

## The Approaches to Education for Sustainable Development at Home Economics

Iveta Līce<sup>1</sup> Dr.paed.; Silvija Reihmane<sup>2</sup> Mg.paed.

Latvia University of Agriculture, Latvia<sup>1,2</sup>

[iveta.lice@llu.lv](mailto:iveta.lice@llu.lv)<sup>1</sup>; [silvija.reihmane@llu.lv](mailto:silvija.reihmane@llu.lv)<sup>2</sup>

**Abstract:** In the time when there is a rapid growth of human well-being, different environmental and development problems arise. It means that the development of human well-being must be solved in an integrated way. Education for sustainable development includes restructuring education to sustainability, the encouragement of citizenship and promoting education in all society groups and levels. When carrying out the education for sustainable development the versatility of creative approaches is updated. The study process is oriented to a pupil's experience, promoting the critical thinking. Pupils are involved in finding and solving real problems, which are looked into holistically. The learning process includes the real life situations, examples which prove that sustainable development exists in reality. It can be very well seen in the lessons of home economics. The research has been carried out within education for sustainable development. It develops the main aspects of the Project Looking for Likely Alternatives (LOLA). The aim of the research is to determine students' attitude and preparedness for sustainable development. The used methods: discussions, questionnaires, observation, and an experiment. The place of the research: Jelgava, Latvia. The obtained results reveal that the respondents can characterize the essence of the education for sustainable development. They thing about the human actions unprotected and unpolluted environment, but not always observe it. Positive changes in daily routines are recognized in the field of sustainable development.

**Keywords:** approaches, education, Home Economics, sustainable development, school education.

### Introduction

Researcher M. Kļaviņš indicate that human impact on the environment is as ancient as the mankind. Already in the ancient times a human being was able to influence the surrounding environment. A rapid turning-point in a man's ability to affect the environment is associated with the industrial revolution, which at first manifested itself as acquisition of new energy sources and manufacturing of new production techniques. Looking historically, the evidence of the human impact on the environment can be found in the most ancient written monuments of mankind, and it was to a certain extent associated with either awareness of the danger of resource depletion, or environmental degradation (Kļaviņš, 2008).

A human being cannot only benefit from natural phenomenon, but also can improve utilization methods of natural resources. There are valuable conclusions built up over the previous generations which can be used to cultivate nature. A lot of knowledge has contributed to efficient use of natural resources, but its excessive exploitation causes mismanagement (Steigens, 1999).

The conception „sustainable development” – „development which meets the needs of modern people without causing threats to the future generation's satisfaction of needs” was defined in the 1987 UN World Environment and development commission notification „Our common future” (Report of the World..., 1987). In sustainable development vision social and economic development is in balance with nature protection and it forms a harmonious system. A sustainable society needs to be economically viable. The environment needs to be functional to allow for a functioning economy (Ryden, 2010). A sustainable community is bound to:

- biodiversity;
- strong economic development;
- cultural diversity;
- democratic relationship between the state and society;
- equal possibilities for everyone (Römpezyk, 2007).

Sustainable development is characterized by three interrelated dimensions:

- environmental,
- economic,
- social (Ilgtspējīga attīstība..., 2015).

The three cornerstones without which the survival of mankind is not possible are: a healthy environment, a functioning economy and a harmonious society. At the same time, they are the desired external preconditions for the development of an individual. Sustainable development means that any economic, social or environmental issue has to be addressed so that the decision would be favourable or unfavourable for the development of other spheres as little as possible (Āboliņa, 2008). The mission of education is to help to understand this system and to act adequately based on knowledge, but education for sustainable development can provide solution for these tasks.

The content and the implementation of the education for sustainable development are closely connected with the principles of sustainable development. It could be considered as the trend of education which has been formed in the process of searching solutions for environmental problems and sustainable development (Corcon, Wals, 2004).

Education for Sustainable of Development was first described by Chapter 36 of Agenda 21 (Agenda 21, 1992). This chapter identified four major thrusts to begin the work of Education for Sustainable of Development:

- improve basic education,
- reorient existing education to address sustainable development,
- develop public understanding, awareness,
- training, formal, non-formal and informal education.

The relationship between education and sustainable development is complex.

Basic education is a key to a nation's ability to develop and achieve sustainability targets. Education directly affects sustainability in the following three areas.

- *Implementation.* An educated citizenry is vital to implementing informed and sustainable development.
- *Decision making.* Good community-based decisions - which will affect social, economic, and environmental well-being - also depend on educated citizen.
- *Quality of Life.* Education is also central to improving quality of life. Education raises the economic status of families; it improves life conditions, lowers infant mortality, and improves the educational attainment of the next generation, thereby raising the next generation's chances for economic and social well-being. Improved education holds both individual and national implications (McKeown, 2002).

