

Green Exercise for Health and Ecology

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Abstract: “Green Exercise for Health and Ecology” is an eTwinning project that combines physical activity with environmental protection. This teaching proposal promotes the use of green spaces as environments for exercise and learning and aims to enhance students’ physical and mental health while promoting environmental awareness, preparing young people for a healthier and more sustainable future. Through a fascinating journey, students aged 8–11 from schools in Greece and Turkey, as part of the eTwinning program, had the opportunity to discover the joy and benefits of exercising in nature to improve their physical and mental health while developing a willingness, both individually and collectively, to actively participate in environmental protection. The combination of outdoor activity with raising students’ awareness of environmental issues has enhanced students’ creativity, resulting in the creation of a high-quality educational program. Students, teachers, and parents from both countries communicated, collaborated, and participated with unprecedented enthusiasm in all the activities of the action plan, thus contributing to the creation of material for the exchange of information and the dissemination of the program’s results.

Key words: green exercise, physical activity, well-being, environmental awareness, interdisciplinary education, sustainability

1. Introduction

The profound connection between humans and nature has long been a topic of academic and practical interest, transcending disciplines such as environmental psychology, education, and public health. The interaction with natural environments is widely recognized for its positive effects on physical health, including increased physical activity levels, improved cardiovascular fitness, and reduced risks of chronic diseases (Hartig et al., 2014; Pretty et al., 2005). Simultaneously, exposure to green spaces fosters mental resilience by mitigating stress, enhancing mood, and promoting cognitive restoration (Kaplan & Kaplan, 1989). Social cohesion, another vital dimension of well-being, is also enriched through shared outdoor activities, which strengthen community ties and encourage cooperative behaviors (Maas et al., 2009).

Despite these well-documented benefits, modern lifestyles often constrain opportunities for outdoor engagement, particularly among children. Increased urbanization, diminished access to natural spaces, and the pervasive use of digital devices contribute to a growing “nature deficit” (Louv, 2008). This deficit has sparked

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global concern over its potential long-term consequences on physical health, mental well-being, and environmental stewardship (Skår & Krogh, 2009).

In response to these challenges, the “Green Exercise for Health and Ecology” program was conceived as an innovative educational initiative designed to reconnect students with nature. The program sought to promote outdoor physical activity as a dual strategy for enhancing individual well-being and cultivating environmental responsibility. By addressing research questions such as “How does structured green exercise influence children’s health and ecological awareness?” and “What pedagogical strategies can effectively integrate physical education with environmental education?”, this project aimed to bridge the gap between theory and practice.

Central to the program’s purpose is the argument that experiential learning in natural settings not only fosters holistic development but also inspires a lifelong commitment to sustainability. This article presents the program’s design, implementation, and outcomes, offering insights for educators seeking to adopt similar approaches in their teaching practices.

2. Program Overview

The “Green Exercise for Health and Ecology” program was implemented during the 2022–2023 academic year and lasted for 5 months (January-May). The project was initiated by the Primary School of Evropou, Kilkis (responsible teacher Despina Papavasiliou) and by the Şehit Hakan Toydemir Primary School in Ankara, Turkey (responsible teacher Hatice Dogan). In addition to the two founding schools, 1 school from Greece, and 7 schools from different cities in Turkey also participated (a total of 15 educators).

Schools of Greece:

- Primary School of Evropos; Teacher - Anna Galazidou
- Primary School of Evropos; Teacher - Christina Vantola
- Primary School of Evropos; Teacher - Christos Petsanoukis
- Primary School of Evropos; Teacher - Despina Papavasiliou
- Primary School of Evropos; Teacher - Maria Keskenidou
- Primary School of Krya Vrysi; Teacher - Elisavet Kioulmouratoglou
- Primary School of Krya Vrysi; Teacher - Katerina Paraskeva
- Primary School of Krya Vrysi; Teacher - Kyriaki Xanthopoulou

Schools of Turkey:

- Andiz Primary School; Teacher - Rumeysa Demir
- Barbaros Primary School; Teacher - Halime Soysal
- Istek Kutahya Schools; Teacher - Kubra Akuzum
- Kutun Primary School; Teacher - Tugba Altayli Aydin
- Osmangazi Science and Art Center; Teacher - Derya Sonmez
- Rauf Nail Akman Primary School; Teacher - Gulderen Biber
- Şehit Hakan Toydemir Primary School; Teacher - Hatice Dogan

The program aimed to foster physical activity and overall well-being by encouraging students to participate in outdoor activities. By exploring the benefits of exercising in nature, the program sought to cultivate a deep appreciation for the environment and inspire students to contribute to its conservation. Through research-based and collaborative projects, students developed a positive attitude toward “green exercise”.

2.1 Objectives

The program aimed to:

- 1) Enhance physical and mental well-being through outdoor activities.
Foster environmental consciousness and ecological sensitivity.
- 2) Encourage interdisciplinary learning and collaboration.
- 3) Develop skills such as problem-solving, communication, and creativity.

