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Article

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Article

Some Reflections on the Role of the Eco-Schools Program in the Promotion of Sustainable HEIs: A Case Study in Portugal

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Abstract: Currently, the Eco-Schools program plays a key role in the application of the concepts of environmental education and management in the daily life of schools. This program is considered the largest environmental education program for schools of different levels in the world and continues to grow with the constant and ambitious mission to improve literacy and change environmental behaviors, particularly among the youngest who are now students, but will be the future decision-makers, politicians, managers, teachers, and parents. Thus, it is essential to involve this younger generation in the construction not only of a school, but also of a more sustainable community. This research study presents a set of reflections on the main guidelines of the Eco-Schools program, focusing on its methodology and areas of activity. It also analyzes the reality in Portugal, a country where the Eco-Schools program has been developed since 1996 by the European Blue Flag Association (ABAE), an association that works in the three components of sustainability (environmental, economic, and social), reinforcing the importance of educating and involving all the individuals of the community in joint actions for a more sustainable society. The case study consists of a Portuguese Higher Education Institution (HEI) awarded the Green Flag since the year it enrolled in the program, 2018/19. A description, analysis, and reflections are made on some of the main measures implemented in the last academic year within the scope of the Eco-Schools program, noting that, despite some implementation difficulties, the program was successfully developed, involving the participation of students, teachers, staff, and outside school community members, thus contributing to a more sustainable society.

Keywords: eco-schools program; higher education institutions; environmental protection; sustainability; Portugal



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1. Introduction

Since the second half of the last century, environmental problems began to generate a deep concern worldwide, not only among ordinary citizens but also among policy makers. The harmful effects of human's irresponsible and inconsequential actions, namely air, water and soil pollution, greenhouse gas (GHG) emissions, deforestation, and the persistent use of natural and non-renewable resources, are increasingly evident, affecting ecological systems and human health in a profound manner (UNEP 2015; Ye et al. 2020; IPCC 2021). Faced with this increasingly unsustainable humanity's environmental footprint, governments, organizations, and civil society must act now and adopt effective measures to mitigate environmental problems and promote a sustainable development (UN 2022).

Regarding specifically Portugal, a country that lies along the Atlantic coast of the Iberian Peninsula in southwestern Europe, it had a late awakening to environmental problems. After 48 years of dictatorship, Portugal reached the 1970s with very low levels of education and a considerable socioeconomic backwardness compared to other European countries (Carvalho et al. 2014). With the 1974 revolution, and particularly with the accession to the European Economic Community (EEC) in 1986, Portugal began to pay more attention to environmental issues, becoming more proactive regarding environmental protection. In fact, becoming an EEC member brought to Portugal not only financial resources and a legislative framework on environmental protection, but also the obligation to

improve its environmental quality indicators (Valente and Ferreira 2014). More recently, in 2016, reinforcing its commitment to protecting the environment, Portugal ratified the Paris Climate Agreement, which sets the objective of limiting the global average temperature increase to well below 2 degrees (°) Celsius (C) above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C, recognizing that this will significantly reduce the risks and impacts of climate change (UN 2015).

The pursuit of these environmental goals requires greater investment in different areas, particularly in the population's environmental education, a key tool to increase individuals' pro-environmental knowledge, skills, values, attitudes, awareness, and behaviors (Zsóka et al. 2013; Varela-Candamio et al. 2018; Esteban Ibáñez et al. 2020). An efficient education that promotes sustainable development aims to empower and equip current and future generations to meet their needs using a balanced and integrated approach to the economic, social, and environmental dimensions of sustainable development (Leicht et al. 2018). In this context, schools play a key role, having the duty and responsibility to ensure training for today's students and tomorrow's leaders, decision-makers, intellectuals, employers, and parents, allowing them to meet the objectives of sustainable development (Bozoglu et al. 2016; Fuertes-Camacho et al. 2019, 2021). Students are important agents of change, capable of multiplying knowledge and action, essential skills for the reversal of the current state of environmental degradation (Stevenson et al. 2017; Andersen 2018; Kuthe et al. 2019). In addition, teachers are also essential elements, not only as knowledge promoters but also as credible role models who demonstrate actions to protect the environment (Schelly et al. 2012). Aware of all these factors, the Foundation for Environmental Education created the Eco-Schools program in 1992, ensuring schools to develop a whole-school approach to environmental education. Today, after all these years, the program's greatest achievement is arguably the fact that it produces generation after generation of sustainably minded, environmentally conscious people. These individuals will carry the behavioral patterns they uptake under the auspices of Eco-Schools with them through life, in turn teaching the next generation the habits to make a difference (FEE 2022).

This research aims to reflect and analyze the efficiency of the Eco-Schools program as a promoter of sustainable schools. To this end, a specific case study of a Portuguese higher education institution (HEI) is analyzed which provides undergraduate, postgraduate, and master's degrees in the area of management, accounting, and administration. Although, in recent decades, there has been an increasing recognition of the importance of schools and environmental education to promote more environmentally friendly behaviors, scientific studies in this area and, in particular, on the Eco-Schools program in a Portuguese HEI, are still very scarce. With this research study, it is intended to fill this research gap by carrying out a case study of a Portuguese higher education Eco-School. This paper is organized as follows. After an introduction to the research subject, the second section presents a detailed description of the Eco-Schools program. Then, the research proceeds with the characterization of the reality of the Eco-Schools program in Portugal. The analysis of a case study follows: a Portuguese HEI awarded with a Green Flag since 2018. The following section is devoted to a discussion of some key issues, and, finally, the paper ends with the main conclusions.