The education for sustainable development in its broader meaning includes the quality improvement of the basic education, the redirection of education towards sustainability, the promotion of civic consciousness and education in all the society groups and levels (Grabovska, 2006).

Change of paradigm in education, providing for closer link of educational system with economic and public processes, will also change the nature of work of teachers. The traditional approach, which involves separation in teaching of subjects with emphasis on theoretical knowledge, should be replaced with more pragmatic approach where the context of the acquisition of knowledge is important. So teacher should be not only the teacher of his or her study subject, but also a diverse, talented personality who helps, inspires, joins different fields, co-operates, gives advices and organises. Education, especially in elementary school and primary school, should be oriented towards the development of communication skills, individuality and thirst for knowledge of children (Sustainable Development..., 2010).

The sustainable development asks for definite learning. Every subject has its specific methods and strategies. When combining creatively each subject's learning methods and strategies, the vision how to teach creatively, promote critical thinking and support sustainable society is created and developed. Education for sustainable development points out those learning skills, perspectives and values which promote and motivate people to civic consciousness. To change the standards and curriculums of the formal education and to direct them to the sustainability, it is necessary to show in the practical life the understanding and opinions about the sustainable society (Izglītība pārmaiņām..., 2015).

Education for sustainable development must give people practical skills that will enable them to continue learning after they leave school, to have a sustainable livelihood, and to live sustainable lives. These skills will differ with community conditions. The following list demonstrates the types of skills students will need as adults. Note that skills fall into one or more of the three realms of sustainable development - environmental, economic and social:

- the ability to communicate effectively (both orally and in writing);
- the ability to think about systems (both natural and social sciences);
- the ability to think in time - to forecast, to think ahead, and to plan;
- the ability to think critically about value issues;
- the ability to separate number, quantity, quality, and value;
- the capacity to move from awareness to knowledge to action
- the ability to work cooperatively with other people;
- the capacity to use these processes: knowing, inquiring, acting, judging, imagining, connecting, valuing, and choosing;
- the capacity to develop an aesthetic response to the environment (McKeown, 2002).

Approaches to education.

- *Children centred approach*. Students must be responsible for their learning and the learning is determined by students' experience and questions.
- *Process oriented approach*. Paying attention to relationships and systems.
- *Society and nature directed approach*. It means involving students in the processes of real life and everyday situations.
- *Integrated approach – holistic approach*. It includes subjects and perspectives. (Izglītība pārmaiņām..., 2015).

Analyzing the role of education researcher V.Thoresen indicates that education is a prerequisite for stimulating students' involvement. This emphasizes to a solid foundations in social and natural sciences including aspects of sustainable development, for all students. It demands interdisciplinary and transdisciplinary teaching which focus on modern dilemma on micro as well as macro levels. It requires education dealing with the problems individuals encounter in their daily lives. This is often referred to as "holistic" education (Thoresen, 2007).

Using the holistic approach makes students understand and accept easier the education for sustainable development. The holistic approach always preserves entirety, forming the unity as a special activity (Skujiņa, 2000).

Teachers – constructivists give their students a chance to check new ideas, estimate situations, solve everyday life puzzles, find new answers in different situations. They invite students to construct their own knowledge. Students' participation in different groups and projects should be supported in this context (Gage, Berliner, 1998).

However, the teacher remains the main promoter of the pedagogical process. One of the teachers'-educators' central problem is to choose the right of the large amount of available material and methodology in accordance with students' age and the situation of modern era (Dislere, 2012).

The aim of the research - to determine students' attitude and preparedness for sustainable development - is called based on the previously mentioned theoretical approaches and education view.

## Methodology

The scientific research was carried out in Jelgava Elementary School (Latvia) during 2014-2015 within education for sustainable development. 62 students aged 11-12 were invited to participate in this research. The research was done within lessons of Home Economics and technologies and students' free time. Different research methods such as: discussions, questionnaires, observations and an experiment were used in the current investigation. The results have been summarized and the relevant ones are presented graphically using calculations of percentage.

Home Economics is one of the subjects at school, where education for sustainable development is realized. Throughout the centuries, home economics has proved its significance in increasing the quality of human life. Today the understanding of the student about the safety and quality conditions of the human living environment, the ability to creatively involve and solve problems in sustainable development is emphasized in Home Economics (Līce, 2012). Characterizing Home Economics from the social aspect researcher V. Muster it deals with conditions and functions of household activities, as well as organization and management of such activities within the household system. V. Muster emphasizes some of the varied strengths of Home Economics that deserve appropriate scientific and social recognition and further elaboration in order to promote sustainable development:

- focus on a responsible use of resources;
- focus on practical knowledge;
- focus on productive household functions;
- focus on an alternative economics paradigm (Muster, 2013).

