

EXAMINATION OF SPOTLIGHT ON ENVIRONMENT AND HEALTH EDUCATION IN HUNGARIAN PRIMARY SCHOOLS

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Health education and promotion, as important elements of education for sustainability, prepare students to respect health as a value and be able to contribute to the creation of a sustainable society and economy in an active and constructive way. The purpose of this study is to present the link between the environment and health, as well as the theoretical background and pedagogical practice of health education. Such a link was evaluated by examining three tools that shed light on Hungary's educational system: the content of national curricula, the school programs, and a survey performed with elementary school educators. Environment and health education can be supported by project work highlighting sustainability and the importance of environment protection, as it is represented in this paper. The novelty of this environmental education project is the module focusing on environmental hazards, as this is an extracurricular topic. The survey carried out among learners after the project implementation proved that they understood - among other things - the importance of waste management and the effects of environmental pollution on the food chain.

1. Introduction

"Sustainability is defined through three interconnected domains or pillars (environment, economic, and social), and it is the process of maintaining change in a balanced environment, in which the resource exploitation and the orientation of technological development are all in harmony and enhance the potential to meet human needs and aspirations" (Kiss, 2019). According to the World Health Organization (WHO), the evidence of a link between human health and the environment is mounting. It includes the direct effects of chemicals, radiation, and certain biological factors as well as the indirect effects of housing conditions, urban development, land use, and transport on health and well-being. The Seventh Ministerial Conference defined the future environment and health priorities and commitments with a focus on climate change, biodiversity loss, and environmental pollution (WHO, 2023). In Geneva (2004), the 57th World Health Assembly emphasized in its decision for health promotion, health education, and a healthy lifestyle that unhealthy nutrition, smoking, alcohol consumption, and a sedentary lifestyle are serious challenges. (WHO, 2004). The growing technological and anthropogenic impact on the environment and the need for sustainable development of human society require the development of education and putting a greater emphasis on environmental issues, preparing students to perceive the rapidly changing everyday reality (Aleksandrov et al., 2016). The basic task of health education in Hungarian schools is to prepare the rising generations by developing their health behavior so that they can take an active and responsible role in the realization of a healthy lifestyle as adults (Meleg, 2002). The effectiveness of health education requires a process-based, interactive, skill-building activity system (Bazsika, 2011). According to the Comprehensive School Health Promotion Program (2015), schools should focus on four areas: healthy nutrition, daily physical exercise for all students, promoting the development of children's mature personalities with person-centered pedagogical methods, and facilitating the skill-level acquisition of a wide range of health knowledge. Járomi (2016) examined the implementation of the Comprehensive School Health Promotion Program in 288 primary schools among 3rd, 5th, and 7th grade

students. The research aimed to detect health knowledge and attitudes and explore movement patterns and the characteristics of health culture. The results show not extremely determining but positive changes in children's health behavior. The examination of Health Education Programs was carried out by the Hungarian School Health Society at the national level, involving 10 % of the institutions of public education, in 2006. The research proved that the schools cannot be characterized by a cross-curricular approach. The examined schools do not check and evaluate the efficiency of the health education program, and it would be essential to establish a team that is responsible for the implementation of the planned health education activities (Kaposvári, 2007). The Health Behavior of School-Age Children research has been carried out in cooperation with the World Health Organization. According to the conclusion of the Hungarian national report based on this research "poor eating behaviors, physical inactivity and the rise in adolescent overweight and obesity indicate that insufficient progress has been made in the implementation of policies and actions." (Inchley et al., 2020). Measurements in Hungary at the national level, or any research results on the health status of the 6-10-year-old age group are not available, which means a serious research gap. Moreover, Czrappán (2022) summarized that the experiences of the last decade show that there is hardly any research-based data and systematic monitoring that would serve as a basis for central decisions regarding Hungarian National Core Curricula. A content analysis of the specific educational goals of the Hungarian National Core Curricula has not been prepared before. These facts underpin the necessity of the content analysis and questionnaire surveys that provide insight into the Hungarian educational system. This paper analyzes the goals of health education and promotion in Hungary as important parts of sustainability. For this, a review of the main documents concerning children's education in Hungary was carried out, and surveys were conducted among educators to generate data concerning the educational conditions and the attitude of the system towards sustainability. Moreover, this paper presents the results of a pilot test for a project on environmental education with children, which was formulated considering the information generated by the previous document analysis and surveys. The environmental education project focuses on sustainability and the link between the environment and health, as well as draws the children's attention to the need for any little steps to protect the environment. For this reason, the knowledge of the causes and health effects of environmental hazards are revealed, and some actions to protect the environment and health are also mapped. These data show learners' knowledge about sustainability, their attitudes to the environment, and their environmental culture and behavior. The project can contribute to the development of Green competencies that embody sustainability values, embracing complexity in sustainability, envisioning sustainable futures and acting for sustainability (Bianchi et al., 2022).