2. Eco-Schools Program

2.1. Sustainable Development

The concept of sustainable development is a very broad concept, for which there are different interpretations and definitions, depending on the authors' approaches. The notion of sustainable development as the promotion of social welfare, economic prosperity, and environmental protection, arose with the first signs of the ecological crisis in the 1960s and 1970s (Schmidt and Guerra 2018). Different organizations participated in the sedimentation and divulgation of this concept, but the one that stands out the most with a very proactive role is the United Nations (UN), founded in 1945, being responsible for the organization of numerous conferences, actions, and publications on sustainable development (Klarin 2018).

In 1987, the concept of sustainable development gains international relevance with the publication “Our Common Future”, also known as the “Brundtland Report” (WCED 1987). This report focused primarily on the human needs in securing a global equity for future generations by redistributing resources towards poorer nations to encourage their economic growth in order to enable all human beings to achieve their basic needs. It also expressed the belief that social equity, economic growth, and environmental maintenance are simultaneously possible, thus highlighting the three fundamental components of sustainable development: environment, economy, and society (Pisani 2006).

Later on, in 1992, the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, was held in Rio de Janeiro, Brazil. This conference contributed to a deeper consolidation of the concept of sustainable development, materialized in 40 chapters of its final report named Agenda 21, which highlights the importance of each country committing to reflect on how governments, companies, organizations, and all sectors of society can cooperate in a global partnership in the study of solutions to achieve a sustainable development, a development that meets human needs, current and future, and respects the environment. In chapter 36 of Agenda 21, “Promoting Education, Public Awareness and Training”, the role of education in achieving environmental awareness and development in all sectors of society is particularly emphasized (UNCED 1992; CNUMAD 1997).

As a response to the Earth Summit’s call upon environmental education and youth-led environmental protection and sustainable development, the Eco-Schools program was created. Building upon a Danish initiative piloted in 1992, the Eco-Schools program was launched by the Foundation for Environmental Education (FEE) in 1994 and, since then, the Eco-Schools concept has been engaging young people in taking positive actions that transform their lives (EU 2018).

The Eco-Schools program is an ideal way for schools to embark on a meaningful path towards improving the environment in both the school and the local community while at the same time having a life-long positive impact on the lives of young people, their families, school staff, and local authorities. By developing competences in education for sustainability, it is expected that the participating students improve their individual competences to protect the environment (Fuertes-Camacho et al. 2019, 2021). From its modest beginnings in a few European countries—Denmark, Germany, Greece, and United Kingdom—the program has expanded considerably in the last 3 decades of existence, representing today the largest international network of students and teachers, being responsible of an effective change in 59,000 schools across 74 countries worldwide (FEE 2022). The Eco-Schools program offers a flexible approach to implementing environmental management and learning systems, always placing students at the center of change. These, however, are expected to remain constantly connected with others, namely with teachers, family, and other community members, being responsible for disseminating their knowledge and promoting pro-environmental behaviors in key areas, namely water, waste, energy, litter, transport, and healthy living (EU 2018).

2.2. Seven-Step Methodology

The Eco-Schools Seven-Step methodology is a set of measures to help schools maximize the success of their environmental goals: (i) form an eco-committee; (ii) carry out an environmental review; (iii) make an action plan; (iv) monitor and evaluate; (v) link to the curriculum; (vi) inform and involve; (vii) produce an eco-code. This methodology involves a great diversity of individuals from the school community, but the main role belongs to the students. In Table 1, a summary description of each step is presented.

Table 1. Seven-Step Methodology on the Eco-Schools Programme.

Steps	Characterization and Goals
1: Form an Eco-Committee	<ul style="list-style-type: none"> -It is the driving force behind the Eco-Schools process and represents the ideas of the school; -It ensures that the entire school knows about Eco-Schools; -It may be composed of: students/teachers/ staff/parents/wider community; -It meets regularly to discuss environmental and social actions for the school.
2: Carry out a Sustainability Audit	<ul style="list-style-type: none"> -It helps the school to identify its current environmental and social impact and highlights the good, the bad, and the ugly; - It is essential that as many pupils as possible participate in this process; -The results of the Sustainability Audit inform the Action Plan.
3: Action Plan	<ul style="list-style-type: none"> - It is the core of the Eco-Schools' work and should be developed using the results of the Sustainability Audit; -It uses the Sustainability Audit to identify the priority areas (preferably up to three) in the school; -It is expected to resolve/improve identified problems. -It should be SMART: Specific, Measurable, Attainable, Realistic, and Timely.
4: Monitor & Evaluate	<ul style="list-style-type: none"> -To find out if the school is successfully achieving the targets set out in its Action Plan, it is essential to monitor and measure the progress; -Pupils should be given the responsibility for carrying out monitoring activities; -Results of monitoring should be regularly updated and displayed for the whole school to see; -Evaluation of the activities' success follows on from monitoring.
5: Curriculum Work	<ul style="list-style-type: none"> -Linking Eco-Schools activities to the curriculum ensures that Eco-Schools are truly integrated within the school community; -It can be done, either directly through specific classes or innovative teaching; -Pupils should understand how real-life environmental and social issues are handled in a real-life context.
6: Inform & Involve	<ul style="list-style-type: none"> -Actions should not be confined to the school: for example, pupils should take home ideas to put into practice; -It is essential that the school is involved in, and the wider community aware of, the schools' Eco-Schools program; - It may be done through: assemblies, notice boards, websites, plays, letters to businesses and corporations, local and national press, radio and television, etc.
7: Produce an Eco-Code	<ul style="list-style-type: none"> -It is a statement that represents the school's commitment to sustainability; -It should be memorable and familiar to everyone in the school; -It should list the main objectives of the Action Plan; -Its content should be reviewed on a regular basis to ensure that it continues to reflect the school's ecological aims and targets.