The research develops the main aspects of the Project Looking for Likely Alternatives (LOLA) (Jegou, Thoresen..., 2009). LOLA Project is a pedagogical tool for teachers and students which assist them in the process of identifying, evaluating and documenting cases of social innovation towards sustainable lifestyles. It was established in 2005 within Consumer Citizenship Network (CCN). The LOLA project allows teachers and their class to discover approach and give visibility to new sustainable lifestyles in their surroundings.

The experiment-project 'Household waste' was carried out following the didactic approaches offered by LOLA Project. The research stages were specified taking into consideration terms of carrying out scientific research:

- choice of the aim and objectives of the research based on local characteristics;
- possible variants of managing the research; methodology;
- questionnaire before experiment;
- experiment (project "Household waste") in process;
- questionnaire after experiment;
- analysis, conclusion.

The steps of project 'Household waste' were worked out according to the main didactic materials of the LOLA Project and the professional pedagogical experience of the authors (Līce, Dislere, 2009).

1. Introduction (explanation, agreement, topicality).
2. Review Methodology of Step-by-Step Cards (every step is briefly analysed, methodology).
3. Step-by-Step in process (activities).
4. Prepare the presentation of project 'Household waste' (show investigation).
5. The presentation of project 'Household waste' (presentations, observations, overview, conclusion).

The following teaching forms were used in the project process: frontal, group and individual. The teaching methods vary depending on the activity structures of the current project. The main ones are: discussions, interviews, brainstorm, role play, table of ideas, the use of information and communication technologies, drawing, photographs, design, presentation, imitation etc. "Household waste" project work is based on students' creative action, critical thinking and experience.

The questionnaire was carried out before and after the project activities. Five of seven questions included in the questionnaire are the same. Its aim is to compare the students' attitude and preparedness for sustainable development before and after the implementation of the project. There are questions where students choose from the given answers: *yes, partially, little, no, or give free answer*. The additional questions were included in the questionnaire after the project.

## Results and discussion

Observations and discussions and questionnaire carried out during project helped to analyze approaches to education for sustainable development from the students' point of view.

The discussions within project 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. 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 results of the questionnaire carried out twice and students' activities during the project showed their attitude and preparedness for sustainable development. The answers to the questionnaire showed that students' opinion differs in the beginning and at the end of the project.

- Necessity of sorting the household waste. The question -1. *Must people sort the household waste?*

69% of the respondents indicate that people must sort the household waste and 16% of the respondents answered- partially. Only 10% noted- little and 5% answered- no. After the project activities the evaluation has grown a little: respectively 84%; 12%; 4% and 0%. Students have certainty about necessity of sorting. The detailed percentage of answers is presented below (Figure 1).

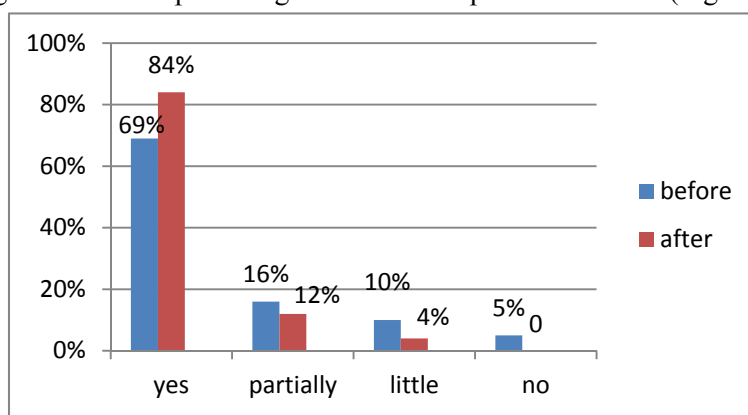


Figure 1. Students' thoughts about necessity of sorting the household waste.

- Sorting the household waste. The question -2. *Do you sort the household waste?*

This question is pointed to students' self-evaluation and their practice in real situation. The data shows that 35% sort the household waste, 31% - partially, 19% - little and 15% - no. After the project the data is different: 69% sort the household waste, 26% - partially, 5% - little and 0% - no. The radical change in the data proves significance of the project in common. Of course, students everyday live is depend from parents and traditions in families. But it is good that they have confidence on practice.

- The essence of sustainable development. The question -3. *Can you characterize the essence of sustainable development?*

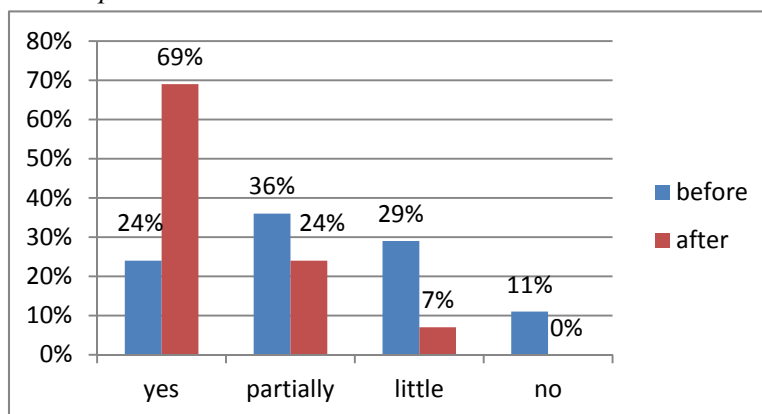


Figure 2. Characteristics of the essence of sustainable development.