2. Methods and materials

The research related to this paper involves document analysis, questionnaires, and statistical analysis as research tools (Boncz, 2015). The basic assumption of the research is that, despite the central regulations, the cross-curricular approach, learner-centered methods, and project-based teaching are not integrated into the everyday pedagogical work of the institutions examined in order to achieve sustainability and health education as priority educational goals.

2.1. Document analysis 1 – Content analysis of Hungarian National Core Curricula 1995-2020

In Hungary, the National Core Curriculum regulates the content of educational work in public education institutions. Since 1995, the National Curricula have identified physical and mental health education as a priority development goal for schools. As the first step of the content analysis, common elements appearing in each curriculum were selected. After that, the focus was on the examination of different, new elements. Current and relevant expectations must be incorporated into school documents (Government decree, 2020).

2.2. Document analysis 2 – Content analysis of Health Education programs (2019)

Since 2003, for Hungarian schools, it has been compulsory to prepare a health education program. These programs should be built on the expectations and elements of the Hungarian National Core Curricula. That was the reason for the analysis carried out in 45 primary schools maintained by the state institution mainte-

nance centers in Győr-Moson-Sopron county. The programs were examined according to given criteria, such as whether the given institution has a Health Education program, whether it is based on a situation analysis, and whether any goals, tasks, activities, or methods have been defined. Another important question was whether there are people responsible for coordinating, controlling, and evaluating the implementation of the activities.

2.3. A questionnaire among headteachers (2019)

In addition to the content analyses of the health education programs, the head teachers of the above-mentioned schools were interviewed using a written questionnaire with 31 questions. The survey contained mainly closed questions based on the results of the Health Education program analysis, and its aim was to reveal the relevance between the plans and reality. The questions concerned some general data about the schools, as well as the goals, tasks, activities, and methods they use in education for sustainability. The survey was filled in by 40 headteachers. This study highlights only two questions concerning the methods used in lessons and the extracurricular activities to reveal the forms of sustainability education and to prove the need for the health education project that was prepared.

2.4. A questionnaire among English language teachers of primary schools (2019)

As the project was prepared for English lessons, it was also important to get some information from the English teachers of the schools. Only 32 teachers gave answers for the online survey that contained 10 closed questions concerning the methods and tools they use in their lessons and whether they implement any material concerning sustainability or health education and development process.

2.5. A survey among language learners – case study (2019)

A written questioning of the students was carried out before introducing the project involving 63 fourth-grade students, studying English in one voluntary participating school. The purpose of the survey was to reveal the students' prior knowledge. After presenting the project in 10 lessons, there was another written questioning to check the short-term effect of the project on the children's knowledge, attitudes, behavior. The questions concerned the causes and health effects of environmental pollution and activities carried out for environmental protection and health preservation. In the first questionnaire, there were open questions. The answers in the first 3 places from the lists were highlighted. In the second questionnaire, the Likert scale was used.