Source: (FEE 2022).

2.3. Work Themes

In addition to the Seven-Step methodology, it is important that each Eco-Schools develop their annual actions in three of the following areas/themes presented in Table 2.

After implementing the program and achieving a high level of performance, schools can apply for the Green Flag award, which symbolizes the recognition of the existence of a committed work in the area of environmental education and education for sustainability, following the Seven-Step methodology. In 2020, 19,799 schools achieved an Eco-Schools Green Flag accreditation (Eco-Schools–UK 2022).

Table 2. Themes/ Areas of Action on the Eco-Schools Programme.

Themes	Characterization and Goals
Biodiversity & Nature	-Examines the flora and fauna present in the school environment and suggests ways to increase the levels of biodiversity around the school.
Climate Change	-Examines the impacts we have on the Climate through our lifestyles and how our actions can influence the situation in a positive way.
Energy	-Suggests ways in which members of the school can work together to increase awareness of energy issues and to improve energy efficiency in the school.
Food	-Encourages pupils and the community to take responsible food-related choices that protect the environment, promote human rights, and improve the wellbeing.
Global Citizenship	-Examines what our rights and responsibilities are on a National, European, and Global scale and encourages students and community to look at the impacts our consumption habits have on other parts of the world.
Health & Wellbeing	-Encourages schools to promote the health and wellbeing of young people and community, and to make environmental connections to health and safety.
Litter	-Examines the impact of litter on the environment and explores practical means for reducing the amount of litter produced by the school.
Marine & Coast	-Teaches students about local and/or global coastal and marine habitats, how people are affecting these habitats, and what we can do to protect them.
School Grounds	-Encourages schools to introduce students to the natural environment in a practical way by offering a suitable outdoor education facility that can complement classroom activities.
Transport	-Suggests ways for pupils and community to work together to raise awareness of transport issues and come up with practical solutions.
Waste	-Examines the impact of waste on the environment and explores actions to minimize the amount of waste produced on a daily basis.
Water	-Draws attention to the importance of water and raises awareness of how simple actions can substantially reduce water use.

Source: (FEE 2022).

3. Eco-Schools in Portugal

As already mentioned, the Eco-Schools concept emerged in 1992 in response to the guidelines enacted at the Earth Summit. In the following years, the Eco-Schools program grew considerably, being adopted by an increasing number of countries. Portugal joined the program in 1996 following the Second European Conference of Sustainable Cities and Towns, held in Lisbon, Portugal, in October 1996, which attracted over 1000 participants from 39 countries, representing more than two hundred local and regional authorities. This conference resulted in the adoption of the Lisbon Action Plan, which identified a series of mechanisms through which sustainable development can be best achieved, providing a basic framework to support local and regional authorities in the struggle for sustainable development. It is in this context that the Eco-Schools program was introduced in Portugal, reaching 25 years of existence in 2021 (ABAE 2021; SECSCT 1996).

Coordinated by the European Blue Flag Association (ABAE), a non-profit organization dedicated to Education for Sustainable Development (ESD) and to the management of good environmental practices (ABAE 2020, 2022a, 2022b), the Eco-Schools program has had very positive results in Portugal, as shown by the following statistics.

3.1. Municipalities Involved, Schools Enrolled, and Schools Awarded the Green Flag

The statistics provided by ABAE show that, from the academic year 1996/1997 to 2020/2021, the evolution of the Eco-Schools program was considerable, revealing that the number of municipalities with Eco-Schools more than quadrupled, from 58 municipalities in 1996/1997 to 245 in 2020/2021. Regarding the number of enrolled schools, it went from 124 in 1996 to 1825 schools in 2021. As for schools awarded the Green Flag, the number of schools rose from 30 in 1996/1997 to 1620 schools with the Green Flag in 2020/2021. Figure 1 presents the evolution of the numbers regarding the municipalities involved, enrolled schools, and schools awarded the Green Flag from 1996/1997 to 2020/2021.

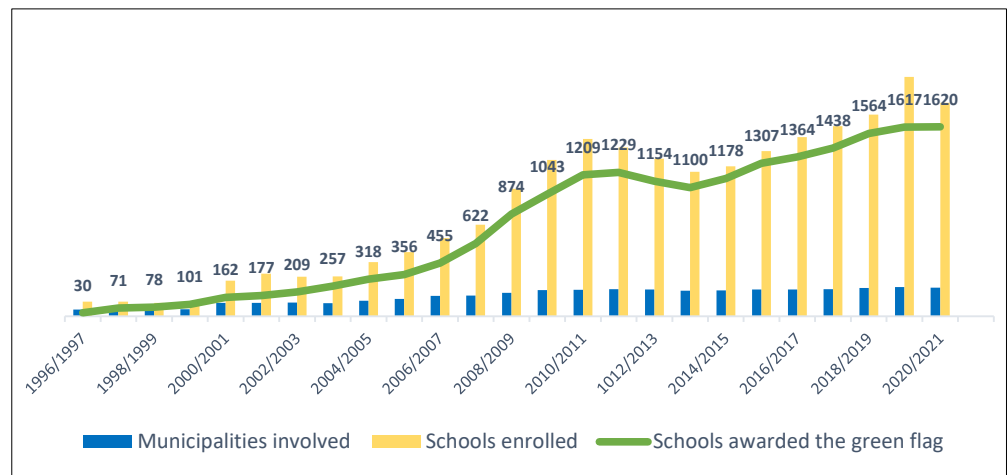


Figure 1. Municipalities involved, schools enrolled, and schools awarded the Green Flag. Source: (ABAE 2021, 2022a).