2.2 Participants

The project spanned January to May 2023, involving primary schools from Evropou, Kilkis (Greece), and Ankara, Kutahya (Turkey), alongside additional partner schools. In total, 15 educators and numerous students participated, contributing to a diverse and collaborative learning environment.

2.3 Description of Teaching Practice

The eTwinning project's theme was integrated with the National Curriculum, developing students' essential skills such as problem-solving, collaboration, communication, time management, and decision-making. The project also adopted an interdisciplinary approach. Students created educational materials using digital tools, developing their digital skills, communicated with each other via Zoom, and created collaborative materials in English. They adopted an ecological perspective and developed environmental awareness (Environmental Studies). They created works of art using recycled materials as a source of inspiration and creativity, utilizing knowledge from the Aesthetics subject. Finally, they understood the importance of "lifelong exercise" and the beneficial effects that result from it (Physical Education).

2.4 Pedagogical Framework

An interdisciplinary approach aligned with national curricula guided the project. Activities incorporated:

- Environmental Studies: Cultivating ecological awareness.
- Physical Education: Emphasizing lifelong physical activity.
- Aesthetics: Inspiring creativity through art with recycled materials.
- Digital Literacy: Utilizing digital tools for communication and collaborative projects.

2.5 Active Learning

Students actively engaged in research, problem-solving, and content creation. Collaborative group work fostered teamwork, while digital tools (e.g., Canva, Padlet) enabled the co-creation of materials. This participatory approach strengthened academic outcomes and interpersonal connections (Jablon & Wilkinson, 2006; Skinner & Pintzer, 2012).

3. Methodology

Students were at the center of the learning process, ensuring their active engagement and empowerment throughout the program. The methodology was rooted in experiential and inquiry-based learning, encouraging students to explore, analyze, and synthesize information actively. According to Jablon & Wilkinson (2006), higher levels of student engagement correlate with enhanced academic performance. Additionally, Skinner and Pintzer

(2012) emphasize that active engagement promotes stronger peer and teacher relationships, which further enrich the educational experience.

Collaborative Learning: Students worked in groups, relying on mutual support and the exchange of ideas. This collaborative approach fostered a culture of shared responsibility and encouraged students to value diverse perspectives.

Research Skills Development: Activities were meticulously designed to involve students in the processes of searching, organizing, and critically examining information. By participating in research-based tasks, students cultivated essential skills such as data collection, analysis, and interpretation.

Integration of ICT Tools: The use of digital platforms and tools was integral to the project's methodology. From creating digital presentations to utilizing collaborative workspaces such as Padlet, students not only enhanced their digital literacy but also engaged creatively with content. These tools facilitated original idea generation and active participation in discussions on green exercise.

Critical Thinking and Creativity: By addressing real-world problems and proposing innovative solutions, students developed critical thinking skills. Their active involvement in designing and implementing program activities ensured a dynamic and enriching learning environment. The inclusion of creative tasks, such as art projects using recycled materials, further allowed students to express themselves while reflecting on ecological issues.

4. Implementation of the Program

The initial concept for the “Green Exercise for Health and Ecology” project was developed by the founding members and subsequently enriched in terms of content, structure, and evolution. The project emerged from the collaboration and communication between educators and students, utilizing innovative Web 2.0 technology tools. Continuous communication among collaborators proved crucial to achieving the project's objectives. During the project's development, goals were initially defined, followed by the assignment of responsibilities to students, who were then organized into work groups of 5–7 students with a teacher responsible for each group. Collaborators committed to adhering to the project timeline.

Various activities were carried out within the framework of the program. Initially, online meetings were organized via the Zoom platform. To facilitate mutual acquaintance among students, each student described themselves using the digital tool PIXTON, while each group of students presented their school. The resulting material was posted on a PADLET board. In the first online meeting of students from all participating schools, students recorded their ideas on the topic on a digital whiteboard (JAMBOARD), and then collaborative word clouds were created with the ideas of all students.

A competition was organized to select a logo and a digital banner for the program. Students from all schools participated in the competition, using the digital tool Canva for their creations. Their work was uploaded to a dedicated space on Twinspace. A vote was held at the end, and the best designs were selected to become the logo and banner of the program.

Taking the occasion of the safe internet day, students were informed and discussed in groups about the rules of safe internet browsing and the use of the eTwinning ESEP online platform, and recorded rules of safe browsing. With the collected material, they created a common digital board with rules for safe internet browsing.

A significant part of the students' work involved locating information from various sources and then

rephrasing this information in their own words. For sharing files among students, various file-sharing services were used, such as Google Drive and zumpad. The capabilities of “Padlet” were also utilized to collect the work. Thus, participants continuously circulated information, examined the collected material together with the work groups of the other schools, and ultimately created joint presentations and works.

Students collaborated to create a joint presentation analyzing the concept of “green exercise”, examining its benefits for students’ physical and mental health, the various types of exercise in nature, and how this activity contributes to environmental protection.