3. Results and discussion

Hungarian National Curricula emphasize that schools have a great responsibility in the field of physical, mental, and social development of students and establish the joy of health and the value of harmonious living. Another key concept is the development of positive attitudes, behavior, and habits toward the environment and health. The documents include tolerance and assistance for injured and disabled people, as well as preparation for adulthood and responsible relationships. Another common feature is that they highlight the importance of preventing domestic and traffic accidents and diseases, as well as the development of a system of activities aimed at preventing harmful addictions. The project, carried out among the students, emphasizing the importance of environmental protection in order to preserve health, is in line with these goals. Considering the results of analyzing health education programs, they contain very similar general issues; no unique goals, tasks, or activities can be found, and they are not built on a situation analysis. The organization of daily physical exercise, movement or any physical activities like folk dance is a legal requirement (according to the Comprehensive School Health Promotion Program) that all institutions comply with. In order to ensure students' mental health protection, schools focus on reducing bullying and conflicts and offer extracurricular activities after lessons. In the range of extracurricular activities (84.44 %), school competitions and quizzes are at the first place. In the case of 30 schools (66.66 %), the organization of Health Days is an important element of the health education activity system. There are schools (64.44 %) that highlighted the presentations/lectures given by the school doctors or nurses. In order to ensure sports

and physical exercise, some schools (53.33 %) organize sports circles, walking and cycling tours (48.88 %), excursions (28.88 %), and sports days (26.66 %). Only 7 schools (15.55 %) have ever prepared projects related to health education. (Figure 1a)

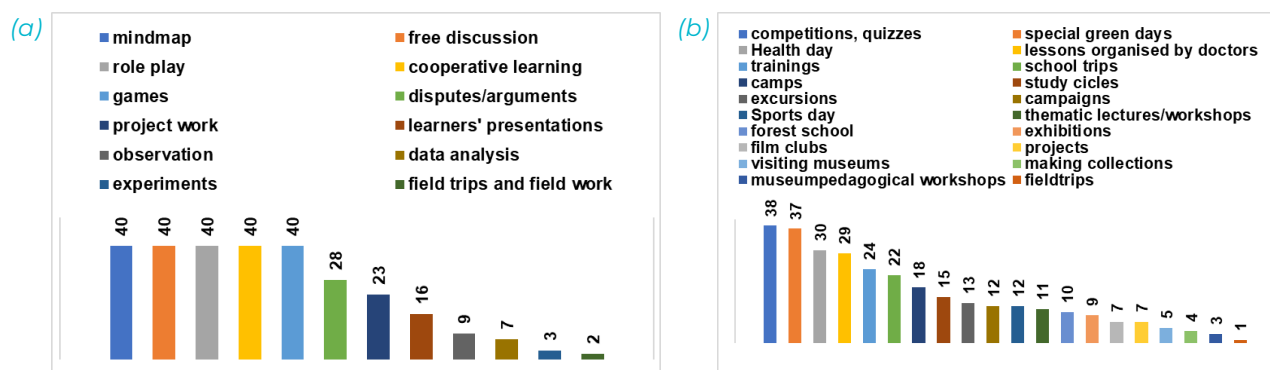


Figure 1: Results of curricula and national program examination (a) Methods used in lessons (b)

Analyzing the results of the headteachers' questionnaires, it can be stated that games, discussions, mind maps, cooperative learning, and role-plays are parts of everyday pedagogical practice, according to each interviewed headteacher. Project work (57.5 %) and more presentations of students (40 %) could be included in the methodological palette. (Figure 1b) The headteachers' answers - considering the extracurricular activities - show that the celebration of special green days can be easily incorporated into daily practice. On Health Days and thematic days, schools organize contests, sports programs, and excursions, and there are lectures held by school health experts and external speakers. Considering the answers of English teachers, among the methods they used, explanations, discussions, and role plays are in the first three places. Only 9 teachers mentioned projects. They deal with healthy eating, family and relations, and daily routine as these are among the topics of 4th grade teaching-learning material, but they do not use any extracurricular material on environment and health because there is no time for it, it is not so important than the general topics, and children even in Hungarian do not have enough knowledge, so it is pointless to deal with it in English lessons. Table 1 presents the results.

