basements and backyards. They have helped in rescuing – brought things out of the cellar, drawn water with buckets, got to know the water pump. The idea of a human's powerlessness in front of the natural disasters was declared. However, it is necessary to think about the consequences that may result from inadequate human action, thinking narrowly only from one point of view.

Students have heard a lot about the consequences which climate change does to animals, such as polar bears and penguins. Also in their neighbourhood they have observed the specific behaviour of wild animals. There are different points of view, as to why now the four seasons are changing their traditional expressions. It can be seen that spring plants begin to sprout already in winter periods when there is not any snow.

The discussions went smoothly, according to the development level of their age. During the discussions the students were open, impulsive, sometimes did not listen to what their fellows said, however, politely and unconstrained. No one imposed his/her own thoughts/beliefs on others, but tried to convince. Everyone wanted to speak more and more often. The thoughts said by a fellow gave an impulse for one's new narrative. It was possible to observe that students in their stories first emphasized real events around them, their environment/surroundings. Then constructing their thoughts further, moved forward to a more global perspective. Students had their own belief in sustainable development.

The questionnaire was carried out after discussions. The question (1) *Do you understand „sustainable development”?* was included in the questionnaire. The result show, that 80% of the students understand the main directions of sustainable development. 15% - partially, but 5% - a little. Analysing the data can see, that they are students who didn't take part in discussions. Nobody indicate no (Figure 1).

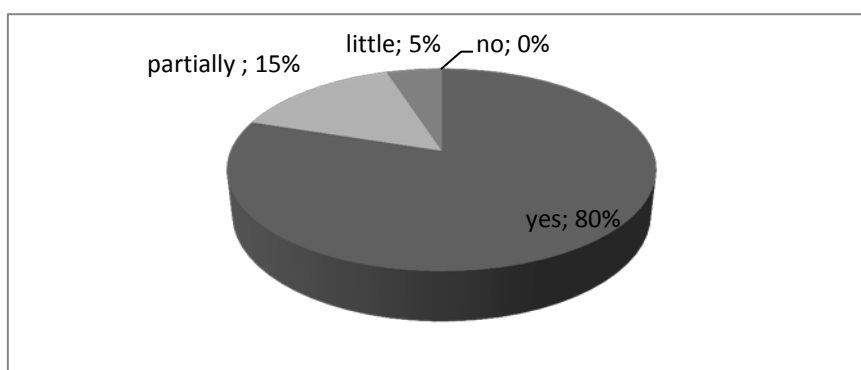


Figure 1. Students understanding about „sustainable development”.

The question (2) *Do you feel secure about the future?* also raised interesting discussions. The students talked about their personal feelings, beliefs and views. According to the survey data, 35% of the students feel safety, 43% feel partially, bet 18%- a little and 4% feel unsafe.

All students support material recycling. The answer to the question (3) *Do you support material recycling?* testify to this fact. 84% of the students indicate that support and 16% - partially. Nobody note answers – a little or no.

They were amazed at the question (4) *Do you like to write on the paper, what is made from recycling materials?* They had not been through about it before 46% like to write on that kind of paper. 35% - partially, but 19% - a little. Nobody note answer – no.

Clear answers were to the question (5) *What present could you make from recycling materials?*. The students understood essence of question and named concrete objects, such as: different kind of bangles, boxes, wallets, small bags, cups, vases, container for pencils, pencil-cases, tie, flowerpot.

The question (6) *Have you thought about your personal action for sustainable development?* asked the students to think about yours real actions in everyday life (Figure 2).

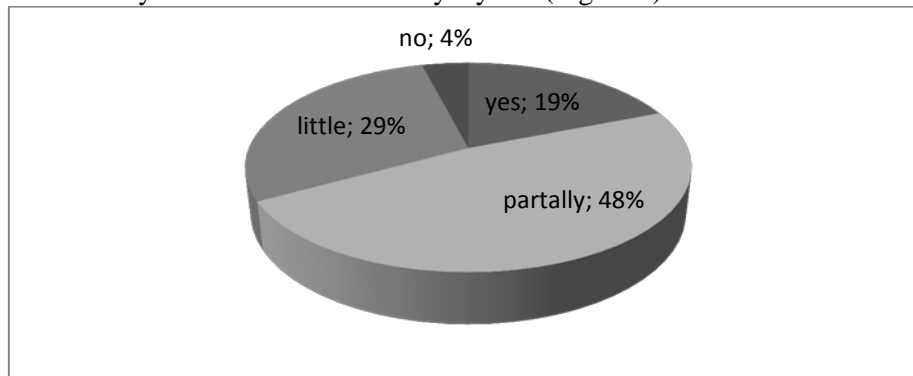


Figure 2. Students thoughts about personal action for sustainable development.

The data shows that main part of pointed answer - 67% (19% and 48%) of students has thought about personal action for sustainable development. It could be seen at discussions. The students' answers were true and open. 29% of students have thought a little, but 4% - hasn't thought. Some students made comments: we do some actions without thinking in everyday life; we do it automatically. It shows some activities are become as habit.

Conclusions

- Due to the scientific and technical progress the activities of a human being nowadays has become the factor that forms the surrounding environment. To a great extent the activities of human beings can threaten their own survival.
- A human being cannot only benefit from natural recourses, but also can improve utilization methods.
- The education for sustainable development is the education which promotes the opportunities of every individual to obtain knowledge, values and skills which are necessary for the decision making about the individual or collective activities to improve the quality of life at this moment, not causing the threats to the necessities of the next generations.
- Home economics and technologies is one of the subject were education for sustainable development is carried out as an interrelated subject link. It is integrated in the content corresponding to the level of education.
- The students showed an interest in the chosen discussions topics. The main discussion topics: preservation of nature, municipal waste, household chemicals, natural disasters, climate changes. During the discussions the students were open, impulsive, sometimes did not listen to what their fellows said. Students had their own comprehension in sustainable development.
- The research data show that 80% of the students understand the main directions of sustainable development. 35% of the students feel safety and 43% feel partially. All students support or partially support material recycling, accordingly 84% and 16% of the students. 46% like and 35% partially like to write on the paper, what is made from recycling materials. All students named concrete objects as presents made from recycling materials. 67% of students have thought about personal action for sustainable development.

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