

**University of Sopron  
Faculty of Forestry**

**Theses of doctoral (PhD) dissertation**

**Health aspects of environmental hazards  
and ways to introduce them in environmental pedagogy**

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## **Objectives of the research**

The main aim of the dissertation is to explore the relationship between the environment and human health. It is our responsibility to prevent or reduce the burden on the environment in order to live in a healthy environment. By polluting our environment, we endanger our health.

The aim of the author is to explore possible ways of introducing the concept of environmental harm in the elementary classroom, and to make suggestions for enriching the methodological culture of teachers based on the education model of environmental pedagogy.

The National Core Curriculum regulates the content of educational work in public education institutions. The National Core Curriculum published between 1995 and 2012 identifies physical and mental health education as a priority development goal for schools. The author examines, analyses and evaluates what the National Core Curricula have defined for schools in the area of physical and mental health education.

Public education institutions play a key role in education for sustainability, environmental and health awareness. Therefore, it is obligatory for them to prepare a Health Education Program. That is the reason why it is important to examine the goals, tasks and methods set in the Health Education Programs of primary schools in Győr-Moson-Sopron county.

The research also aims to explore whether the curriculum content of the “New Generation” textbooks for Science subjects in elementary schools - Environmental studies, Science, Biology – contain teaching-learning material in connection with environmental health topic.

In addition to acquiring knowledge, children must be provided with experience, activities and active student participation. Therefore, it is important to explore the role played by specific areas of health education such as school gardens, forest schools, eco-schools, in the development of a healthy lifestyle.

It is important to examine the methodological culture of Győr-Moson-Sopron county elementary schools used in the classroom and extracurricular activities.

The author examines and evaluates whether primary schools in Győr-Moson-Sopron county are included in the Sustainability Theme Week programs sponsored by the Ministry of Human Resources.

The survey measures and assesses environmental and health awareness of 4th and 8th grade students through a questionnaire survey.

A further aim is to work out a project that contributes to the development of environmentally and health-conscious behaviour in the primary schools through the teaching and learning process of lower-level English language teaching based on the lower-level topics, in order to strengthen a cross-curricular approach.

### **Hypotheses of the research**

1. Schools have a Health Education Program that includes each element of the Total School Health Promotion Program.
2. Institutional implementation of Health Education Programs shall be coordinated by a designated person or team.
3. Health Education Programs are based on institutional situation analysis.
4. In the examined institutions, the organization of learning is based on methods that support the active participation of students.
5. The educational model of environmental pedagogy - project education - occupies a prominent place in the teaching-learning process.
6. The Science textbooks of primary school - Environmental studies, Science, Biology - contain curricula related to the issues of environmental health and health education.
7. Schools use module sketches and pilot projects related to the Sustainability Theme Week offered by the Ministry of Human Resources in order to renew their pedagogical culture.

### **Methods of research**

#### **Literature and document analysis:**

The author reviewed the topics of the global issues, the European conferences on environmental health (1989-2010), the goals and tasks of Agenda 2030, as well as the national programs and strategies presenting the relationship between environmental hazards and health

She analysed the goal of environmental pedagogy, its place in environmental health education, the educational model of environmental pedagogy.

In order to understand the aims and tasks of physical and mental health education, the author analysed the aims National Core Curricula published between 1995-2012 and the Total School Health Promotion Program.

**Test:**

She studied the modules and the results of the Forest Pedagogy project-lifestyle strategy and she applied it as a model.

She examined and analysed the practical experiences and results related to special fields of health education - school garden, forest school, eco-school - at Kálmán Öveges Demo Primary School.

The author analysed and evaluated the content of the “New Generation” of lower primary Environmental studies and the upper primary Science and Biology textbooks published by the Institute for Educational Research and Development from the point of view of the relationship between environment and health.

She examined and evaluated the Health Education Program of 45 primary schools maintained by the Győr and Sopron Educational Districts.