Table 1: Teachers' methods and attitude towards sustainability

What methods do you use most often?	Do you cover any topics of sustainability in your lessons? If yes which ones?	If you do not deal with sustainability, why not? Give reasons
explanation – 80 %	healthy eating – 80 %	lack of time – 72.50 %
discussion – 80 %	family and relations – 67.50 %	it is less important than any other topics – 45 %
role plays – 42.50 %	daily routine – 67.50 %	it is pointless to deal with this topic because of the low level of English – 42.50 %

The main aim of the project is to focus on sustainability and the link between the environment and health as well as draw the children's attention to the need of any little steps - made by them - to protect environment. The Healthy English project consists of three modules. (Figure 2(a)) Two of them contain the topics of the curriculum. The novelty of the project is the module that focuses on environmental hazards because this is an extracurricular topic. Each module has its own goals. (Figure 2(b))



Figure 2: The modules of the project (a) and the main aims of the modules (b)

The process of the project creation was divided into four phases, which were the preparatory, planning, implementation and feedback stages (Pinter, 2017). In the preparatory phase, the topic, aim and title of the project were defined, and a written questioning was carried out aiming to reveal the students' prior knowledge. During the planning phase, for each module, the environmental challenges to which solutions must be found together with the children during the processing of the module were formulated. For each module, a goal to be achieved, classroom activities helping to achieve the goal, and methods for processing the course material were assigned. The methods based on the activity and cooperation of the children were used so project work and cooperative learning were preferred. Lesson plans were also prepared for processing the teaching-learning material of the module. In the implementation phase, the Environmental hazards module was worked on, applying the previously prepared lesson plans. The lessons focused on vocabulary expansion and integrated skill development. The teaching-learning procedure was supported by videos and interactive materials. The feedback phase contained the post-questioning of the children. In the first question of the pre-questioning survey, the children had to write down the three words that came to their mind in connection with the word "environment". Students wrote 49 different words. The most popular words were plant/plants. In the second place was the word nature, and in the third place was the word animals. Considering the results of the pre- and post-questioning of children, a small progress can be seen in the children's knowledge and behavior. Based on the given answers, there are common elements in the questionnaires. It can be seen that there are some changes in the order of the words, and new elements also appeared after the lessons of the module. It means that their vocabulary was widened and deepened. Table 2 shows the causes of environmental hazards as well as health damage and diseases caused by these environmental hazards, comparing the results of the children's pre- and post-questionnaires. Among the activities of protecting the environment, in the 1st questionnaire, children mentioned that they don't litter, collect the waste in a selective way, and save the environment. In order to preserve their health, they move or do sports, sleep enough, and eat fruit and vegetables. These things are taught to them in the lessons of Environmental Studies, and everybody can hear about these typical activities. This means that children pay attention to the basic rules and expectations.

Table 2: The results of the children's questionnaire – causes and effects of environmental hazards

Environmental hazards	Causes of environmental hazards 1st	Causes of environmental hazards 2nd	Health damage/illness 1st	Health damage/illness 2 nd
air pollution	cars factories garbage	factories exhaust fumes cars/vehicles	lung disease cough lung cancer	poisoning lung disease/ lung cancer asthma
water pollution	garbage oil plastic	waste sewage chemicals	death dermatologic problems infection	infection epidemic diarrhea
soil pollution	chemicals garbage oil	plastic bottles plastic foil garbage	poisoning unhealthy plants food shortage	drinking water pollution poisoning food poisoning
stress	tests work lack of time/ deadlines	meeting deadlines test continuous noise	depression nervousness insomnia	irritability/ nervousness depression anxiety, fear
virtual hazards	computer hackers phone	social media reality shows phone	addiction eye damage sleeping disorders	addiction detachment from reality eye damage

In the 2nd questionnaire a list of activities was offered for children and in a 1-5 Likert scale, they had to decide how important they feel the given activities. The list of statements contained the results of the 1st questionnaire and some elements of the module. According to the answers it can be seen that the privilege of waste management was not broken but some other elements of environment appeared, for example water, electricity and air. These areas were mentioned in the module. The evaluation average of the statements is between 4.86 and 4.37 (standard deviation 1.14 and 0.43) and there is only a difference of 0.49 between the average values, which means that their attention was successfully focused on a wider range of activities. Figure 3(a) shows the results of the 2nd questionnaires concerning the activities to protect environment. Figure 3(b) introduces the results of the 2nd questionnaires concerning the activities to protect health.