In Portugal, the first Green Flags were awarded in the academic year of 1996/1997. Since then, a Green Flag award event is organized annually. The schools are awarded based on the result of an annual assessment which always includes the Seven-Step methodology and specific work themes. In the first year of 1996/97, the theme was waste, in 1997/98, water, and in 1998/99, energy. Since 2000, the three themes became mandatory in all schools applying to be Eco-Schools. In addition to the three themes, a different theme is introduced each year. For instance, in 2020, as Lisbon was the European Green Capital 2020, the theme in that year was “Sustainable Communities and Outdoor Space”. It is interesting to note that 5 Portuguese schools have received 23 green flags, one per year since the launch of the program. Since the first year, ABAE arranges two major events each year: a Green Flag Award Day in September or October and teacher training sessions in January (FEE 2019).

3.2. District Implementation Rate: Schools Enrolled vs. Total Schools

In the academic year 2020/2021, of the 8853 schools in Portugal, 1825 were enrolled in the Eco-Schools program, representing an implementation rate of 21%. In a total of 20 districts, 10 have an implementation rate greater than or equal to 20%, with the autonomous region of Madeira standing out with the highest implementation rate: 68% (ABAE 2021, 2022a, 2022b). Figure 2 presents these numbers.

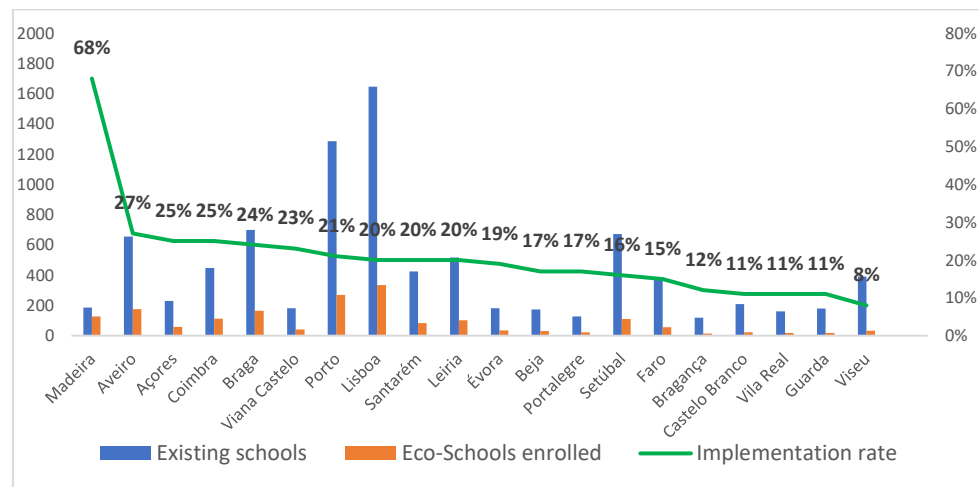


Figure 2. District implementation rate: schools enrolled vs. total schools. Source: (ABAE 2021, 2022a).

3.3. Students Involved by Level of Education

In the academic year 2020/2021, around 821,225 students were involved in the Eco-Schools program, with emphasis on the third cycle of students who represent 24% of the total number of students. In the case of higher education students, these are only 90,865, representing only 11% of the total number of students, as shown in Figure 3.

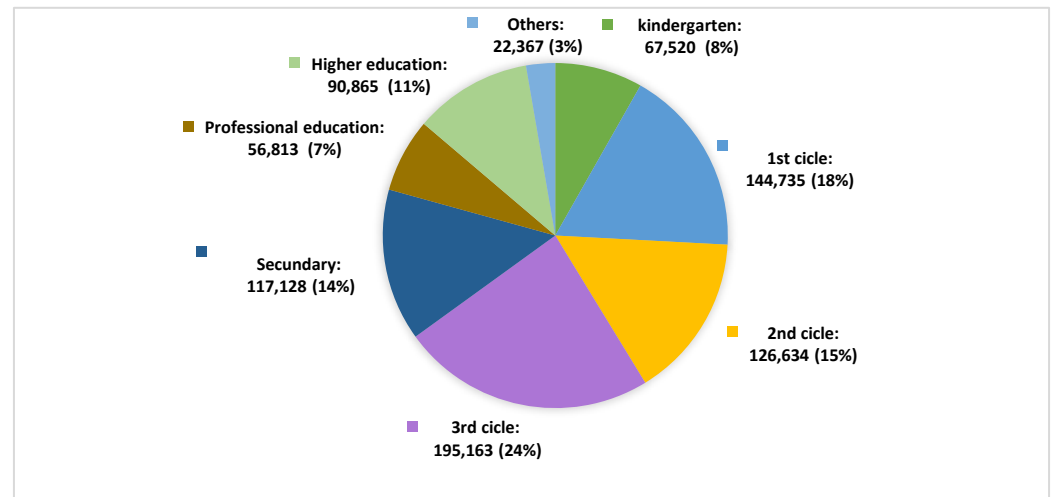


Figure 3. Eco-Schools in numbers: students involved by level of education. Source: (ABAE 2021, 2022a).