To promote communication and collaboration between children and schools in general, an activity was organized to exchange information related to traditional outdoor games. Each partner videotaped their students playing a traditional game from their country, and these videos were shared among the partners using Padlet. Subsequently, students participated in games from a different country, aiming to understand the culture of that particular country. They were particularly impressed by the fact that their tradition in outdoor games included common games. Finally, an electronic book (ebook) was created with information about the games played by the students, using the digital tool storyjumper.

A common poem with the initials of the program’s title sealed the children’s collaboration, while the collaborative creation of a digital painting board with the program’s logo proved particularly creative.

To inform parents, colleagues in our schools, and all students in general about our work, a collaborative, informative leaflet was created in which each group contributed with its ideas. The informative leaflets were distributed by the students themselves to parents and the local community, thus contributing to raising awareness about the benefits of Green Exercise in our lives.

The work groups from all participating schools celebrated the eTwinning day by creating works of art and decorating a letter from the phrase “I LOVE ETWINNING” using recycled materials of their own choice and preference. In this way, they enhanced their creativity and imagination. One of our favorite thematic units was the participation of students in outdoor sports activities. To achieve this, we visited various sports venues where students had the opportunity to familiarize themselves with outdoor sports activities such as horseback riding, archery, birdwatching, and outdoor games.

With similar activities on April 22, students celebrated Earth Day. In an effort to raise awareness among students about the importance of ecology and environmental protection, they organized activities in nature and tried to use natural or recycled materials for their creations. Educators, along with students, discussed and proposed various ways to protect our planet. A walk in nature and the forest helped them appreciate our planet even more and strive to protect it with dedication. Students also volunteered to clean up the areas around the school, planted flowers in the schoolyard, and built bird nests, which they placed at various points in the city, and created works of art with recycled materials. To attract our students in a more entertaining way, we asked them to prepare some questions for use in Kahoot. We set a date and time to play online with our partners.

At the end of the project, students had an interesting idea to create a digital magazine titled “Green exercise for health and ecology” to capture the activities carried out during the program. Each work group processed and added an activity to the pages of the magazine. This magazine is a beautiful souvenir publication that will accompany our students forever and will help them preserve the memories of their participation in the “Green Exercise for Health and Ecology” program.

Finally, a virtual museum was created using the capabilities offered by Artsteps, which contained photos of the various activities carried out during the school year, such as field trips, events, and games.

5. Dissemination of the Project

Parents of students in each participating school were informed about the program's objectives. Additionally, a dedicated eTwinning corner was created in each school, where material from all activities carried out within the framework of the program was stored. This material was used to inform all interested parties about the actions and achievements of the program.

Parents of students were encouraged to participate in program activities with their children, and an informative leaflet was distributed to the extracurricular community to disseminate the beneficial effects of Green Exercise.

The project and its description were posted on the schools' websites so that other students, parents, and educators could view the activities. The project was presented at an online dissemination event of European programs themed "A Celebration for Europe 2023 implemented in Primary and Secondary Schools of Pella, Imathia and Pieria and the scientix community". Furthermore, the project was presented at a Seminar for the Dissemination of Good Practices of PE11 Physical Education Teachers of Serres and Kilkis, organized by the Physical Education Advisor of Serres and Kilkis.

6. Results and Evaluation

6.1 Outcomes

- **Student Impact:** Participants reported increased enjoyment of collaborative learning, deeper environmental awareness, and greater enthusiasm for outdoor activities.
- **Parental Involvement:** Parents recognized the program's positive influence on their children's habits and expressed increased interest in green exercise.
- **Educational Value:** Teachers highlighted the program's role in professional development, fostering communication and innovative teaching practices.

6.2 Recognition

The project received National Quality Label both from Greek and Turkish eTwinning services, validating its educational and ecological contributions. The "Green Exercise for Health and Ecology" project was a resounding success, receiving both the national and European Quality Labels. This recognition highlights the program's significant impact on students' health, well-being, and environmental awareness.

6.3 Conclusions

Throughout the implementation of the project, continuous feedback was provided to ensure the achievement of the program's objectives. To investigate students' prior knowledge, questionnaires were administered to students, and a similar questionnaire was used for the final conclusions. Teachers used the online tool Tricider to express their views on the evaluation of the project, while students and parents reflected on their experience by recording it on the digital board Linoit.

Upon completion of the project, questionnaires were given to teachers, students, and parents for the final evaluation. The conclusions regarding students were that they were satisfied with their participation in the program, enjoyed working collaboratively, and believed that new ideas emerged in this way.

The majority of parents responded positively to the knowledge transferred to their child and there was an observed increase in the number of parents who now choose green exercise, compared to the initial assessment. Throughout the implementation process, parents followed the project's activities without losing interest.

As for the teachers, they concluded that the program's objectives were successfully completed and agreed that the program helped in communication and exchange of ideas as well as in their professional development.

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