**Questionnaire survey:**

She examined the system of activities in primary schools in Győr-Moson-Sopron County by means of a written survey. She analysed the extra-curricular activities, the methods used by the teachers, and the use of the Sustainability Theme Week.

The author examined the success of the eco-school activities by interviewing 8th grade students of Kálmán Öveges Primary School.

She explored and analysed the knowledge of the causes of environmental harm, its prevention, and the diseases caused by environmental harm, through a written survey with 4<sup>th</sup> grade children of Kálmán Öveges Primary School.

The Healthy Environment - Healthy Kid project was implemented with students from Kálmán Öveges Demo Primary School. The results of the project were measured through a questionnaire survey.

### **Results of the research**

A common feature of the National Core Curricula published between 1995 and 2012 is that the development of children's physical and mental health is an educational goal. The most important task for the schools is to establish the joy of health and the value of harmonious living. Teachers, who work with the family to stimulate, motivate and assist students in developing and developing environmental and health-conscious behaviour, play an important role in the physical, mental, and social health development of students.

The "New Generation" Science Textbooks fit the requirements of the Framework Curricula and contain a sufficient amount of health education teaching and learning material.

Examination of Health Education Programs shows that each of the 45 schools enrolled in the study has a Health Education Program based on the Total School Health Promotion Program. 80% of institutions do not carry out a situation analysis before the program is established. With the exception of one institution, schools do not designate a person or group responsible for coordinating the program.

Examination of the documents shows that excursions, sports days, forest school, health education projects, field practice are unfairly neglected. The documents focus on competitions, quizzes (84%), celebration of outstanding days (82%), health day (67%) and preventive and informative lectures given by the school doctor and nurse (64%).

A questionnaire survey of the primary education system of health education reveals that there has been some movement in the renewal of the pedagogical culture, as games, conversation, concept mapping, cooperative learning and role playing are the part of everyday practice in all schools. However, the project method, student presentations, experiments and field exercises are rarely used in everyday life. The questionnaire study confirmed the findings of the document analysis, as forest school, family day and study trip are considered to be the least important activities in health education, despite the fact that the forest school is the ideal, real-life context

for physical and mental health development. Family day is one possible way of cultivating intergenerational relationships and experiencing common joy. In the absence of consciously designed excursion plans, study trips are reduced to a task to be performed.

According to the results of the questionnaire survey with the 8<sup>th</sup> grade eco-schoolchildren, 83% of the children feel responsible for their environment and nature, so we can say that their environmental attitude is positive. Consumers' behaviour (91%) is reflected in the consumer behaviour of students and their families because they do not buy on the basis of advertising. About half of the students expressed independent opinions about their environmental and health-conscious actions regarding water saving, air protection, waste management, and the love of nature.

A questionnaire survey with 4<sup>th</sup> grade pupils showed that they could name the causes of the environmental hazards listed in the questionnaire. Relevant answers were also given regarding the relationship between environmental hazards and health. Exercise, the consumption of vegetables and fruits, and a good amount of restful sleep, lead the ranking of health activities. No child mentioned the use of daily hygiene habits. They did not formulate thoughts about family, friends and time spent with family and friends.

The author used project work, as the teaching method of environmental education, in the teaching-learning process of the 4<sup>th</sup> grade pupils' English lessons. The results of the questionnaire survey following the implementation of the Healthy Environment - Healthy Kid project, demonstrate the development in the students' knowledge, positive attitudes and behaviour.

## **Theses**

1. Global problems, which also affect the natural and social environment from the second half of the 20th century, are urgently important problems to be solved. The global value crisis that characterizes modern societies can only be resolved by preserving environmental values, treating health as a value, and enjoying a life of temperance, norm-based, and global responsibility. The goal of environmental health, emphasizing the relationship between environmental hazards and health is to create and preserve the environment necessary for maintaining health.