3.4. Growth of Eco-Schools in Higher Education

It was only in the academic year 2006/2007 that the first HEI enrolled in the Eco-Schools program appeared. Since then, this number has increased considerably, especially since the 2018/2019 school year, rising to 53 schools in the 2020/2021 school year. As for schools awarded the green flag, they went from 0 in 2006/2007 to 50 in 2020/2021, as shown in the Figure 4.

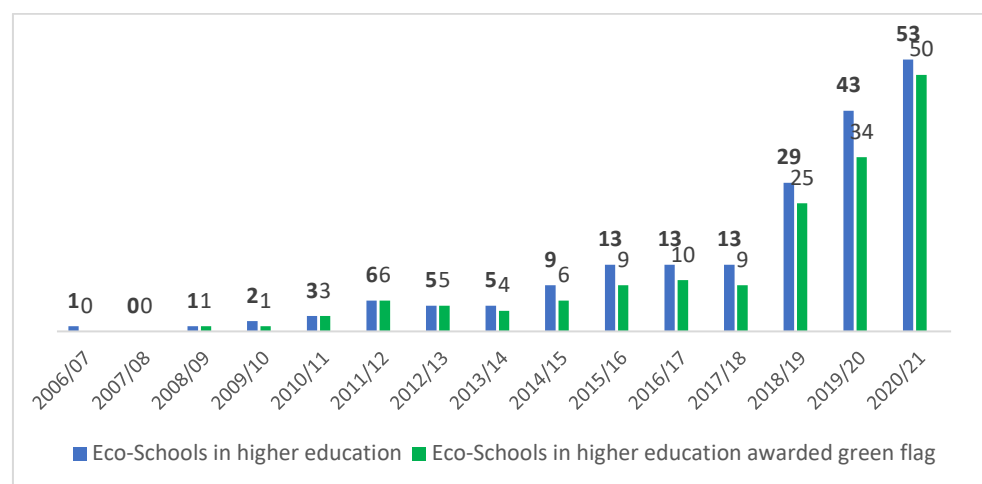


Figure 4. Eco-Schools in numbers: growth of Eco-Schools in Higher Education. Source: (ABAE 2021, 2022a).

4. Case Study: A Portuguese Eco-School in Higher Education

The present research study focuses on Coimbra Business School | ISCAC, a HEI in the area of business, administration and accounting, located in the central region of Portugal and which in the academic year 2020/21 had 2857 students, including undergraduate and graduate. This school, with a total area of 12040 m², including green spaces with 9030 m², is enrolled in the Eco-Schools program since the academic year of 2018/2019 and, since then,

this school has been exemplary in the area of environmental education and in the various actions developed within the scope of the Eco-Schools program, always being awarded the Green Flag (ABAE 2022a).

Regarding the most recent academic year, 2020/2021, this school followed the Seven-Step methodology, starting with forming an Eco-Committee, a key step considered the driving force behind the Eco-School process, which represents the ideas of the whole school. This committee was composed of 24 elements of the school: 15 students, 7 teachers, 2 non-teaching staff; and 3 elements external to the school: 1 representative of the Parish Council, 1 publicist, and 1 head of the secondary school grouping. This committee met 4 times during 2022 in a hybrid regime: in person and online, due to the fact that Portugal is still subject to temporary confinements due to the COVID-19 pandemic.

After the establishment of the school's Eco-Committee, the Sustainability Audit was carried out, the second stage that helps the Eco-School to identify its current environmental and social impact, through a questionnaire in which the respondents (students, teachers, and staff) answer a series of questions about their environmental behavior. The Table 3 shows the percentages of responses with the most sustainable option.

Table 3. Sustainability Audit responses on the Eco-Schools Programme.

Themes	Answers with the Most Sustainable Option	Total of Answers	Percentage of Responses with the Most Sustainable Option
Energy	33	40	82.50%
Water	30	40	75%
Waste	37	53	69.81%
Food	45	65	69.23%
Outdoor spaces	22	35	62.65%

Source: (ABAE 2022c); data from Coimbra Business School | ISCAC 2021/22.

After analyzing the responses obtained in the Sustainability Audit, the Eco-Committee developed the school's Action Plan. Given the large number of items, Table 4 presents just a selection of some of the measures of the Action Plan. It should also be noted that this school selected 5 themes or areas of action, as it identified some environmental flaws to improve in each of these areas: energy; water; waste; food; and outdoor spaces.

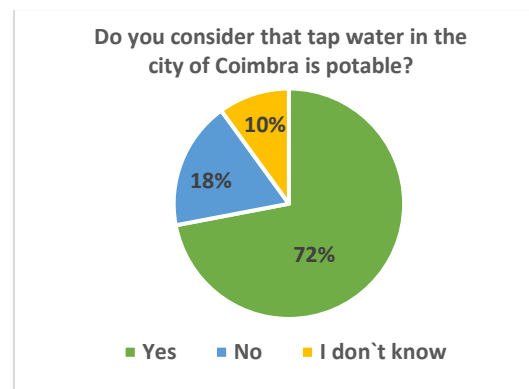
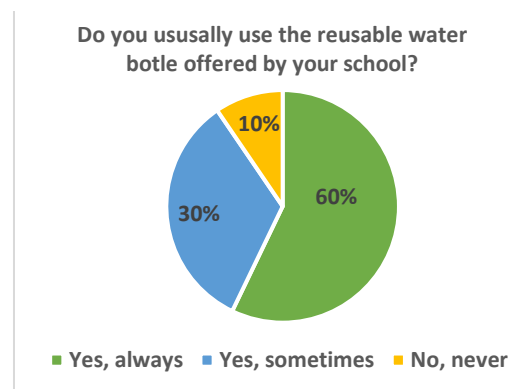
With the aim of evaluating the progress and success of the goals established in the Action Plan, the "Monitoring Brigade" was created, which integrates the broader concept "Green Brigade", composed by elements, mainly students, selected by the Eco-Schools Council. This "Brigade" was committed to carry out a set of different monitoring and evaluation procedures, namely: regular recording of gas, electricity, and water consumption; questionnaires to students to assess their perceptions and consumption of tobacco; observation of healthy food offerings at the bar; observation and accounting of the waste duly deposited in each of the bins (green, yellow, blue, and brown).

