

# THE INFLUENCE OF THE ECO-SCHOOL AND HEALTHY SCHOOL PROJECTS ON ENVIRONMENTALLY RESPONSIBLE BEHAVIOUR OF PRIMARY SCHOOL PUPILS

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**Abstract:** *More than 600 schools in Slovenia are included in the Eco-school programme and more than 250 schools in the Healthy School programme. In our investigation we compared ecological awareness and environmental responsibility among 9-10 years old pupils involved in the Eco-School project with those of pupils who are not participating in the Eco School project but are involved in the Healthy School project. We also compared the ecological awareness and environmental responsibility of the parents of children involved in the Eco School project with those parents whose pupils are at schools participating in the Healthy School project. Our results show that pupils at schools involved in both projects display moderately good ecological awareness and environmental responsibility, but the results of pupils at schools involved in the Eco-school project were better.*

**Key words:** *ecology, Eco-School project, Healthy School project, ecological awareness, environmental responsibility, ecological education, permanent development*

## Introduction

Environmental education is one of the more important topics in today's schools. Some understand environmental education to be merely about the protection and maintenance of the natural environment. Whilst crucially important, this of itself is insufficient (Marentič-Požarnik, 2000). Others understand environmental education to be about ensuring a clean environment and removing waste and avoiding pollution of the natural environment. Another aspect promotes the view that pupils need as much knowledge as possible, and an acquaintance with data that emphasize the increasing ecological threats - largely man-made - that face the natural environment. The Slovene national curriculum incorporates a section on environmental education, requiring it to be taught so that pupils acquire knowledge of their environment that is connected and understandable, and provides the opportunity for children to approach the subject in several ways, involving varied approaches and ways of thinking, and arriving at differing conclusions. It is

important to be aware that environmental issues should not be treated in isolation, but need to be discussed in relation to their natural, social and economic contexts and prevailing policies and directives, whether local, national or international (Pavšer, 2004).

In 1996 Slovenia became a member of the European project Eco-School, supported by FEEE (Foundation for Environmental Education in Europe), which aims to promote environmental education and ecological awareness. The Eco-Schools project and its programme offer a wide choice of practical approaches to environmental topics, and encourages pupils' enhanced environmental awareness, both within and outside school. In particular, it provides teachers and the pupils with opportunities to use their environmental knowledge in everyday contexts (Maatko, 2006).

From its inception in 1996 we now (2011) have 628 registered Eco Schools (which include kindergartens, primary and secondary schools and Field Centres) in Slovenia. The project includes not only pupils and teachers, but also professionals, schools' technical staff, parents, and local authority workers, so that the schools' connections and influence extend beyond their surroundings, into their local communities.

From 1993 Slovenia has also been a participant in the European network of Healthy Schools, and today (2011) 268 schools are included in this project. The focus for these schools is to promote better health in different fields (physical, mental, social and environmental). As with Eco-Schools, the project also includes institutions and individuals outside the school. Pupils in the Healthy Schools project must acquire knowledge about healthy living in the context of clean and healthy environments, and discuss the issues involved in this.

In our investigation we compared the ecological awareness and attitudes towards environmental responsibility of 9-10 years old pupils involved in the Eco-School project with those of pupils who are not participating in the Eco-School project but who are involved in the Healthy School project. In particular, we wanted to determine whether there are any differences in the knowledge and ideas of pupils from Eco-School, whose programme content includes a greater environmental education component than that of pupils in the Healthy Schools project. We also compared the ecological awareness and environmental responsibility of parents involved in the Eco School and Healthy School projects, and while referred to below, these results are not presented in detail in this paper.

## Methodology

In our investigation we included 53 pupils who were attending schools in the Eco School project and 54 pupils from schools in the Healthy School project. Both groups were 9-10 years old. All pupils received an anonymous questionnaire with 13 questions, the majority of which were closed-type questions. Pupils did not need more than 15 minutes to complete the questionnaire in school. The parents' questionnaire had similar questions to that provided for the pupils; parents completed it at home few days after the pupils had answered their questionnaire at school. The questions were as follows:

1. How well do you think you know the project Eco-School (Healthy School)? *I do not know, very badly, well, very well*
2. Do you think that your school does enough for your ecological awareness and for the ecological awareness of your parents? *Too little, enough, much, very much*