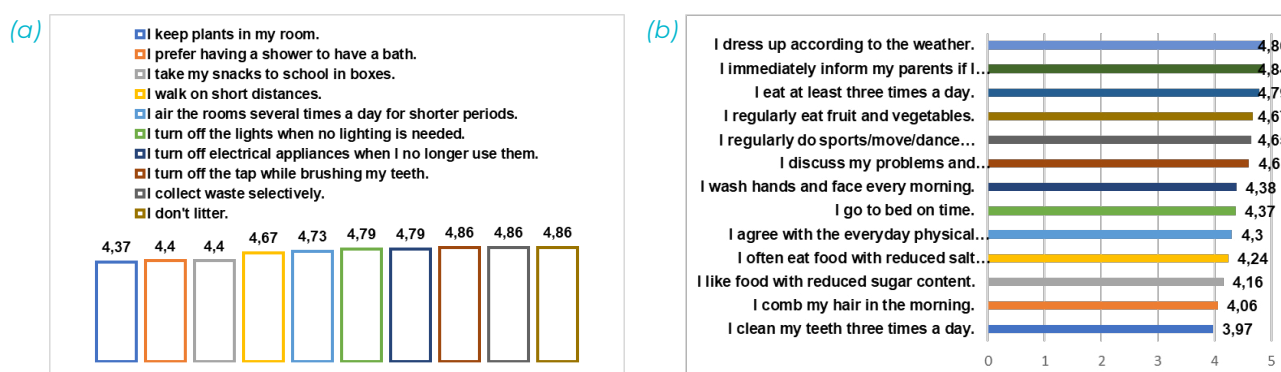


Figure 3: Activities to protect environment (a) and activities to protect health (b)

Analyzing the activities that protect children's health, fruit and vegetable consumption, moving, sports and sufficient sleep retained their importance for a healthy lifestyle. The most important for them is wearing clothes according to weather that is a new element. On the second place, cyberbullying can be found. All this coincides with the fact that children consider fear and anxiety due to bullying to be the most significant of the health effects of the virtual environment (4.34; standard deviation 1.16). Social media is considered the most dangerous in the virtual world (4.34; standard deviation: 1.11). The statement in the 6th place can be

linked to this topic, based on which, children discuss their problems and difficulties with their parents (4.60; standard deviation 0.83). If students trust their parents and can turn to them with confidence, they can also get help in overcoming the causes (deadlines, school assignments) and consequences (irritation, depression, anxiety, fear) of stress. In addition to these, children also take care of everyday hygiene and dressing. More diverse answers were given regarding the causes and consequences of environmental pollution and also in the field of environmental protection and health protection. The order of the previously named causes and consequences has changed the range of activities has expanded. The project demonstrates - even though at a case study level - that it is worth to enrich the teaching learning material of any subject with elements on sustainability to draw the learners' attention on environmental hazards and global problems.

4. Conclusions

The main aim of this paper was to present the current situation of health education as a part of sustainability education in Hungary with the help of a case study. The results of the research prove that there is a great need to emphasize the role of sustainability education however some efforts are being made to develop students' environmental awareness and their positive attitudes towards environment. According to the results of document analysis and questionnaires, it can be concluded, that the institutional documents mention a wider range of activities concerning sustainability education and health developing processes than in the everyday pedagogical practice is realized. The institutions do not check or evaluate the implementation of health education activities. Moreover, there is a lack of examination of the health education activity system not only at institutional but at county and national level as well. Considering the methodological richness, among the methods used by the teachers, project work, is neglected. The cross curricular approach and topics of sustainability do not appear in the everyday pedagogical practice, which was proved by the asked teachers. The implementation of the project has shown that to achieve the goals of sustainability education, it is important to transfer knowledge by using learner-centered methods, like projects. As a result of the project, children's knowledge about environmental hazards increased, their attitudes to their environment changed, and all this was realized in their actions. The project can serve as a model, but it must be further developed and made accessible to different age groups. It should also be used in university education and teacher training to value sustainability and promote nature.

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