Regarding the water theme, for example, this "Monitoring Brigade" proposed to evaluate, at the end of the 2021/22 school year, the impacts of the measures developed throughout the year by the Eco-Schools program, namely: divulgation of the quality of the tap water in the city of Coimbra; offering a reusable bottle to each student; and installation of drinking fountains in school corridors. To this end, a questionnaire was carried out with several questions in order to measure and evaluate the success of these measures developed. Figures 5–7 present the results for three specific questions.

Table 4. Action Plan in the Eco-Schools Programme.

Themes	Diagnosis	Objectives	Planned Actions
Energy	The lights in the school corridors are always on	Save energy	Placement of presence sensors in corridors
Water	Lack of information regarding the quality of tap water	Increase tap water consumption as an alternative to bottled water and reduce plastic consumption	Offer 1 reusable bottle to each student and install more drinking fountains
Waste	Organic waste in the school bar is not separated	Separation, collection, and recovery of organic waste	Acquisition and installation of a brown bin
Food	Excessive consumption of soft drinks and cakes, and few healthy food options at the bar	Promote healthier eating and offer these alternatives at the bar	Distribution of flyers and publication of posts on social networks with healthy recipes
Outdoor Spaces	Considerable number of students who smoke	Raise awareness of the harmful effects of tobacco	Publication of posts on social networks warning of the harmful effects of tobacco

Source: (ABAE 2022c); data from Coimbra Business School | ISCAC 2021/22.

**Figure 5.** Perception of tap water quality.**Figure 6.** Use of reusable water bottle.

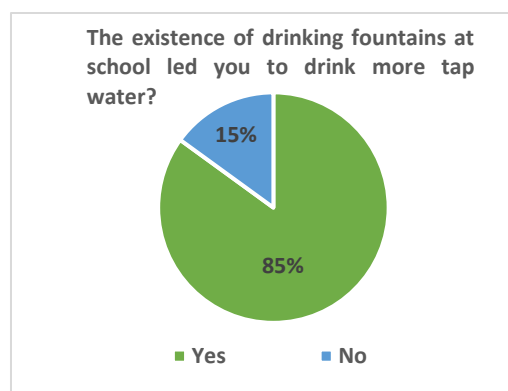


Figure 7. Impact of drinking fountains.

The following step refers to the curriculum work. Besides increasing the status of the program, linking the Eco-School activities to the curriculum ensures that the Eco-School is truly integrated within the community. As already mentioned, Coimbra Business School | ISCAC is a HEI in the area of business, accounting and administration. Although the degrees, postgraduates and masters, are in scientific areas with no obvious links with the environment and sustainability, there are already several academic units of these courses that have integrated themes related to the environment and sustainability in their curricula, maintaining a close connection with the different activities promoted by the Eco-Schools program.

The sixth step “inform and involve” is very important. In fact, the actions carried out within the scope of the Eco-Schools program should not be limited only to the school community (students, teachers, and staff), but to the entire surrounding community (family, friends, neighbors, colleagues, etc.). As such, throughout the 2021/22 school year, the school promoted several initiatives on environment and sustainability open to the entire community, namely lectures, social media posts, art exhibitions, photography contests, and used book exchanges. In fact, it is very important that students acquire knowledge and adopt more sustainable behaviors, but even more important is its dissemination throughout society, making it more environmentally friendly and sustainable.

The last step of the methodology consists of producing an Eco-Code, which is mainly a statement that represents the school’s commitment to sustainability. In the case of Coimbra Business School | ISCAC, this school defined 8 key statements: (i) “Save the environment, don’t throw trash on the floor!”; (ii) “Preserve nature, preserve your future!”; (iii) “Plastic is going around the World, let’s end plastic!”; (iv) “Let’s save water so Planet Earth doesn’t dry up!”; (v) “Washing your hands is very important, but don’t leave the tap running all the time!”; (vi) “Save energy! Say no to opened windows with the air conditioning on!”; (vii) “Donate your old clothes to whoever needs them most!”; (viii) “Wear reusable masks, the environment thanks you!”.

After successfully implementing the Seven-Step methodology, reaching a high level of performance, Coimbra Business School | ISCAC applied and was awarded the Green Flag award for the fourth year in a row ([ABAE 2022c](#)).

5. Discussion

The implementation of the Eco-Schools program in a HEI presents a series of strengths and opportunities, but also threats and difficulties that, once identified, are expected to be overcome in the near future. Regarding the implementation of the program at Coimbra Business School | ISCAC, it allowed the development of the following strengths and opportunities: (i) promote the development of different actions that contribute to a more sustainable and environmentally friendly school; (ii) promote greater dissemination of issues related to sustainability and the environment; (iii) bring together people from different areas for the same goals; (iv) contribute to the goals of sustainable development; (iv) contribute to a change in behavior, especially environmentally friendly behavior, at

school; (v) raise awareness of the necessary changes in behavior outside of school; (vi) make known the Eco-schools program and its contribution to a more sustainable school.