3. Do you think that your ecological awareness would be less if you did not attend the Eco-School (Healthy school)? *Yes, no, I cannot decide*
4. Try to estimate your ecological awareness. *Minimal, medium, high, very high*
5. Try to estimate the ecological awareness of your parents. *Minimal, medium, high, very high*
6. What do we call the place where waste bins are placed for separate collection of the waste? *Collecting place, ecological island, recycling place*
7. When we separate our waste for re-cycling we must be careful to place the waste in the appropriately coloured container. What do we throw in the container coloured: *red; green; yellow; brown?*
8. Do you think that with a change to your habits you can contribute to a better environment? *Yes, no*
9. How well do you think people take care of the environment? *Very badly, badly, well, very well*
10. To what extent, do the following influence your ecological awareness? *School, parents, grand parents, friends, books, journals, internet*
11. Do you separate waste into different categories at home? *Yes, no*
12. Which of the following recycling activities are you involved in, and how often? *Collecting old paper, collecting plastic bungs, collecting cartridges, collecting electrical equipment (monitors, mobile phone), collecting dangerous waste (batteries,...), cleaning (collecting) wastes in the environment.*
13. To what extent you agree with the following statements:
  - *If I see waste in the school's surrounding I throw it in the waste bin;*
  - *I call my friends' attention to the need for a careful attitude to the environment,*
  - *I call my parents' attention to the need for a careful attitude to the environment,*
  - *At home I save electrical energy by switching off equipment when not in use, by switching off electric lights when it is bright enough*
  - *When brushing my teeth I turn off the water;*
  - *When I go shopping I take a cloth bag, and don't use plastic carrier bags provided by the shop.*

## Results

The responses to each question were collected, divided into two or more categories and represented by graphs and tables. The results indicate some interesting differences between the answers of pupils from schools participating in the Eco-School project and those from schools in the Healthy School project.

In responding to the question: "How well do you know about the Eco-School project/Healthy School project?" 60 % of pupils from Eco School knew about the school project very well, whereas only 16 % of pupils from Healthy School knew the project of their school very well.

In reply to the question: "Do you think that your school does enough for your ecological awareness and that of your parents?" we obtained different answers. But it

is obvious that the pupils participating in the Eco-School project have a more positive opinion about its effectiveness: 62 % of the pupils from Eco-School think that their school effectively promotes ecological awareness, while only 57 % of the pupils participating in the Healthy School project think that school does much (and not very much) for ecological awareness.

We got interesting responses to the question: “Do you think that your ecological awareness would be less if you did not attend the Eco-School?” 60 % of pupils from Eco-School could not decide, whereas 48 % of pupils from the Healthy School project think that their ecological awareness would be the same if their school was not involved in the Healthy School project.

When the pupils were asked to estimate their ecological awareness, half the pupils on both school projects think that their ecological awareness is ‘high’, and half the pupils from Eco-School estimate their ecological awareness as ‘very high’, whereas only 24 % of pupils from Healthy School estimate their ecological awareness as ‘very high’.

Compared with the pupils’ estimates of their own ecological awareness, both groups’ estimates of their parents’ awareness show practically no difference. Both groups answered that their parents have ‘very high’ (49 %) or ‘high’ (40 %) ecological awareness.

The pupils at Eco School were better at naming the place where waste bins are placed for separate collections, with 60 % pupils correctly naming the place, compared with 22 % of pupils from Healthy School. Similarly, pupils from Eco-School were better at correctly recognizing the colour of the container into which we throw the waste (53 % compared with 43 % from Healthy School). The great majority (more than 90 %) of pupils from both School projects are aware that by changing their habits they can contribute to a better environment.

We obtained different answers in response to the question about how well people take care of their environment. The pupils from Healthy School were generally more critical, with 39 % of them thinking that people do not take enough care for the environment, whereas only 24 % of pupils from the Eco-school are of the same opinion.

Both groups of pupils gave practically the same responses to the question asking them to identify influences on their ecological awareness. In first place for both groups were school and parents, followed by friends, and then books. Internet sources had the least influence on both groups.

The results indicate that pupils from the Eco Schools were markedly more active in different environmentally related activities, such as cleaning the school’s surroundings, collecting old batteries and plastic bungs, than the pupils from Healthy School. However, a major reason for this outcome is that schools in the Healthy School project did not organise collections for selected waste such as batteries or plastic bungs, or for recycling. Pupils from both schools were most active in collecting waste paper (64 % and 41 % respectively).

More than 90 % of the children in both groups gave a positive response to the question “Do you separate your waste at home?”

From the answers of the Eco-School pupils it is evident that they are more aware than those in Healthy Schools about how important is to keep the environment clean

and unpolluted. 64 % of them always put litter into the waste bin, whereas only 24 % of pupils from the Healthy School do this. Additionally, Eco-School pupils to a much greater extent call the attention of their friends and parents to the need for a responsible attitude to the environment.

Eco-School pupils are generally also more conscientious in switching off unused electric devices compared with Healthy School pupils (56 % and 33 % respectively). However, in relation to two major sources of energy waste, while differences are still evident between the groups, they are not so marked: pupils from both school projects are aware of the need not to leave lights switched on during the day (90 % and 77 %), and also not to leave water running when brushing their teeth (90 % and 81 %). In terms of re-cycling, 51 % of Eco-School pupils use a cloth bag for shopping, while only 33 % of Healthy School pupils do so.