2. Environmental pedagogy is “an integrated science with a special focus on environmental awareness, environmental protection, environmental and health awareness, and local identity. It is closely linked to its counterparts in environmental pedagogy, building on their results: knowledge transfer, attitudes, and behavioural models.” (Kováts-Németh, 2010, p.190) These disciplines can be effectively linked to the didactic tasks of communicative language learning, grammatical and lexical competence development in the teaching of living foreign languages.
3. In schools, the study and processing of international and domestic documents related to environmental culture, environmental and health awareness is neglected. It is important for teachers working in public education institutions to become familiar with the guidelines, tasks and the latest research results formulated in international and national documents.
4. The most important challenge of our time is to develop and implement an environmentally and health conscious lifestyle. Health perceptions, attitudes to health, and health behaviours develop during childhood. The value mediation of public education institutions and the educational work carried out there have to contribute to the transfer of health knowledge, the effective development of abilities and skills, the development of moral standards and values, and the experience of belonging to the community. The application of the educational model of environmental education is the key to the development of environmentally and health conscious behaviour. Applying project teaching methods can effectively improve children's environmental and health-conscious behaviour in foreign language teaching.
5. Since 2003, public education institutions have Health Education Programs. The school documents examined, show that schools do not pay sufficient attention to the institutional design of the program. Nobody monitors and evaluates the implementation of the programs created.
6. Science and physical education play a key role in public health education. The institutions do not take advantage of the opportunities offered by forest school, study trips, projects and field trips. The applied methods do not pay enough attention to the project method, student experiments, field research / field practice, even though “New

Generation” Science primary school textbooks contain a sufficient amount of teaching-learning material to acquire for acquiring knowledge about the relationship of environment and health, health knowledge. They offer good opportunities for cross-curricular approach, developing students’ competences and preparing projects.

7. Developing health-conscious behaviour is an important task of public education. The school is a serious source of stress for children and, in their opinion, the consequence of stress is depression, which could be avoided through playful learning. Changes to the pedagogical culture have not yet occurred. This reinforces the need for project education. In other words, it is the task of every subject to become aware of how to foster children's knowledge and to realize environmental and health awareness in their actions through a cross-curricular approach, implementing a project-oriented activity system. By using modern pedagogical methods in foreign language teaching, we can playfully improve children's foreign language competence, improve their knowledge of environmentally and health-conscious living, develop students' abilities, skills and shape their responsibility for the environment and health.

### **Consequences**

Public education institutions have a key role to play in developing health-conscious behaviour. This is why it is necessary to organize trainings, workshops, methodological conferences aimed at protecting the physical and mental health of teachers and health education.

It is essential to provide institutions with theoretical and practical support to develop Health Education Programs.

Monitoring and evaluating the implementation of the system of health education activities is essential for efficient work. This requires the appointment of a responsible working group and internal monitoring of the implementation of health education tasks as part of institutional self-evaluation. In addition, the external monitoring and evaluation of schools’ health education activities is of paramount importance as part of the institutions' professional supervision.

It is essential to examine the effectiveness of educational work in eco-schools at county, regional and / or national level.

Content on the implementation of the Sustainability Theme Week offered by the Ministry of Human Resources at school and on the work done in the institutions - documented with photos, student products - is needed.

A holistic approach, interdisciplinary approach, application of project teaching methods and tools are missing from the educational work of schools. In order to renew the pedagogical culture, it is indispensable to know and apply the aims, tasks and educational model of environmental pedagogy in everyday pedagogical practice. The key to the development of environmentally and health conscious behaviour is the integration of environmental pedagogy created by Professor Mária Kováts-Németh into pedagogical practice.

The lesson implementation of the English project prepared for the 4<sup>th</sup> grade students demonstrates that the curriculum of the subjects can be enriched with teaching-learning material that develops the children's health-conscious behavior. This contributes to increasing students' knowledge, skills and attitudes.

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