As for the threats and difficulties, the following can be highlighted: (i) continuation of the pandemic and prophylactic isolation, which reduce participation; (ii) existence of intention and good will on the part of students to protect the environment; however, they are not reflected in daily actions due to lack of initiative and effective involvement in actions; (iii) difficulties in motivating and involving students, given the optional nature of their participation and the lack of a generalized and common policy for curricular enhancement; (iv) difficulties in making schedules for carrying out activities compatible due to the existence of many moments of traditional assessment (exams and intermediate tests) that absorb students and leave little free time for other activities.

Despite these difficulties, the strengths of the Eco-Schools program in this Portuguese HEI were considerable and recognized by the award of the Green Flag.

6. Conclusions

Embarking on the path of sustainable development demands a deep transformation of how individuals think and act. To create a more sustainable world, individuals must become sustainability change-makers, which requires the knowledge, skills, values, and attitudes that empower them to contribute to a more sustainable development. In this context, schools play a key role by promoting an education that aims to empower students to take more informed decisions and responsible behaviors for environmental integrity both for present and future generations (UNESCO 2017).

The Eco-Schools program, centered on active learning through practical action, offers a flexible approach adapted to local realities. By providing resources and teaching materials adapted to local realities, and supporting teachers, the Eco-Schools program is an important tool for schools to improve their infrastructure and education, while improving the environment and promoting more sustainable behaviors both in school community and the surrounding community. The case of Coimbra Business School | ISCAC, a Portuguese HEI, is a successful case recognized with the Green Flag award. This school managed, through the Eco-Schools program, to develop environmental protection initiatives, involving students who participated and changed their behavior in favor of the environmental protection. With this case study, it is expected that other higher education schools will follow this example in favor of a more sustainable society.

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References

- ABAE. 2020. *Por um dia a dia Mais Sustentável. Participa No Eco-Escolas!* Associação Bandeira Azul da Europa, Edição com o apoio da ENEA—Estratégia Nacional na Educação Ambiental, Ministério do Ambiente de Portugal. Available online: <https://ecoescolas.abae.pt/wp-content/uploads/sites/3/2014/09/Folheto-Eco-Escolas-Final.pdf> (accessed on 10 August 2022).
- ABAE. 2021. *Semana Virtual Eco-Escolas—Seminário Nacional Eco-Escolas 2021*. March 15–19. Available online: <https://ecoescolas.abae.pt/wp-content/uploads/sites/3/2021/03/ECO-ESCOLAS2021-2-compressed.pdf> (accessed on 15 August 2022).