## **Discussion and conclusion**

Our investigation shows that pupils from schools participating in the Eco-School project are generally more ecologically aware than pupils from schools in the Healthy School project. For example, Eco-School pupils were better at naming the place where waste bins are placed for the separate collection of categories of waste for re-cycling. Eco-School pupils were also better in correctly identifying the colour of the container in which we dispose of the waste than pupils from the Healthy School. However, it is interesting that Healthy School pupils were more critical than pupils from Eco-Schools in the statement that people do not take enough care of their environment.

Eco School pupils were more active in different activities associated with environmental awareness, such as cleaning the school surroundings, collecting old batteries and plastic bungs for re-cycling, than the pupils from schools within the Healthy School project. But the main difference here derives from the fact Healthy School do not generally have environmental, re-cycling and cleaning schemes organised within their programmes.

In their responses the Eco-School pupils generally provided more informed answers than the pupils from the Healthy Schools project. We therefore conclude that involvement by a school in the Eco-School project has greater influence on their pupils concerning ecological awareness and environmentally responsible behaviour than participation in the Healthy School project. Such pupils are more aware of the need to keep their surrounding clean, to switch off electricity and water when they do not need it, and to appreciate the need to conserve energy and resources generally.

Our investigation also demonstrated that, besides schools, as might be expected, parents provide a positive influence and good example for children on how to care for their environment. But the influence is not all one way: on the other hand schools within the Eco- School project also influence parents and enhance their ecological awareness because pupils bring home new information learned in school and through the different activities within the framework of the project.

Given the general contrasts in replies between the two groups of pupils, it is rather surprising that the great majority of those from both school projects answered that they separate waste at home to a great extent for recycling. However, waste separation and

recycling is not only a function of ecological awareness, but also requires organisation by the local community. In some cities in Slovenia there are still not enough containers for separating waste into categories. So even when people are aware of the importance and benefits of separation, they cannot do it if there are no special waste bins. In Slovenia there is still much to do for us to become “a society of recycling” (Žunec, 2011). For example, more than 80 % of our waste goes to waste sites for deposition or to land fill sites for burial, whereas the European average is 40 %. So whilst it is encouraging that the percentage of recycled waste has grown in the last few years, there is still much leeway to make up. There is no doubt that in the future Slovenia must both diminish the quantity of its waste, *and* improve the quality of the surrounding environment. So we need to pay greater attention to developing well-designed conservation projects and targeting resources for these. As part of this policy, schools should be more focused on educating pupils about environmental issues, and the importance of sustainability and recycling activities. One step to achieving this aim is certainly to include schools in ecologically-themed projects such as the Eco-Schools project. Our investigation shows the value of the Eco-school project in raising pupils’ awareness, and that of their parents, in appreciating the vital need for developing environmentally sustainable approaches in both policy and practice, in recognising the ecological fragility of our surroundings, and in learning how to protect them from further degradation.

## Literature

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## VLIV PROJEKTŮ EKO-ŠKOLA A ZDRAVÁ ŠKOLA NA VÝCHOVU K ODPOVĚDNÉMU VZTAHU ŽÁKŮ ZÁKLADNÍCH ŠKOL K ŽIVOTNÍMU PROSTŘEDÍ

**Abstrakt:** Mnoho škol a dalších vzdělávacích institucí ve Slovinsku se začlenily do FEEE (Nadace pro enviromentální vzdělávání v Evropě). Více než 600 škol se zařadilo do Ekologického programu a více než 250 škol do programu Zdravá škola. Zároveň jsme také srovnávali povědomí o životním prostředí a odpovědné chování k životnímu prostředí u jejich rodičů, a to z hlediska obou zmíněných projektů. Hodnocení výzkumu ukázalo lepší výsledky u žáků v projektu Eko-škol, jejich velmi dobré povědomí o životním prostředí a v podstatě odpovědné chování vůči životnímu prostředí, zatímco u žáků v projektu zdravých škol byly výsledky jejich ekologického povědomí a odpovědnosti vůči životnímu prostředí o něco horší. Podobné výsledky jsme získali

při porovnání odpovědí rodičů, které ukazují, že povědomí o životním prostředí a odpovědné chování k životnímu prostředí je o něco vyšší u těch rodičů, jejichž děti se účastní ekologických projektů.

**Klíčová slova:** ekologie, projekt Eko-škola, projekt Zdravá škola, povědomí o životním prostředí, odpovědné chování k životnímu prostředí, ekologická výchova, udržitelný rozvoj