Only 24% of the respondents can characterize fully and 36% partially the essence of sustainable development before project, 29% have little knowledge about this issue but 11% cannot characterize it

at all. After the project activities the evaluation is different: 69% gave a full characterization of sustainable development, 24% - partial, 7% - little and 0%- no skills. The detailed percentage of answers is presented below in Figure 2 (Figure 2).

- The human actions in protected and unpolluted environment. The question - 4. *Have you ever thought about the human actions unprotected and unpolluted environment?*

Before the participation in the project 10% have not thought about it, 24% have thought a little, 31% have thought partially and 35% have thought about it. After the project 84% have thought about it, 16% partially, but nobody a little. There are no participants who have not thought about it at all. The obtained data showed that respondents have thought more about the human actions in protected and unpolluted environment (Figure 3).

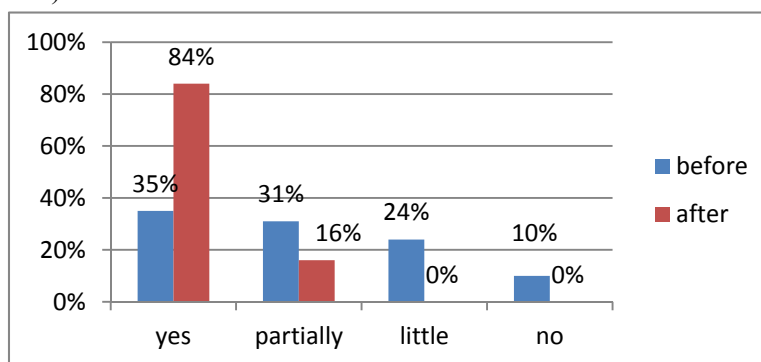


Figure 3. Students' thoughts about the human actions in protected and unpolluted environment.

- The activities which help to protect the environment. The question - 5. *Describe 2 or 3 activities which help to protect the environment.*

Students do not named lots of activities how to protect the environment, rather the all the answers were uniform. All respondents named the sort of household waste (it was mentioned in the questionnaire, the students influenced by it). After the project students named more and real activities such as: buy their country products, go more on foot, switch off the light in the day, paper is used economically etc.

The questions are included in the final questionnaire perfected students' opinion about the project. Some of them:

- Taking part in the project. The question - 6. *Would you like to take part in such project again?*

The students would like to take part in such activities at school, it indicate 69% of respondents. 19% - sometimes, 7% - a little, but 5% - don't like. They add that prefer to do some practical textile work at this time.

- The activities of the project. The question - 7. *Which activities of the project you liked the best?*

The students point different activities such as: to take photo from your surroundings, opposite view discussions, work with information and communication technologies, to look friend presentations, etc.

## Conclusions

Scientific achievements promote rapid progression of well-being, but problems are observed parallel with the positive traits. As a result of scientific technological progress, human activity nowadays has become an active factor in forming the environment. Human action can threaten the very survival of a human himself. The created situation requires an active interference in the recovery of the environment.

Sustainable development is characterized by three interrelated dimensions: environmental, economic and social. Sustainable development means that any economic, social or environmental issue has to be addressed so that the decision would be favourable or unfavourable for the development of other spheres as little as possible

The content and the implementation of the education for sustainable development is closely connected with the principles of sustainable development. The sustainable development asks for definite learning.

Education for sustainable development points out those learning skills, perspectives and values which promote and motivate people to civic consciousness.

Project „Household waste” activities are based on students’ creative action. The steps of project ‘Household waste’ were worked out according to the main didactic materials of the Project Looking for Likely Alternatives (LOLA).

The research data show that after taking part in project “Household waste” the students can better characterize the essence of sustainable development (before 24% of the respondents can characterize fully, after 69%), they more thing about the human actions unprotected and unpolluted environment (before 35%, after 84% of the respondents). Students do not name lots of activities how to protect the environment before the project. After the project students named more and real activities such as: buy their country products, go more on foot, switch off the light in the day, paper is used economically etc. The students would like to take part in such activities at school. The best they like opposite view discussions and take photo from your surroundings. 69% of the respondents indicate that people must sort the household waste. But only 35% of respondent do it really. It shows that they have theoretical perception about household waste, but not every day practice.

That kind of project is one of the creative approaches to develop education for sustainable development.

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