- ABAE. 2022a. *Programa Eco-Escolas*. Associação Bandeira Azul da Europa. Available online: <https://ecoescolas.abae.pt/> (accessed on 27 August 2022).
- ABAE. 2022b. *Guia Eco-Escolas*. Associação Bandeira Azul da Europa. Available online: <https://ecoescolas.abae.pt/wp-content/uploads/sites/3/2014/09/Guia-do-professor1.pdf> (accessed on 16 August 2022).
- ABAE. 2022c. *Ficha de Acompanhamento Eco-Escolas do Instituto Superior de Contabilidade e Administração de Coimbra, 2021/2022*. Associação Bandeira Azul da Europa. Available online: https://ecocampus.abae.pt/plataforma/index.php?p=monitoring_form (accessed on 16 August 2022).
- IPCC. 2021. Summary for Policymakers. In *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva: IPCC, p. 32. Available online: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf (accessed on 16 August 2022).
- Andersen, Peter. 2018. Children as Intergenerational Environmental Change Agents: Using a Negotiated Protocol to Foster Environmentally Responsible Behaviour in the Family Home. *Environmental Education Research* 24: 1076. [CrossRef]
- Bozoglu, Mehmet, Abdulkaki Bilgic, Bakiye Kilic Topuz, and Yuksel Ardali. 2016. Factors affecting the students' environmental awareness, attitudes and behaviors in Ondokuz Mayıs University, Turkey. *Fresenius Environmental Bulletin* 25: 1243–57.
- Carvalho, Anabela, Luísa Schmidt, Filipe Duarte Santos, and Ana Delicado. 2014. Climate Change research and policy in Portugal. *Wiley Interdisciplinary Reviews Climate Change* 5: 199–217. [CrossRef]
- CNUMAD (United Nations Conference on Environment and Development). 1997. *Agenda 21*. Curitiba: IPARDES.
- Eco-Schools–UK. 2022. *Eco-Schools History & Statistics*. Eco-Schools: Keep Britain Tidy. Available online: <https://www.eco-schools.org.uk/about/eco-schools-history-and-statistics/> (accessed on 27 August 2022).
- Esteban Ibáñez, Macarena, Isabel Victoria Lucena Cid, Luis Vicente Amador Muñoz, and Francisco Mateos Claros. 2020. Environmental Education, an Essential Instrument to Implement the Sustainable Development Goals in the University Context. *Sustainability* 12: 7883. [CrossRef]
- EU. 2018. Eco-Schools: Environmental Education and Sustainable Development. *Greening EU Cooperation—Integrating Environment & Climate Change*. Available online: <https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/60d3050632ac8c0b3e09f5d4/1624442120462/Eco-Schools+-+Environmental+Education+and+Sustainable+Development.pdf> (accessed on 15 August 2022).
- FEE. 2019. *Changing Together Eco-Schools 1994–2019*. Foundation for Environmental Education. Available online: https://www.ecoschools.global/s/1-Changing-Together-Eco-Schools-1994-2019_Introduction-tdry.pdf (accessed on 17 August 2022).
- FEE. 2022. *Engaging the Youth of Today to Protect the Planet of Tomorrow*. Foundation for Environmental Education. Available online: <https://www.ecoschools.global/> (accessed on 25 August 2022).
- Fuertes-Camacho, Maria Teresa, Marioa Graell-Martín, Mariana Fuentes-Loss, and Maria Carmen Balaguer-Fàbregas. 2019. Integrating Sustainability into Higher Education Curricula through the Project Method, a Global Learning Strategy. *Sustainability* 11: 767. [CrossRef]
- Fuertes-Camacho, Maria Teresa, Carles Dulsat-Ortiz, and Isabel Álvarez-Cánovas. 2021. Reflective practice in times of COVID-19: A tool to improve education for sustainable development in preservice teacher training. *Sustainability* 13: 6261. [CrossRef]
- Klarin, Tomislav. 2018. The Concept of Sustainable Development: From its Beginning to the Contemporary Issues. *Zagreb International Review of Economics and Business* 21: 67–94. [CrossRef]
- Kuthe, Alina, Lars Keller, Annemarie Körfggen, Hans Stötter, Anna Oberrauch, and Karl-Michael Höferl. 2019. How many young generations are there? A typology of teenagers' climate change awareness in Germany and Austria. *The Journal of Environmental Education* 50: 172–82. [CrossRef]
- Leicht, Alexander, Julia Heiss, and Won Jung Byun. 2018. *Issues and Trends in Education for Sustainable Development*. Paris: UNESCO Publishing. ISBN 978-92-3-100244-1. Available online: <http://unesdoc.unesco.org/images/0026/002614/261445e.pdf> (accessed on 18 August 2022).
- Pisani, Jacobus A. 2006. Sustainable development—historical roots of the concept. *Environmental Sciences* 3: 83–96. [CrossRef]
- Schelly, Chelsea, Jennifer Eileen Cross, William Franzen, Pete Hall, and Stu Reeve. 2012. How to go green: Creating a conservation culture in a public high school through education, modeling, and communication. *The Journal of Environmental Education* 43: 143–61. [CrossRef]
- Schmidt, Luísa, and João Guerra. 2018. Sustainability: Dynamics, pitfalls and transitions. In *Changing Societies: Legacies and Challenges*. Vol. iii. *The Diverse Worlds of Sustainability*. Edited by Ana Delicado, Nuno Domingos and Luís de Sousa. Lisbon: Imprensa de Ciências Sociais, pp. 27–53. [CrossRef]
- SECSCCT. 1996. The Lisboa Action Plan: From Charter to Action. Paper presented at Second European Conference on Sustainable Cities & Towns, Lisboa, Portugal, October 8; Available online: https://sustainablecities.eu/fileadmin/repository/Conferences/Lisbon/lisboa_action_plan.pdf (accessed on 18 August 2022).
- Stevenson, Robert B., Jennifer Nicholls, and Hilary Whitehouse. 2017. What Is Climate Change Education? *Curriculum Perspectives* 37: 67–71. [CrossRef]
- UN. 2015. *Paris Agreement*. United Nations. Available online: https://unfccc.int/sites/default/files/english_paris_agreement.pdf (accessed on 20 August 2022).

- UN. 2022. As Humanity's Environment Footprint Becomes Increasingly Unsustainable, Global Leaders Recommit to Joint Climate Action, at Opening of Stockholm Summit. Meetings Coverage and Press Releases, Stockholm+50, Plenary, 1st and 2nd Meetings, ENV/DEV/2046, June 2. Available online: <https://press.un.org/en/2022/envdev2046.doc.htm> (accessed on 21 August 2022).
- UNCED–United Nations Conference on Environment and Development. 1992. *Agenda 21*. New York: United Nations Sustainable Development.
- UNEP. 2015. *Sustainable Consumption and Production: A Handbook for Policy Makers*. United Nations Environment Programme. Available online: <https://sustainabledevelopment.un.org/content/documents/1951Sustainable%20Consumption.pdf> (accessed on 20 August 2022).
- UNESCO. 2017. *Education for Sustainable Development Goals: Learning Objectives*. Paris: UNESCO. Available online: <http://unesdoc.unesco.org/images/0024/002474/247444e.pdf> (accessed on 21 October 2022).
- Valente, Susana, and José Ferreira. 2014. Ambiente: Das Preocupações às Práticas. In *Ambiente, Alterações Climáticas, Alimentação e Energia—A Opinião dos Portugueses*. Org. Luísa Schmidt, Ana Delicado. Lisboa: ICS—Imprensa de Ciências Sociais, chap. 1. pp. 31–74. ISBN 978-972-671-335-7.
- Varela-Candamio, Laura, Isabel Novo-Corti, and María Teresa García-Álvarez. 2018. The importance of environmental education in the determinants of green behavior: A meta-analysis approach. *Journal of Cleaner Production* 170: 1565–78. [CrossRef]
- WCED–World Commission on Environment and Development. 1987. *Our Common Future*. Oxford: Oxford University Press.
- Ye, Bin, Xiaolei Zhang, Xiaoling Zhang, and Chunmiao Zheng. 2020. Climate change, environmental impact, and human health. *Environmental Geochemistry and Health* 42: 715–17. [CrossRef]
- Zsóka, Ágnes, Zsuzsanna Szerényi, Anna Széchy, and Tamás Kocsis. 2013. Greening due to environmental education? Environmental knowledge, attitudes, consumer behavior and everyday pro-environmental activities of Hungarian high school and university students. *Journal of Cleaner Production* 48: 126–38. [CrossRef]